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Russian Government Roadmap for Development of Biotechnology

Report Categories:

Biotechnology and Other New Production Technologies

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Report Highlights:

In July 2013, the Russian Government approved the plan of measures (Roadmap) for the “Development of Biotechnology and Genetic Engineering”. The Roadmap was developed for implementation of the previously announced Comprehensive Program for Development of Biotechnology in the Russian Federation through 2020. The portion of agricultural biotechnology in the Roadmap is even smaller than in the Comprehensive Program, and is strictly limited to the development of biofuels, plant protection methods, animal vaccines, and enzymes, and makes no mention of genetically engineered plants.

General Information:

In July 2013, the Russian Government approved the plan of measures (Roadmap) for the “Development of Biotechnology and Genetic Engineering” as was prescribed by the Comprehensive Program for Development of Biotechnology in the Russian Federation through 2020 (see FAS\Moscow GAIN report [Program on Development of Biotechnology in Russia through 2020](#)). The Program acknowledged that Russia is lagging behind both developed and developing countries in the development and use of biotechnology (including agricultural biotechnology) and sets targets to create a biotech-oriented economy by 2020. In the section “Agricultural Biotechnology” the Program envisaged, among other things, the “development and introduction of genetically modified plants in agriculture”. However, in this Roadmap there is no reference to the development and introduction of genetically engineered plants, and measures on development of agricultural biotechnology refer to the development of biofuels, biological methods of plant protection, animal vaccines, and enzymes.

The Roadmap determines the following targets in the field of development of agricultural and food biotechnology:

- Number of innovative projects in agricultural sector implemented by constituent entities of the Russian Federation (provinces) using up-to-date biotechnological methods shall increase from 2 in 2012 to 10 by 2015, and to 20 – by 2018. However, types and capacity of these innovative projects are not determined;
- Number of innovative projects for the establishment of alternative energy sources including production of bio-fuel from agricultural waste to be implemented by Russian provinces shall increase from 2 in 2012 to 10 by 2015, and to 20 – by 2018;
- Growth of use of biological crop-protecting agents and microbiological fertilizers in plant production shall increase from 2012 (4,000 metric tons) by 200 percent by 2014, and by 300 percent by 2018;
- Ratio of domestically-produced agricultural vaccines, and medicinal preparations shall increase from 40 percent in 2012 to 60 and 80 percent by 2015 and 2018 respectively;
- Ratio of agricultural waste recycled by means of biotechnological methods shall increase from 5 percent in 2012 to 30 and 50 percent by 2015 and 2018;
- Ratio of food and processing industry waste recycled by means of biotechnological methods shall increase from 1 percent in 2012 to 10 and 15 percent respectively;
- Ratio of domestically-produced enzymes shall increase from 1 percent in 2012 to 10 percent in 2015 and 15 percent in 2018;
- Ratio of domestically-produced food protein shall increase from 10 percent in 2012 to 30 and 50 percent.

The development of genetically engineered plants and animals is not mentioned in the Roadmap.

The text of the Government Order No 1247-p and the Plan of Measures (Roadmap) is here: <http://government.ru/media/files/41d47b5e0ae078ee508b.pdf>. The unofficial translation of the Government Order and Plan of Measures (Roadmap) are in Attachments 1 and 2.

Attachment 1.

Order of the Government of the Russian Federation

GOVERNMENT OF THE RUSSIAN FEDERATION

EXECUTIVE ORDER

dated July 18, 2013 No. 1247-p

MOSCOW

1. To approve attached action plan ("roadmap") "Development of biotechnologies and genetic engineering" (hereinafter - plan).

2. Heads of federal executive authorities responsible for plan implementation shall:

Provide for the plan implementation;

Cooperate with executive authorities of constituent entities of the Russian Federation during plan execution;

On a quarterly basis, until the 5th day of every month following the accounting quarter, to provide information about plan implementation to the Ministry of Economic Development of Russia.

