
The Issues of Covering Science and Technical Policy of Modern Russia in the Strategic Planning Documents

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Abstract:

This paper presents the evaluation of the current relations between the documents of strategic planning in the sphere of science and technology; the main issues of reflecting scientific and technological priorities in strategic documents are discussed; recommendations on improving the system of strategic planning in the sphere of innovation and scientific and technological development are given.

Key Words: *Science, development priorities, forecast of scientific and technological development, state program, interrelations, strategic planning documents*

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Introduction

Current tendencies of social and economic development restrict the number of factors enabling increase of Russian economy competitiveness. Due to the reduction of investment and human resources, scientific and technological development becomes the only factor to provide a long-term economic growth and development of the social sphere in our country.

In 2014 a Federal Law was drafted dated June 28, 2014 No. 172-FZ “On strategic planning in the Russian Federation” (hereinafter “Federal Law No. 172-FZ”), which defined a list of documents for strategic planning and general principles of its implementation on the territory of Russia. In the near future there is a number of federal strategic planning documents that need to be developed and updated including the documents in science and technical policy.

Due to changed macroeconomic conditions of the Russian economy development and increased restrictions, it is necessary to prioritize science and technical policy more clearly and reasonably, taking into account our best practices in developing and updating goal-setting and forecasting documents in the science and technological sphere.

The task to provide correlation between the goal-setting documents is of specific relevance as well as the implementation of state measures satisfying strategic priorities of the science and technological development.

Main part

Science is a fundamental part of the state strategic planning. Any strategic development document should reflect recent scientific achievements not only in the technical sphere but also in the sphere of management.

Promotion of a scientific element is one of the typical characteristics of the current period of strategic management development in Russia. Virtually all strategic documents are developed are based on the forecasts related to the science and technological development, which is also the result of a scientific activity.

That is the approach taken in the system of strategic planning documents in the Russian Federation and defined by the Federal Law No. 172-FZ.

For the first time the definition of such a significant document, defining formation and implementation of the budget, as the state program of the Russian Federation, enshrined in legislation.

The strategic planning document contains a complex of planned measures linked in terms of the goals, implementation times and resources, and public policy tools enabling in the context of executing key state functions, achievement of priorities

and aims of the state policy in the social and economic development and ensuring national safety in the Russian Federation. The state program of the Russian Federation in the sphere of science is “Development of Science and Technologies” for 2013-2020 (hereinafter, GPRNT, a state program).

Additionally, the documents are envisaged, which will define the system of scientifically confirmed picture about the directions and expected results of development in a certain industry or authority. As for the science, it is a forecast of science and technological development of the Russian Federation. It is notable that if until recently a forecast of science and technological development was the main element of strategy in the sphere of science, today a forecast of innovation economy development in general is more significant. This is explained by the appearance and rapid expansion of a new forecasting approach “foresight” [1] and this led to the adoption in 2011 of Innovation development strategy. However, some researchers think [2] that mostly expert forecasting methods in the context of the foresight method do not work in terms of long-term forecasts of the science and technological development. Despite this, requirements to the quality of tools for science and technological forecasting under conditions of national innovative systems competition remain exceptionally strict.

Except the Forecast of science and technological development in the Russian Federation until 2030, among the main strategic planning documents are the Doctrine of Russian science development, the Concept of a long-term social and economic development of the Russian Federation until 2020, the Strategy for innovative Russian Federation development until 2020, the Priority directions for the development of science and technology in the Russian Federation, the Critical technologies list and the Fundamentals of Russian Federation policy in the sphere of science and technologies development until 2020 and further (Table 1).

It is important to note the difference in interpretation and approaches to the definitions of development priorities in all these documents. If the Doctrine of Russian science interpreted science as a national asset and stated science support as a higher-priority state task, the Strategy of innovative development, adopted 15 years later, sets the task to develop the sector of R&D (research and development). In the Concept of a long-term social and economic development the task to create a new economy was for the first time set in the documents of this type. By new economy the authors mean economy of knowledge and advanced technologies.

