Education for Sustainable Development: Russian-Swedish Project

RUSSIAN SUSTAINABILITY NewsLETTER

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This issue includes...

Editorial. Vernadsky's year in Russia and in the world

March 12 this year marked the 150th anniversary of the birth of outstanding Russian scientist **Vladimir Vernadsky**. Vernadsky is unique among the outstanding representatives of the natural sciences at the turn of the 19th-20th centuries. Naturalist, philosopher, scholar and encyclopaedist, science historian and philosopher, founder of geochemistry, biogeochemistry, radiogeology, creator of the theory of the biosphere and its transition to the noosphere. He laid an important foundation for a new natural-scientific picture of the world.

In connection with the anniversary of the great thinker of the twentieth century UNESCO declared 2013 the Year of Vernadsky, and the Presidential Decree *On the celebration of the 150th anniversary of the birth of Vladimir Vernadsky* was signed.

Jubilee events are being held in Russia, Ukraine and other post-Soviet countries. In March, large international conferences were held in St. Petersburg, where V. Vernadsky lived and worked for many years, and in Tambov, where the scientist's public activities began, and where he made his first studies at his family estate. At Moscow University, where Vernadsky worked as a professor in the early twentieth century, and where he even was pro-vice-chancellor, a large on-line conference was held with the Kiev National University and the Tauride University (Simferopol), bearing the name of this great scientist.

At these conferences, and many other similar events, the importance of Vernadsky ideas for our time is consistently being stressed . In particular, attention is drawn to the proximity of his proposed noospheric paradigm to the modern concept of sustainable development. This circumstance was noted 10 years ago by Russian President Vladimir Putin, who said: *"V. Vernadsky already in the early 20th century created the doctrine of a space uniting mankind - the noosphere. It combines the interests of nations and peoples, nature and society, scientific knowledge and public policy. It is on the foundation of this teaching that the concept of sustainable development is built today."* More details on this idea are revealed in one of the materials in this issue.

We also know that Vernadsky paid great attention to the development of education and science in Russia. At the beginning of last century, he believed that *"Russia's salvation lies in increasing education and ... knowledge*". These prophetic words could not ring truer in our day.

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Results of Rosprirodnadzor activities in 2012

On March 25, the head of the Federal Service for Supervision of Natural Resources **V Kirillov** held a press conference at RIA Novosti on the 2012 results of Rosprirodnadzor. A positive trend was noted in the year's performance indicators:

- during the year Rosprirodnadzor has performed around 19,000 inspections on 14 499 legal entities and individual entrepreneurs, which is 17.5% of the supervised bodies;
- measures to improve the organization and conduct of inspections helped to ensure compliance with approved plans to 99%;
- the share of removed environmental management violations out of the identified ones for the year 2012 was 78%;
- 28.03 billion rubles paid for negative impacts on the environment was added to the consolidated budget of the Russian Federation; an effective return of almost 45 rubles for every ruble invested;
- the total amount of fines collected increased compared with 2011, the percentage of recovery was 93%.

Since the start of execution of the Ministry order (August 2011) to the present time more than 47 000 sites of unauthorized disposal of solid waste (on a total area of over 14.7 thousand hectares) have been revealed in Russia, of which 71.6% have been eliminated. Rosprirodnadzor has made an expert evaluation of the effectiveness of activities of regional Rosprirodnadzor bodies, and and also subjects of the Russian Federation, on the organization of the system for disposal of solid waste. Several Russian regions (Vologda, Novgorod, Pskov, St. Petersburg) received the highest rates on the issue of solid waste disposal system, as well as the Sakhalin Oblast and Stavropol Territory. The lowest scores were given to the Republic of Karelia, Nenets Autonomous District and the Republics Adygea and Ingushetia.

The Service conducted 138 inspections at Olympic construction sites, 233 offenders were made administratively liable, fines of more than 12 million rubles were imposed, and claims for environmental damage were made amounting to a sum of 376 million rubles. The main violations found during inspections were unauthorized disposal of excavated material from the construction of Olympic facilities, Mzymta river bed being narrowed by piles of soil and building debris, and non-compliance with the water protection zones and coastal protective strip of water bodies.

In the Baikal natural territory 329 supervisory measures were carried out, revealing 541 violations. Most of the violations (70%) relate to disposal of industrial and domestic waste, and 20% concern water.