1. Ministry of Economic Development and Trade of Russia (MEDT of Russia) to perform

monitoring and control over plan implementation and annually, every first quarter, to submit a report about the progress of plan implementation to the Government of the Russian Federation.

2. Making changes to the plan shall be performed upon the decision of the working group for the development of biotechnologies without making changes hereto.

Chairman of the Government
of the Russian Federation

D. Medvedev

Attachment 2

Approved by the Order of the Government
of the Russian Federation
dated July 18, 2013, No. 1247-p

ACTION PLAN

("Roadmap") "Development of biotechnologies and genetic engineering"

I. General description of the "roadmap"

According to the estimates in 2025 the world market of biotechnologies will reach the level of 2 trillion US dollars; in certain market segments growth rates vary between 5-7 and up to 30 percent per annum.

Mainly highly-developed countries, in particular, USA, Canada, Japan and European Union states are traditional manufacturers and consumers of biotechnological goods. During current decade China, India and Brazil also commenced implementation of large-scale development programs along the whole range of biotechnologies.

At present the share of Russia in the world market of biotechnologies is less than 0.1 percent; and the goods are not manufactured in some segments (biodegradable materials, biofuel). More than 80 percent of biotechnological products consumed in Russia are imported and the volume of consumption is extremely low as opposed to both developed and developing countries. 100 percent of amino acids for agricultural sector (lysine), up to 80 percent of feed enzyme preparations, 100 percent of enzymes for household chemical goods, more than 50 percent of veterinary antibiotics, 100 percent of lactic acid,

from 50 to 100 percent of biological food ingredients are being imported. In this regard it is necessary to implement consecutive steps in order to get over the obvious gap in the development of biotechnologies with leading countries.

Comprehensive Program for Development of Biotechnology in the Russian Federation through 2020 approved by the Prime-Minister of the Russian Federation V.V. Putin on April 24, 2012 No. 1853p-P8 is the strategic document that determines policy of the Russian Federation in biotechnological sector of economy.

Implementation of action plan ("roadmap") "Development of biotechnologies and genetic engineering" (hereinafter -"Roadmap") shall be performed both by means of system-wide measures for the development of biotechnology and by means of measures for the development of top priority sectors of the specified field including the following:

- bio-pharmaceutics;
- bio-medicine;
- industrial biotechnology;
- bio-energy;
- agricultural and food biotechnology;
- forest biotechnology;
- environmental (ecological) biotechnology.

General action framework measures in the field of genetic engineering are provided separately.

Reaching level of biological products manufacturing in Russia equal to around 1 percent of gross domestic product by 2020 and establishment of favorable conditions in order to reach the production level of the specified products of at least 3 percent of gross domestic product by 2030 is the strategic goal for the "Roadmap" implementation.

By 2015 the aim of the "Roadmap" is to develop domestic demand and export of biotechnological products, to establish the engineering and manufacturing basis in order to organize new industry sub-branches which in the long run could replace the significant part of products being manufactures by means of chemical synthesis, with biological synthesis products, as well as establishment of engineering and industrial experimental basis in order to organize biofuel industry; such goals are comparable with goals of the implementation stage I of the Comprehensive Program for Development of Biotechnology in the Russian Federation through 2020 approved by the Prime-Minister of the Russian Federation V.V. Putin on April 24, 2012 No. 1853п-II8.