Table 1 – Priorities of science development in strategic documents

Name of the Document	Legal Regulation	Priorities and goals of the state policy in the development of science and technology
Doctrine of Russian science development	Russian Federation Presidential Decree No. 884 of June 13, 1996	Science and its scientific potential is a national asset, defining future of the country; support of science development is a state objective of high priority.
Concept of a long-term social and economic development of the Russian Federation until 2020	Russian Federation government order No. 1662-r of November 17, 2008	Development of a competitive knowledge economy and advanced technologies; expansion of competitive potential of the Russian economy due to enhancing its comparative advantages in science, education and advanced technologies; creation of a new economy – economy of knowledge and advanced technologies which is becoming one of the leading sectors in the national economy comparable to oil and gas and material sectors by 2020 in terms of its contribution into Gross Domestic Product (under economy of knowledge and advanced technologies spheres of professional education, high-tech medical care, science and R&D, telecommunications, science-based subsectors of chemistry and engineering);
Strategy for innovative Russian Federation development until 2020	Russian Federation government order No. 2227-r of December 8, 2011	Transfer of the national economy on the innovation path development by 2020, return of Russia into one of the world leading scientific powers, creation of the R&D sector to carry out fundamental and applied research related to the relevant for world economy and science and strategic for Russia aspects which is in high demand by Russian and world companies.
Priority directions for the development of science and technology in the Russian Federation	Russian Federation Presidential Decree No. 899 of July 7, 899	Modernization and technological development of Russian economy and enhancement of its competitive ability.
Fundamentals of Russian Federation	Approved by a Presidential Decree No. Pr-83 of January 11, 2012	Achievement by 2020 the world level of R&D and global competitive ability of the Russian Federation in terms of the spheres defined by national science and technological priorities.

Name of the Document	Legal Regulation	Priorities and goals of the state policy in the development of science and technology
policy in the sphere of science and technologies development until 2020 and further		

The strategy the Russian Federation innovative development until 2020 covers more global aspects of development of the whole country under innovative scenario, including R&D which may find their place in the economy. Due to this, the document contains a large amount of information about the main principles of science and technology development and its main points are directly connected with the development of GPRNT.

As it is stated in the Strategy, coordination of efforts to form an effective R&D sector, relating first of all to the creation of the scientific and technological foundation (predominantly, at the stage preceding commercialization) and development of the integrated infrastructure of the sector, will be performed in the context of GPRNT and this underlines once again a very close interrelation between these two strategic documents.

Comparison of certain strategic planning documents, defining the direction of science and technology development and the documents that are more closely related to GPRNT, also confirms the interrelation between these documents (Table 2).

Table 2 – Comparison of strategic planning documents defining science and technology development

Documents	Strategy for innovative Russian Federation development until 2020	Program of fundamental scientific research in the Russian Federation for 2013-2020	Forecast for science and technological development of the Russian Federation until 2030
Updated version	December 8, 2011 No. 2227-r (plan for Strategy realization in 2015-2016 No. 373-r of March 6th, 2015)	October 28, 2015 No. 2179-r	January 3d, 2014
Scope of	Federal level	Federal level	Federal level

Documents	Strategy for innovative Russian Federation development until 2020	Program of fundamental scientific research in the Russian Federation for 2013-2020	Forecast for science and technological development of the Russian Federation until 2030
application	RF subjects should take into account the provisions of the Strategy when taking measures to stimulate innovative activity in the regions		
Subject matter	Defines the goals, priorities and tools of the state innovative policy, provides long-term development guidance for the participants in the innovative activity and guidance for financing the sector of fundamental and applied science and support of projects commercialization	Provides coordination of the activity of all the participants, carrying out fundamental research in the Russian Federation. Makes investments into the fundamental researchers.	Defines the most prospective areas for science and technology development until 2030, providing realization of competitive advantages of the country.
Governed relationships	Relations in the sphere of transferring Russian economy into the innovative path of development characterized by the main criteria defined in the document.	Relationships on the formation regarding institutional changes of the balanced and sustainable sector of fundamental researches, provision of the expanded production of knowledge about the foundations of the Universe, patterns of nature, human and society evolution, enhancement of integrative processes of science and	Relationships related to the enshrinement of the list of the most prospective areas in science and technology and creation development of the fundamentals for long-term strategies, targeted programs and expected and planned documents requiring medium-term response.