The following priority directions for Rosprirodnadzor's work in 2013 were noted:

- implementing the state environment protection programme for 2012-2020 and established programme targets (reducing the mass of pollutants released by economic entities into the environment with waste water and air emissions, increasing elimination of violations in relation to the ones identified in the field of nature resource use and environmental protection, etc.);
- intensifying work on the identification and recovery of environmental damage;
- setting up a register of accumulated environmental damage in accordance with the President's message to the Federal Assembly;
- organizing activities of the Year of Environment.

In the plan approved by the Russian Government Rosprirodnadzor is responsible for 11 activities. At the same time, the Service has approved an extended departmental plan of 105 activities. During the year, 3 All-Russian meetings will be held on water and sanitation issues, the use of advanced gas purification systems, preparation for the implementation of best available technology, as well as on the management of hazardous industrial waste. Continuing the discussion with natural resources users on the issues of waste management Rosprirodnadzor plans to hold the following events: in May a round table at the International Exhibition and Forum VeystTek 2013, in September a scientific and practical symposium on processing of oil-contaminated waste, in October a round table at the 10th International

Exhibition Wasma, and in November, together with JSC Russian Railways and the United Nations Industrial Development Organization, an expanded meeting on persistent organic pollutants.

Source: Press Service of Rosprirodnadzor.

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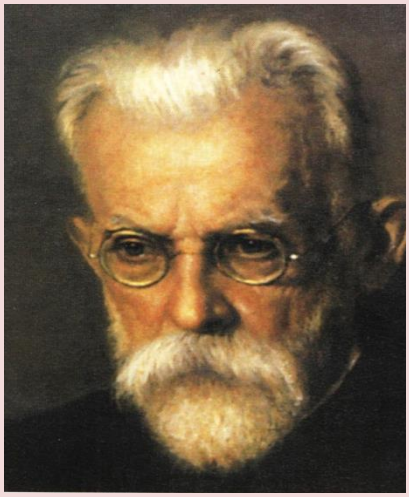
Ideas of sustainable development in the creative heritage of Vladimir Vernadsky

In recent years, the Russian leadership is increasingly appealing to the approaches and principles of sustainable development. Symptomatic in this respect is **Vladimir Putin's** announcement in his speech 01/08/09: *"... almost all developed countries,* he said*, are now living in the logic of sustainable development."* In this it is essential that the decisions made according to this logic to the fullest regard Russian specificity and fully reflect the achievements of domestic science, still not claimed to the full extent.

A striking example of this is the ideas of Russian scientists in tune with the Western ideology of sustainable development. It is known that such are the ideas of the well-known Soviet concept of environmental management - rational use of natural resources. A less well-known phenomenon of the same concept as sustainable development is the noospheric paradigm of the great Russian scientist Vladimir Vernadsky, whose 150th anniversary by decision of UNESCO is celebrated in 2013 around the world. Paradoxes of this kind are not so much an exception as a kind of rule, something that Vernadsky himself pointed out in 1911: *"Reaching the new and unknown, we are always surprised to find predecessors in the past."*



Vladimir Ivanovich Vernadsky (1863 - 1945) is widely known in Russia and abroad not only as a scholar and lexicographer, the creator of many scientific fields, but also as an original philosopher, an active writer, a prominent politician and statesman, and a true patriot of his country.

Nowadays, special attention is paid to the creative heritage of the scientist formulated at the end of his life in the noospheric paradigm, so in tune with the modern concept of sustainable development.

Proving the identity of the SD concept and the noospheric paradigm involves identifying their lexical and content similarity, which we have practically done as a result of comparative analysis of the creative heritage of V Vernadsky, and of the concept of SD. The expressions "sustainable", "sustainability" and their derivatives are repeatedly found in the works of Vernadsky, and particularly in the same sense in which they are used in the concept of sustainable development, in the most definite form provided in the Brundtland Commission report "Our Common Future" (1983). The basic concepts of SD ideology are the categories "fairness" and "responsibility", widely represented in Vernadsky's scientific and analytical statements.