Name of Performance Benchmark	Unit of Measurement	2012	2015	2018
<u>Integral indexes</u>				

Volume of biotechnological products consumption	bln. rubles	128	180	300
Volume of biotechnological products manufacturing	bln. rubles	26	50	200
Volume of biotechnological products export	bln. rubles	less than 1	10	50
Import ratio in consumption	percent	80	77	50
Import ratio in manufacturing	percent	less than 1	20	25
<u>Biopharmaceuticals¹ and biomedical technologies</u>				
Registered original biopharmaceutical medical products	units (accumulative total)	-	10 ¹	-
Biopharmaceutical medical products – analogues of medical products which are not manufactured at the territory of the Russian Federation, not protected by patents, included into Vital, Essential and Necessary Drug Listing	percent of import substitution ²	13	20 ¹	40
Diagnosticum	percent of import substitution	25	40	45
Biocompatible materials	percent of import substitution	0.5	5	8
Researches on the basis of cell technologies	units (accumulative total)	-	3	9
<u>Agricultural and food biotechnologies</u>				
Number of innovative projects in agricultural sector implemented by constituent entities of the Russian Federation using up-to-date biotechnological methods	units	12	60	120
Number of innovative projects for the establishment of alternative energy sources including production of biofuel from agricultural waste implemented by constituent entities of the Russian Federation	units	2	10	20
Growth of using of biological crop-protecting agents and microbiological fertilizers in plant production	percent by 2012	4000 tons	200	300
Ratio of domestically-produced vaccines, sets of diagnostic instruments, medicinal preparations	percent	40	60	80
Ratio of agricultural waste recycled by means of biotechnological methods	percent	5	30	50
Ratio of food and processing industry waste recycled by means of biotechnological methods	percent	1	10	15
Ratio of domestically-produced enzymes	percent	1	10	15
Ratio of domestically-produced food protein	percent	10	30	50
<u>Industrial biotechnologies</u>				
Ratio of bio-degradable materials in the total volume	percent	-	3	8

of consumable polymeric products - total				
including in packing industry	percent	-	10	25
Ratio of biomass in the total volume of raw materials being processed in chemical and petrochemical industry	percent	-	5	12
Ratio of raw materials processed using biotechnological methods in timber industry	percent	-	5	8
Growth of using biological products in oil and gas production	percent by 2010	-	300	400
Bio-energy				
Ratio of vehicle bio-fuel and its components in the total volume of fuel consumption	percent	-	3	8
Heat production	bln. rubles	8	60	160
Ratio of area cleansed using bio-degradable agents, in total quantity (areas) of surface and ground water, soils polluted by fuel and energy sector enterprises	percent	-	30	80
Solid bio-fuel production	mln. tons	3	6	16
Forest biotechnologies				
Areas of fast-growing forest plantations	thous. ha	-	20	68
Environmental (ecological) biotechnology				
Ratio of energy recovery for poultry farming, crop farming, animal farming wastes, timber processing, food processing wastes including alcohol and beer production, in total volume of agricultural food and timber wastes	percent	3	30	80

II. Action Plan

ACTION, MILESTONE	DOCUMENT TYPE (EXPECTED RESULT)	IMPLEMENTATION (INTRODUCTION) DATES	RESPONSIBLE
I. Action framework implementation			
R&D development			
1. Update to strategic programs of researches in specialized technological platforms in the field of biotechnologies	strategic programs	October 2013	Ministry of Economic Development (MEDT) of RF
2. Accounting of proposals of technological platforms according to the topics of	regulations made by government departments	January 2014	Ministry of Education and Science of RF, Ministry of Trade of RF,

research works, R&D works being performed by order of federal executive authorities			Ministry of Health of RF, RF Ministry of Agriculture
3. Establishment of biological resource centers upon results of arranged inventory listing of existing biological collections	industry-specific legal acts	July 2014	Ministry of Education and Science of RF, RF Ministry of Agriculture, Russian Academy of Science
4. Approval of strategies for systematic support of biological collections and access mode to them:			
microorganisms	Act of Government of the Russian Federation	July 2014	Ministry of Education and Science of RF, RF Ministry of Agriculture, Russian Academy of Science, Russian Academy of Agricultural Sciences
fungi, crops, animals	Act of Government of the Russian Federation	July 2014	RF Ministry of Agriculture, Ministry of Education and Science of RF, Russian Academy of Science, Russian Academy of Agricultural Sciences
5. Determining conditions for the establishment of reference laboratories in the field of biotechnologies	industry-specific legal acts	January 2014	Ministry of Education and Science of the Russian Federation, MIT of Russia, Russian Academy of Science Russian Academy of Medical Sciences
Development of the system for training and professional development			