Documents	Strategy for innovative Russian Federation development until 2020	Program of fundamental scientific research in the Russian Federation for 2013-2020	Forecast for science and technological development of the Russian Federation until 2030
		education, efficiency improvement of researches and the use for the development of advanced technologies necessary for realization of strategic aims of social and economic development of the country.	
Role in science development	Defines the key issues and tendencies of development, identifies criteria corresponding to the innovative path of development, introduces a notion of a "technological platform".	The preservation and promotion of the leading science schools, production of human capacity and improvement of its quality; provides better efficiency of the transfer of the efficient scientific researchers into the applied sphere; enhanced efficiency of using budgetary allocations; increased role of the fundamental science in realizing the policy of social and economic development of the Russian Federation.	Defines the direction of the higher priority. Emphasizes the problems, potential threats and development possibilities, defines perspective markets, products and services and directions of scientific researches.
Relation to GPRNT	Provides the guidelines for financing and defines indicators and criteria.	It is an instrument for realization of the GPRNT.	Provides directions for the researches.

Notably that it is in the context of realizing the state program the fundamentals of the current national innovative system have been developed as well as a complex of measures for developing R&D sector and advanced innovative infrastructure, educational environment and economy modernization on the base of technological innovations. GPRNT must effectively link together the priorities, defined by the Forecast, the amount of funding in terms of all applied instruments with specific results obtained during the realization of the measures in various areas of science and technology development.

The state program drafted in 2012 became one of the key strategic planning documents in connection with implementing the national priority “Science, technology and education”. The first version of GPRNT was outlined on the basis of different assumptions; calculations showed that it is possible to achieve aims, goals and criteria, providing additional financing. Current version of the GPRNT reflects only one balanced option of realization and corresponds to the defined budgetary restrictions. A new version of GPRNT, taking into account of the changes in the fiscal legislation, is outlined on the basis of a new structure defined by new fiscal legislation requirements, but succession of its main components is still observed. Additionally, a new version has a modified system of criteria (indicators) of GPRNT, namely, the number of indicators has been significantly expanded due to inclusion of the criteria reflecting specific character of GPRNT realization by its participants.

While the process of realization of the state program is too short, it is still quite representative. As GPRNT serves as a mechanism for budgeting the expenditure part of the federal budget allocated for scientific R&D, frequent modification of the strategic document can be explained by changes in the budgetary legislation but not by the priority changes in terms of science and technology development.

At the same time, the increased public investments allocated to scientific researches in the past years, enabled the Russian Federation to join ten other countries financing scientific activities and to update significantly scientific and research base. Such measures create preconditions for expanding abilities in the scientific sphere and for more ambitious goal-setting.

However it is impossible to act equally effective in all the scientific spheres, especially at the stages when the project prospectives are still not clearly defined. This conclusion is fully confirmed both by the Soviet and world experience. Due to such an expansion of this practice in the renewal process of science and technological policy management methods, it is reasonable to highlight the development of the fundamental science underlying any innovations and technologies.

At the same time, we should take into account the world and partly the national

tendency towards the shift of state research institutions to a new model of financial independence. Another way of evolution for such institutions which is typical for Great Britain, is the assumption of training functions and that allows using the work by the researchers who receive state subsidies (study grants) [3]. Trained and qualified human resources, great experience, revolutionary ideas and new technological solutions is what a fundamental science offers to the economy and the society [4].

The authors of the National report “On the innovations in Russia” concluded the same [5].