This allows us to draw the following conclusions:

- The creative legacy of Vernadsky, in all its historical "coverage", is a rigorous system of ideas of the best living arrangement, based on the principles of fairness and responsibility and the concept of the noosphere at its base.
- The noosphere, according to Vernadsky, is the epitome of a multi-vector balance of interests in society, in which fully fits the basic idea of the concept of sustainable development of equitable distribution of the benefits of natural origin among generations.
- The noosphere, according to Vernadsky, is a natural step in the evolution of "living matter" on Earth, caused by the realization of the potential of human creativity, the achievement of which is based on a combination of historical experience, science and democracy.

The ideological and substantial affinity of the Western concept of sustainable development and the noosphere paradigm are logical and reflect the movement of civilization towards greater justice and our responsibility for the future. That is why the ideology of sustainable development is practically well-known in our country, and although the approaches are not fully implemented, it is no stranger to the national traditions of environmental management.
It is also symptomatic that the concept of environmental management at the time was not an absolute innovation of its ideologists, but reflected the continuity of the classical ideas on socializing nature, from of M Lomonosov to V Vernadsky, congruent traditions of ecological culture of the peoples of historical Russia. This fact is bound to strengthen the position of the ideology of sustainable development in the post-Soviet space.

Source: Own information

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"Government hour" in the State Duma

Minister of Natural Resources and Environment of the Russian Federation **Sergey Donskoy** on March 13, 2013, made a presentation during the so called government hour in the State Duma. According to the minister, in the period up to 2020 11 reserves, 17 national parks and one federal reserve will be established. This means that the total area of federal protected areas (PAs) will increase by 18% and cover 3% of the territory of Russia.

During his speech Donskoy informed about the development of the PA system. Currently there are about 12 thousand PAs in Russia at different levels and categories. The most valuable natural complexes and objects are represented in the system of federal protected areas. This is 102 state nature reserves, 45 national parks and 70 federal reserves.

Amendments to the law on protected areas have now been prepared for the second reading in the State Duma. An efficient system for the protection of natural heritage sites will be set up, and work continues on the equipping reserves and national parks with modern transport and fire-fighting equipment, as well as communication means. In addition, the Russian government has adopted a series of laws, the implementation of which will allow developing eco-tourism in PAs. The minister recalled that by Presidential Decree the year 2013 has been declared the Year of Environmental Protection: *"In this regard, environmental safety and protection of the environment, to which the Ministry has always paid special attention, acquire special significance."*

Donskoy noted that over the last decade, with increasing GDP, multiple key indicators of emissions, discharges of pollutants, and waste generation as a whole have remained stable. The minister paid special attention to the fact that 60% of the population lives in Russian areas, where the quality of the environment is poor. Annual economic losses due to environmental degradation are in the order of 4-6% of GDP.

Donskoy informed about the Ministry's activities in the environmental field. In particular, state environmental supervision is an effective tool to reduce negative impact on the environment. Annually between 17 and 19 thousand inspections are carried out to prevent, detect and eliminate illegal dumping of solid household waste (MSW) in the subjects of Russia. Since the beginning of the inspections (August 2011) about 45 thousand dumping sites have been detected, and more than 70% of them have been eliminated.

The Minister noted the adoption of the most important documents in the environmental field in 2012, such as the Principles of state policy in the field of environmental development of Russia until 2030, and the Russian State Program "Environmental protection" for the period 2012-2020 with a funding of 336 billion rubles. These documents define the guidelines for the Ministry's work.

In particular, draft laws are being prepared for the second reading in State Duma aiming at economic incentives, introduction of best available technologies and the creation of a safe waste management system, as well as improvement of the state environmental review and payments for negative impact. Donskoy stressed that the adoption of these bills would achieve a significant improvement in the environmental situation.

During his speech the Ministry Head informed on the elimination of accumulated environmental damage: the implementation of the projects on cleaning up areas of the Arctic Zone and the Baikal natural territory continue. Large scale "cleaning" has been launched in Nizhny Novgorod and Samara. Given the need for a systematic approach to the elimination of past damage in the whole of Russia, the Ministry is currently drafting the appropriate federal target programme.

Donskoy noted that Russia has no legal basis for the evaluation and liquidation of damage to the environment. To resolve these issues a bill on compensation (elimination) of damage to the environment has been introduced to the Russian government.

The minister also informed about the bills prepared to ratify the Aarhus Convention (Convention of the UN Economic Commission for Europe on access to information, public participation in decision-making and access to justice in environmental matters), as well as the Espoo Convention (Convention on evaluation of environmental impact in a transboundary context). These documents are aimed at harmonizing Russian legislation with international law.