of academic, engineering and technical and management staff			
6. Approval of Action Plan for quality improvement for staff training, professional development and professional retraining for biotechnologies	Action Plan	October 2013	Ministry of Education and Science of the Russian Federation, RF Ministry of Agriculture, MIT of Russia, Ministry of Health of RF
7. Organization of the list of professional standards which are much-in-demand in the field of biotechnologies and genetic engineering	Report to the Government of the Russian Federation	IV quarter of 2013	MEDT of Russia, Ministry of Labor of Russia, Ministry of Education and Science of the Russian Federation, MIT of Russia, Ministry of Health of RF, RF Ministry of Energy, RF Ministry of Agriculture
8. Development of professional standards in the field of biotechnologies and genetic engineering	industry-specific legal acts	2014	Ministry of Labor of Russia, MEDT of Russia, Ministry of Education and Science of the Russian Federation, MIT of Russia, Ministry of Health of RF, RF Ministry of Energy, RF Ministry of Agriculture
9. Preparation of proposals on making changes to the list of training disciplines in educational institutions of higher vocational education, specialties of scientific workers corresponding to priority areas of modernization and technological development of Russian economy approved by the Russian Federation	Report to the Government of the Russian Federation	IV quarter 2013	Ministry of Education and Science of the Russian Federation, MEDT of the Russian Federation, MIT of the Russian Federation, Ministry of Health of the Russian Federation, Russian Ministry of Energy, Russian Ministry of

Government Executive Order dated November 3, 2011 No. 1944-r in the part of addendum of the specified list with the discipline "biotechnology and genetic engineering"			Agriculture
<u>Development of production possibilities and industrial cooperation</u>			
10. Approval of procedure and conditions for the provision of subsidies from federal budget for establishment and support of activities in pilot centers in the field of biotechnologies	Act of Government of the Russian Federation	January 2014	MIT of the Russian Federation, MEDT of the Russian Federation
	Act of Government of the Russian Federation	January 2015	RF Ministry of Agriculture, MEDT of the Russian Federation
	Act of Government of the Russian Federation	January 2015	RF Ministry of Natural Resources, MEDT of the Russian Federation
11. Approval of an Action Plan in the field of technologies commercialization support, establishment of new enterprises in the field of biotechnologies	Action Plan	II quarter 2014	MEDT of the Russian Federation, Ministry of Education and Science of the Russian Federation, MIT of Russia, Ministry of Health of RF, RF Ministry of Agriculture
12. Provision of advancement of best practices for using biotechnologies in medicine, heavy industry, bioenergy, agriculture, environment protection, forest management and forestry industry	guidelines	IV quarter 2014	MEDT of the Russian Federation
<u>Improvement of state regulation in the field of biotechnologies</u>			
13. Development of drafts for technical regulations of the Customs Union in respect to the products referred to biotechnological products included to the unified list in respect to which obligatory	Drafts of technical regulations	2014	Federal executive authorities (according to the competence)

requirements are specified within the Customs Union; the list is approved in accordance with Agreement on Unified Principles and Rules of Technical Regulation in the Republic of Belarus, Republic of Kazakhstan and Russian Federation dated November 18, 2010			
14. Approval of integrated schedule for the development and adoption of regulatory legal acts providing improvement of operational efficiency and facilitation of import of materials, devices and equipment for scientific purposes to the territory of the Russian Federation, reduction of prices for consumables and equipment for scientific researches being purchased from foreign manufacturers and facilitation of import of materials for scientific researches to the Russian Federation (export from the Russian Federation) including biological materials and laboratory animals	schedule	IV quarter 2013	MEDT of Russia, Ministry of Health of RF, MIT of Russia, Ministry of Education and Science of the Russian Federation, RF Ministry of Finance, RF Ministry of Agriculture, FSS of RF, FCS of Russia, FCTEC of Russia
15. Preparation of proposals to the subcommission for customs tariff and non-tariff regulations, safeguard actions in foreign trade of the Government Commission for Economic Development and Integration to be submitted to the Eurasian Economic Commission (in the part of taking up necessary actions in order to improve customs tariff regulations with the purpose of development of	Report to the Government of the Russian Federation	III quarter 2014	MEDT of the Russian Federation, MIT of the Russian Federation, FSS of the Russian Federation, federal executive authorities in interest