A fundamental science is a critically important element of the innovative pyramid of a state. Underfunding of the fundamental science is a significant difference between the expenditure patterns for innovative development in the Russian Federation and the patterns of such leading countries actively financing the innovations as the USA, Switzerland, Great Britain, the Netherlands, and Germany.

In this regard, it seems necessary to analyze the expenditure patterns taking into account not only GPRNT, but also other state programs of the Russian Federation in the context of which fundamental and applied researches and projects are carried out. It is important that the state program measures responded to the strategic aims and priorities of the science and technological development.

Critically important priorities of the development are defined by the forecast of science and technological development in the Russian Federation, according to the Federal law No. 172-FZ “Strategic planning document which contains the system of scientifically explained perceptions about the expected results of the science and technological development of the Russian Federation and the subjects of the Russian Federation on a long-term basis”.

Current version of the Forecast was outlined with regard to the seven directions of science and technology development with high priority for Russia. They are information and communication technologies, biotechnologies, medicine and healthcare, new materials and nanotechnologies, rational exploitation of natural resources, transportation and space systems, energy efficiency and energy saving.

Priority structure in the national science and technological policy in the countries abroad [6] is characterized today by a significant transformation, namely, by shifting the focus from thematic priorities to the so-called political priorities [7] or cross-industrial. Such a change in the development paradigm could not but affect our country as well and today a new version of the science and technological forecast of the Russian Federation is being under development.

This issue is especially relevant, because the provisions of the science and technological forecast should be taken into account when developing the forecast of

social and economic development of the Russian Federation and its subjects on a long-term basis. The main indicator of the science and technological development should also be presented in the middle-term social and economic forecast. All the aforesaid defines the importance of a complex approach to establishing a system of strategic planning documents providing an interrelation between them, namely, in terms of the source data, structure of the planned measures and the ways for evaluating their efficiency.

To evaluate the current state of such interrelations between the strategic planning documents in the sphere of science and technology development, a special research has been conducted [8]. The results of the research showed the extent to which each direction of scientific and technological development defined in the Forecast of the science and technological development of the Russian Federation until 2030 is ensured by the measures set out in the other state strategic planning documents.

For the purposes of this paper, the study focused on Russian Federation state programs, federal targeted programs and road maps [9], developed in the context of realization of the state programs in terms of scientific R&D.

The first stage of the research with the use of the methods of the regulatory and comparative analysis, found state and federal targeted programs and map roads envisaging scientific R&D. These documents have been analyzed to find out whether they correspond to the provisions of the forecast of the science and technological development of the Russian Federation until 2030.

Comparative analysis was aimed at analyzing all the state programs in the Russian Federation, federal targeted programs and map roads (measures plan) in the Russian Federation envisaging R&D. During the research 17 state programs were identified (out of 31 state program financed from the federal budget), 34 targeted state programs (out of 47 approved federal targeted programs) and 13 map roads (measures plans), responding to one of the following criteria: text of the document contains the points of measures plan related to scientific and technological development; implementation of R&D concerning scientific and technological development envisaged in the Forecast of the scientific and technological development.

This systematic analysis enabled us to identify those directions of the Forecast which are presented to the full extent in the state Russian Federation programs, federal targeted programs and/or map roads (measures plans). One strategic document may contain more than one direction. Directions which are not adequately presented in strategic documents are also identified.

During our research we outlined three groups of the documents (Table 3), reflecting several possible relationships of prospective directions of the Forecast of the science and technological development of the Russian Federation until 2030 and measures

envisaged in other strategic planning documents:

- the measures in the strategic planning document clearly envisage the conduction of studies in the prospective direction. About 10% of all the cases fall into this group;
- conduction of studies in the prospective direction of scientific and technological development is possible in the context of the analyzed strategic planning document. Such possibility may be explained by the general character of the definition of measures in the sphere of R&D, conduction of studies in the indicated direction of scientific and technical development may be implied in the aims and objectives of the state document etc. In case, the measures in a certain document imply the studies in the given prospective direction only indirectly, i.e. their definition does not correspond to the full extent with the definitions in the Forecast of the science and technological development of the Russian Federation until 2030, realization of the studies under consideration and applied studies may be performed both by own efforts of the federal government authority, indicated in the state document and by introducing the measures into the plans of R&D in the ministries and authorities, and by outsourcing the functions through the mechanism of the public-private partnership, using the third party services or by providing different forms of public support to the most prospective directions of scientific and technological development. About 25% of the cases are found in this group;
- the state document does not imply to implement the measures in this direction of scientific and technological development or they are not determined by the applicable document. This is the largest group and it contains around 75% of all cases under analysis.

The scope of the state Russian Federation programs is broader in comparison with the other documents, that is why in the state document no measures are implied related to the R&D. However, it is recommended to introduce certain measures into the text of the state document to reach the aims of the program (about 2% of all cases).

Modification of the state document with regard to R&D corresponding to the direction with the higher priority, will allow to use positive synergistic effects of the studies to enhance the efficiency of the documents measures.

Table 3 – Analysis of the relationships between prospective directions in different documents

Directions of science and technology development	Measures of the program clearly imply the studies in the given prospective direction			Measures of the program indirectly imply the studies in the given prospective direction			Measures of the program do not imply the studies in the given prospective direction			Research in this direction is not implied but recommended to reach the aims of the program
	S P	FT P	R M	S P	FT P	R M	S P	FT P	R M	
Information and communication documents	—	5	1	3	12	7	13	18	5	1
Biotechnologies	3	2	1	—	5	—	14	28	12	—
Medicine and healthcare	1	3	—	1	1	2	15	31	11	—
New materials and nanotechnologies	1	2	2	5	10	2	9	23	9	2
Transportation and space systems	2	10	1	—	1	2	14	24	10	1
Rational exploitation of natural resources	—	5	—	4	7	1	11	23	12	2
Energy efficiency and energy saving	1	5	1	—	6	1	13	24	11	3

SP – Russian Federation state programs

FTP – federal targeted programs

RM – Russian Federation road maps (measures plans)

Content-related and systematic analysis enabled us to make the following conclusions:

1. All the direction of science and technology development outline in the Forecast of the science and technological development of the Russian Federation until 2030 have been included to a certain degree into the state programs of the Russian Federation. The aspect “New materials and nanotechnologies” is found in many

Russian Federation state programs but still it is not enough to reach long-term aims of scientific and technological development of the country (as not all the aspects of developing new materials are found in the strategic planning state documents). The aspect “Rational exploitation of natural resources” is not presented in many state programs. The areas of prospective studies in specific aspects of scientific and technological development which are recommended in the context of a certain state document, are given in the section recommendations.

2. Federal targeted programs, which have been applied for over twenty years for realization of large scientific and technological projects having a high priority for the country, present the measures on the major aspects in more details than state programs; the largest number of measures in scientific and technological development are presented in the federal targeted program “R&D in priority aspects of development of the Russian scientific and technological complex for 2007-2013”. The results of the study confirmed once again that the federal targeted programs are the effective instrument for implementing state economic and social policy, especially in terms of long-term tasks and realization of large infrastructure projects. Such project and program approach is applied in the European Union countries, in the USA, Canada, Japan and some others to attain strategic objectives for developing economy and social sphere in cases, when there is a need to concentrate the resources for achieving specific aims on time.

3. The results of our analysis showed a relatively low level of correspondence of road maps to the forecast; in particular, road maps measures rarely imply studies in the prospective directions of scientific and technological development as they are offered in the forecast. Such aspects as “Medicine and healthcare” and “Rational exploitation of natural resources” were not addressed to in the Russian Federation road maps; as for other directions, there are the documents, corresponding to the forecast of the scientific and technological development, outlined in the form of road maps.