Source: Press Service of the Ministry of Natural Resources and Environment of the Russian Federation.

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The Foresight Centre on the Priority "Environmental Management"

Science and Technology (S&T) foresight in Russia is quite a new phenomenon. In the UK the first round of S&T foresight was held in 1994, in Russia it was initiated by the Ministry of Education and Science only in 2007. Now the third cycle of S&T foresight with the horizon 2030 is being implemented. Stakeholders consider the results of the foresight studies as the base for the forecast integration in the strategic management of development of the Russian Federation. The third cycle of foresight focuses on six priority areas of scientific and technological development of Russia, i.e. energy efficiency, medicine, transport, new materials, ICT and environmental management. In 2011 the network of S&T Foresight centres on the above areas was organized in the leading Russian universities for the expert support of the forecasting activities. The Foresight centre on environmental management is functioning at Lomonosov Moscow State University (MSU). Dean of the Faculty of Geography, Academician N. Kasimov is the head of the Foresight Centre at MSU. Its activities are connected with the Technological platform "Technologies of Environmental Development".

The main directions of S&T forecasting in the area of environmental management are defined by three key critical technologies (the List of critical technologies was approved by Presidential Decree of July 7, 2011): Monitoring and forecasting of the state of the environment, prevention and elimination of its pollution; Exploration, mining and development of mineral deposits; Prevention and elimination of natural and technogenic emergencies.

The MSU Foresight centre is the coordinator of the network of the leading Russian universities which serve as the centres of competences in the key critical technologies. The network includes Tomsk State University, I. Kant Baltic Federal University, Belgorod State University, Russian State Hydrometeorological University, Kazansky Federal University, Perm State University and some others, in total 13 universities. The networking universities have tight contacts with other higher educational institutions, scientific organizations and enterprises of the real sector of economy.

The major objectives of the system of national forecasting in the area of environmental management are:

- Analysis of global and national challenges and trends, and windows of opportunities for S&T;
- Description of the most perspective thematic areas and technology packages inside them which may be the drivers for the emergence of the new market segments;
- Identification and analysis of perspective markets, niches of products and services that will be developing in the future and Russia's expectations to expand on them;
- Identification of S&T areas in which Russia has leading and equal positions with the developed countries, as well as "white spots" or lags in some areas;
- Recommendations on the possibilities for international cooperation in S&T area.

As the Foresight methodology requires the involvement of the experts and the stake-holders in the foresight process, the issues of the expert community formation were among the most important for the MSU Centre. Now the national expert network consists of more than 250 institutions and companies and more than 350 leading experts in the thematic areas of environmental management and ecological safety. During 2011-12 the expert community participated in different foresight procedures including expert panels, brainstorming, surveys, workshops, etc. Approximately 300 experts were invited to participate in the research. One of the outputs of above activities was the identification and ranking of global challenges and the most important emerging trends related to environment that will influence on Russia. The Russia's possibilities to influence challenges will shape the future of scientific and technological development in the area of environmental management. Despite the fact that the threats and windows of opportunities will appear close to the year 2020, a package of responses must be taken by Russian Government now.

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Earth Hour in Russia

Russian President **Vladimir Putin** supported the symbolic event Earth Hour. According to the decision of Vladimir Putin, 23 March 2013 at 20:30 the decorative lighting of the historical and architectural complex of the Moscow Kremlin and St. Basil's Cathedral and the House of the Government of the Russian Federation was switched off for one hour.

Given that 2013 has been declared Year of the Environment by decree of President Putin, this event

helped draw public attention to the protection of the environment.

The Earth Hour was held with the support of the Government of the Russian Federation and is a symbolic step that helps raise people's interest in effective use of energy, reducing the load on water bodies and the human impact on natural objects that causes climate change and increases the level of air pollution.

At 20:30 Moscow time, more than 1,100 cities in 92 countries around the world turn off the light for one hour, expressing their concern for climate change on our planet. As part of the campaign light was to turned off at more than 80 objects in Moscow, which is 10-15 buildings more than in 2012.

Festive events dedicated to the Earth Hour were held on the viewing platform at Sparrow Hills. At 20:29 a special laser stopwatch countdown started 60 seconds prior to turning out the lights in the tall building of Moscow State Lomonosov University on Sparrow Hills and other buildings. The programme was concluded with a concert at 22.00.

The annual event is an initiative of the World Wildlife Fund (WWF).

Source: Press Service of the Ministry of Natural Resources and Environment of the Russian Federation.

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Initiative for new national park in Moscow region

The Ministry of Natural Resources and Environment of Russia has sent the acting governor of the Moscow region **Andrey Vorobyov** a proposal to create a new national park in the Moscow region. The proposal was prepared in connection with appeals to the Ministry from citizens concerned about the plans to develop pristine forests and nature areas in the nearest suburbs.

Cultural and natural landscape of the future national park in vicinity of Moscow.
Photo: http://turometr.ru/user

The Ministry is considering the establishing a new national park on the grounds of the Arkhangelskoye museum estate, the pristine arrays adjacent to the Skolkovo science city and Barvikha rural settlement, as well as adjacent land in Krasnogorsk and Odintsovo districts.

The growth of the anthropogenic pressure observed to date affects the environmental situation in the region. The current status of state forests does not allow keeping the forest as should be done, above all at the museum estate, as well as the surrounding lands. According to the Deputy Minister of Natural Resources and Environment **Rinat Gizatulin**, the forests near Moscow are particularly valuable and provide good air quality for the Moscow metropolitan area and are, in fact, "Moscow's lungs".

The Ministry proposes to include unoccupied land in the park, and also land of users without duly

registered real estate.

As noted by Gizatulin: *"This will allow both the public authorities and residents of nearby communities to monitor the activities of third parties on these lands, since construction in national parks is subject to state environmental review with compulsory public hearings".*

This solution would preserve the unique cultural and natural features of the region, reduce negative impact on the environment, and make the air in and around Moscow cleaner.

Considering the sufficient number of areas available for development of large infrastructure projects in the Moscow region, it is advisable to preserve the pristine natural arrays between Volokolamsk and Kiev highway.

According to Gizatulin, the Ministry has proposed acting Moscow region governor Vorobyov to create a national park with several clusters, which would be managed jointly by the Ministry and the Government of the Moscow Region. The Ministry's leadership expressed confidence that Vorobyov would support the initiative to create a park in the Year of the Environment, announced in accordance with the presidential decree.

Source: Press Service of the Ministry of Natural Resources and Environment of the Russian Federation.

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Improving Russian economy's energy and environmental performance

The Russian Federation has set itself goals of improving the energy and environmental efficiency of the economy, declared Presidential Advisor, Special Representative of the President of the Russian Federation on Climate issues, **Alexander Bedritsky**.

In his speech March 14, 2013 at the round table on regulation of greenhouse gas emissions as a factor in increasing the competitiveness of Russia, organized by the public organization "Business Russia", the advisor to the President, special presidential representative on climate issues Bedritsky noted that the Russian Federation has set for itself the goal of improving the energy and environmental performance of the economy (a task to by 2020 reduce the GDP energy intensity by at least 40% from 2007 levels), and adopted the state program Energy conservation and energy efficiency for the period up to 2020.

According to Bedritsky, the draft of the state programme "Energy Efficiency and Energy Development" was discussed by the Russian Government on March 7, 2013. The key areas concerning energy are: reducing the energy intensity of the Russian economy and increase its energy efficiency, accelerated modernization of the technical equipment, increasing the investment attractiveness of the industry etc.

The project also provides for an increase in the program of market incentives for the introduction of energy-efficient equipment and technologies, and the use of mechanisms that have proved their worth in other countries, such as trust agreements with large industrial customers to reduce energy intensity, a ban on the use of inefficient technologies and others. Following the meeting, the Government of the Russian Federation made the decision to refine some parts of the programme, but generally approve it.

Source: Newsletter "Climate Change" № 40.

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Fourth anniversary of the newsletter ”Climate Change"

The newsletter "Climate Change" is issued by the Federal Service for Hydrometeorology and Environmental Monitoring (Roshydromet) since April 2009.

Four years have passed since the first issue of the newsletter. During this time the newsletter has matured and has, together with the climate site set up, become another source of evidence-based information on climate change and its impacts, adaptation techniques and the development of renewable energy, undertaken in the field of climate policy of the Russian Federation and other countries.