Analysis of the representation of the scientific and technological policy in the strategic planning documents will be incomplete without considering one of the most important issue, namely, financial support. Development of scientific and technological sphere in the leading world countries for the last ten years is marked by the search of new approaches to scientific and technological and innovative policy for choosing financial priorities in terms of R&D and effective managerial decisions. According to the experts, the dominant role in this system is given to the applied science [10], which is responsible for creating scientific and technological foundations serving as “bridges” between the fundamental studies and industry technologies. Financial support of scientific and technological policy in Russia is implied in the context of the federal targeted programs which constitute a part of the state programs and in the context of the Russian Federation state programs themselves, which are the components of the program budgeting.

Table 4 – expenditures of the federal budget for civil scientific R&D

Name	million rubles	
	2015	2016
Total in all SP	354 841,9	306 333,8
Total fundametal research	115 148,8	120 558,9
Total applied research	239 693,2	185 774,9
Russian Federation state program "Development of science and technologies" for 2013 - 2020	131 459,8	145 172,5
Including fundamental studies	99 179,2	104 107,6
Including applied studies	32 280,6	41 064,9

Outlined by the authors using the data in the Federal law No. 384-FZ of December 1st, 2014 "On the federal budget for 2015 and for the planning period 2016 and 2017" (considering modifications) and draft federal law on the federal budget for 2016.

In 2015 for implementation scientific studies in the context of 31 state programs 359.5 milliard rubles were funded from the federal budget. The main budgetary resources, it is 177.4 milliard rubles (73% of the total budget on applied studies) are allocated in five state programs - "Healthcare development", "Education development" for 2013-2020, "Science and technology development" for 2013-2020 (13.5%), "Aeronautic industry development" for 2013-2025, "Space activity of Russia" for 2013-2020, aimed at innovative development and support for highly technological sectors of the economy (Table 4). The main part of the fundamental studies (86%) is concentrated in GPRNT.

It is important to note that despite the expected 13.7% reduction of civil science financing, expenditures on fundamental studies are going to increase in 2016 up to 4.7%.

Reduction of civil science financing from the federal budget is aggravated by the conflict between the necessity to comply with strict budgetary restrictions and a target about the realization of the project approach in the public management, oriented at the achievement of the results.

Due to this, the issue of interrelationship between R&D in the context of different state programs becomes even more critical, as well as the problem of the optimal budget allocation for financing science and technology development and the problem of attracting extrabudgetary funding.

The tendency for changing priorities of the programs, major receivers of the budgetary funds for R&D, also plays an important role. The leading areas by the

level of budgetary expenditure for R&D for many years, space and aeronautical programs are expected to experience a significant drop in financing by 2017. However it is possible that their support will be implied in other budget lines, including the closed one. Funding towards the medicine, pharmaceutical industry (which is clearly a positive tendency) and shipbuilding industry are rapidly increasing. According to the experts [11], by 2017 the list of five leaders by the level of budgetary financing for studies in the sphere “national economy” will be the following (in the order of decreasing the level of financing):

- 1) Aeronautical industry;
- 2) Medicine and pharmaceutical industry;
- 3) Space activities;
- 4) Electronic and radioelectronic industry;
- 5) Shipbuilding industry.

Implementation of a program budget in the Russian Federation management was oriented towards combining strategic and budget planning and became the result of the earlier research on the developing targeted programs approach for the public management [12]. In 2004 in the process of changing the format of the budgeting, new budgeting principles were defined, oriented towards the result and it included better linking of public expenditures with the performance of specific tasks [13]. At the same time, major approaches to the development of targeted programs at all the levels of the budgetary system were clarified. The practice of national projects having a high priority began to disseminate.

However, active implementation of the methods of targeted programs in the budgetary system was not yet observed. It was an argument for the federal authorities to address to the issue of the program budget.

The most important expected effects of the state programs implementation are the following: first, close linking of the ministries work with general development priorities and strategic aims. Second, effective budgetary management. Third, the program budget enables a tough budgetary policy.