Readership and geography has expanded during these four years - to this 40th anniversary issue the number of subscribers reached 500. In addition to Russian subscribers, the newsletter has readers in Belarus, Kazakhstan, Kyrgyzstan, Moldova, Uzbekistan, Ukraine, Sweden, Switzerland, Germany, Finland, the USA, Japan, Austria, Israel, Estonia, Norway and Mongolia.

The purpose of the Climate Change newsletter is to inform on a wide range of professionals about news on climate change and meteorology. The newsletter is prepared by the Office of scientific programmes, international cooperation and information resources (UNMR) of Hydromet.

The newsletter is posted on Roshydromet's web site and distributed by e-mail to more than 500 subscribers, including members of Roshydromet research institutes and educational institutions, the Russian Academy of Sciences, graduate schools, non-governmental organizations, scientific publications, media, diplomatic missions of foreign countries and also Russian professionals working abroad.

The newsletter issues are archived on the official website of Roshydromet http://meteorf.ru under "Research" - "Publications" - "Newsletter Climate Change" and on the climate site http://www.global-climate-change.ru under "Newsletter Climate Change" - "Newsletter archive".

If you would like to receive the newsletter regularly, please subscribe at www.global-climate-change.ru .

Source: Own information.

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Problems in implementing separate waste collection in Russia

On March 27, 2013 Greenpeace Russia sent a letter to Sergei Donskoy, head of the Ministry of Natural Resources and Environment. The Ministry, key in the area of environment protection, has not fulfilled its promise to introduce separate waste collection, given almost two years ago.

The Ministry has repeatedly announced plans to set an example to other organizations and companies, implementing separate collection of waste in the buildings of the Ministry and subordinate organizations. The last date publicly announced was - by the end of 2012. Greenpeace Russia supports the quickest possible implementation of reasonable waste recycling schemes. It is already possible to sort out and send at least half of the waste generated to recycling. However, deep processing (90% or more) requires widespread introduction of separate waste collection. Mixed in a common tank, one kind of useful product contaminates another, equally useful one. Separately collected waste is not garbage, but recycling material from which one may obtain the desired products without increasing the burden on the environment.

The real face of environmental apocalypse. This is not yet Russia, but the situation in our country is developing precisely in this direction.

Photo from the site www.greenster.com

In the past year, Greenpeace staff and volunteers invited the Natural Resources Minister to take part in their "Green weekend» event and organize separate collection of waste in his department. In extensive correspondence with Greenpeace Russia (the organisation received six replies on this topic from the Ministry only during 2011-2012) Ministry representatives said that the introduction of separate collection has been recommended to them by the Green Standards system of voluntary certification. Later, the officials assured that "the process of agreeing on a draft decree on the introduction of separate collection of waste in the Russian Ministry of Natural Resources was being completed", and also that "decisions are being taken on choosing locations for waste containers in the buildings under the jurisdiction of the Ministry of Natural Resources and Environment". Nevertheless, the promises of the Ministry remained unfulfilled.

We recall that in the government plan for the celebration of the year of the environment (and its annexes) "introduction of separate collection of waste in buildings occupied by the federal bodies of executive power (in 2013)" is foreseen for the whole of Russia.

"Against the background of such an initiative, the inactivity of the key ministry and its leader Sergey Donskoy in the year of the environment looks at least strange," commented **Rashid Alimov**, head of Greenpeace Russia's Toxic programme. "It is unlikely that the ministry is able to manage the resources of the country well, and to create a reasonable concept of waste management, if it is unable to within two years' time create order even in its own buildings, for example by separating paper, plastic, glass, aluminum and food waste."

According to research by the Foundation "Public Opinion," two-thirds of the Russians are ready to sort their garbage, 4% are already doing it, despite the lack of infrastructure, and another 6% take hazardous waste to special collection points. On the Greenpeace website recyclemap.ru one can find a map of reception points for recyclable household waste and hazardous waste in Moscow, St. Petersburg, Obninsk, Omsk, Novokuznetsk, Murmansk, Kaliningrad, Tomsk, Vladivostok, Novosibirsk, Khabarovsk, Krasnodar, Ivanovo, Voronezh, Rostov-on-Don, and Barnaul. The map is supported by volunteers and the list of cities is constantly expanding.

Source: Greenpeace Russia

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