The program budget may serve as a mechanism for enhancing the transparency of the budgeting process and that complies to the IMF requirements [14] to provide transparency in the budgetary and fiscal spheres. The example of foreign countries shows all the benefits of the program budgeting and public management in general. In Russia a transfer to the budgeting using the state programs occurred in 2010 when targeted programs principle of the budgeting began to define the work of both federal and local authorities.

With the entry into legal force the Federal law No. 104-FZ of May 7th, 2013 “On the amendments to the budget code of the Russian Federation and selected legal acts of the Russian Federation due to the optimization of the budget process”, a final

transfer to to the program budgeting took place on January 1st, 2014. It does pose a problem, however, with regard to the identification of the expenditure levels for each state program.

Federal budgeting implies a broad analysis and modifications in the financing levels of approved measures being the essential part of the state subprograms and establishing the level budget financing for the realization of the state program measures.

According to the recommendations by the Russian Federation Ministry of Finances, qualitative and quantitative optimization of spending responsibilities is critically important as well as the adjustment of the methods and the deadlines for performing state programs measures, the planning tome of which goes beyond 2016. A priority in this case should be the achievement of the objectives defined by the Russian Federation Presidential Decrees of May 7th, 2012.

This formulation of the problem calls for the necessity to define the methods for achieving target indicators of the state programs under conditions of financial restrictions and and to provide visualization of the process and the results of the state program to the different target groups of the society.

At the same time, the problem about the reconsideration of the strategic guidelines for innovative and scientific and technological development still remains relevant. It means that it is necessary to change the list of priority directions and technologies in the documents or to change the time and stages for the strategic aims achievement.

Results and discussion

The results of the studies allow us to make the following conclusions:

1. The diversity of the current strategic planning documents is structured by the federal law on the strategic planning, however the list of such documents is still open. New types of the strategic planning documents should be introduced to the existing system of strategic planning after confirmation that it is reasonable to accept the documents and identification which spheres they will be regulating.
2. Different regulating aspects and spheres are presented in the strategic planning documents and often the documents are not a system (vertical, horizontal or matrix) but just separate fragments. They do not solve the problems of the industry, do not give answers to the existing questions. The documents are update not according to some general logic but it happens spontaneously.
3. When developing state programs, it is necessary to make use of the international experience, including the use of various channels for science financing and to take into account their proportions. Implementation of the federal state programs is a positive Russian experience which should also be used for the state programs. It is also necessary to develop and synchronize the mechanisms of implementing strategic planning documents equally to federal state programs.

4. GPRNT is the main document which links strategic and budgetary planning, provides linking of the strategic aims, tactical goals and various instruments and mechanisms with the end results.

5. It is necessary to adopt a methodology to choose first priority directions of the fundamental research activity, which will be based on the key role of such factors as competitive advantages of the scientific sphere, potential role on the social and economic development of the country and its national safety. Realization of this approach, which corresponds to the best international tendencies, will enable us to detect the most important spheres and directions for financing, approved both by the experts and the society.

6. The system of financing fundamental studies also needs to be improved as approaches that were used until recently and which are characteristic for developing targeted federal programs, make the applied science dominant.

Thus, to develop the science, in general and fundamental science, in particular it is necessary to solve three main problems: to choose proper priorities, create an adequate system of resource maintenance and attract the best experts to conduct the studies. The solution of the last two problems strongly depends on the instruments used for realization scientific and technological policy and the policy itself, defining the priorities of scientific and technological development, is confirmed in the system of strategic planning documents.

Acknowledgements, if necessary and the **source of the study financing**

This publication is based on the result of the applied scientific research (unique identifier is RFMEFI60314X0004), conducted with financial assistance from the Ministry of Education and Research of the Russian Federation.

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Applied scientific research "Analysis of the state programs and federal state programs implying R&D in order to assess their correspondence to the relevant long-term scientific and technological forecast and suggestions for their adjustment" (unique identifier is RFMEFI60314X0004), conducted with financial assistance from the Ministry of Education and Research of the Russian Federation.

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