biotechnologies field including reduction of rates (or cancellation) of import customs duties for special technological equipment, raw materials and component parts for biotechnological manufacturing)			
<u>Technological development in regions</u>			
16. Approval of the procedure for the provision of financial support of the development of industrial biotechnological clusters in constituent entities of the Russian Federation	Act of Government of the Russian Federation	II quarter 2014	MIT of the Russian Federation, MEDT of the Russian Federation, RF Ministry of Finance, federal executive authorities in interest, association of economic collaboration of constituent entities of the Russian Federation "Russian Innovative Regions Association" (upon agreement)
17. Provision of methodological and advisory support for the development and implementation of biotechnologies development programs of constituent entities of the Russian Federation	industry-specific regulation	I quarter of 2014	MEDT of Russia, MIT of Russia, RF Ministry of Agriculture, Ministry of Health of the Russian Federation, Russian Ministry of Energy, federal executive authorities in interest, association of economic collaboration of constituent entities of the Russian Federation "Russian Innovative Regions Association" (upon agreement)
18. Approval of action plan	Action plan for	IV quarter of	Non-commercial

for coordination and advancement of best practices in biotechnological clusters activities	coordination and advancement of best practices in biotechnological clusters activities	2013	Partnership "Union of Pharmaceutical and Biomedical Clusters in Russia" (upon agreement)
<u>Internationals cooperation development</u>			
19. Approval of action plan for organization of international cooperation in the field of biotechnological development (development of relations between Russian and foreign technological platforms and territorial clusters by organizing business-missions and promoting joint projects)	industry-specific regulation	I quarter of 2014	MEDT of Russia, MIT of Russia, RF Ministry of Agriculture, Ministry of Health of the Russian Federation
20. Extending the list of exhibitions and fairs that take place abroad and where Russian exhibits are planned which are partially financed at the account of federal budget funds, with exhibitions and fairs in the field of biotechnologies	Executive Order of the Government of the Russian Federation	IV quarter of 2013	MIT of Russia, MEDT of Russia, Ministry of Education and Science of the Russian Federation, Ministry of Health of RF, RF Ministry of Agriculture
<u>Establishment and development of mechanisms for coordination of field organizations activities</u>			
21. Development of proposals for establishment of statistical accounting system in the field of biotechnologies	Report to the Government of the Russian Federation	March 2014	MEDT of Russia, Ministry of Education and Science of the Russian Federation, MIT of Russia, Ministry of Health of RF, RF Ministry of Agriculture, Rosstat
22. Taking decisions in respect of improvement of statistical accounting in the field of biotechnologies including industry-specific	industry-specific regulations	IV quarter of 2014	Rosstat, Ministry of Education and Science of the Russian Federation, MIT of Russia,

statistical accounting			Ministry of Health of RF, RF Ministry of Agriculture, MEDT of Russia
II. Implementation of actions for the development of certain areas of biotechnologies			
<u>Bio-pharmaceutics</u>			
23. Development of proposals on stimulating demand for domestic innovational medicals, including biotechnological ones	Report to the Government of the Russian Federation	September 2013	MIT of Russia, Ministry of Health of RF, MEDT of Russia, FAS Russia, Russian Academy of Science, Russian Academy of Medical Sciences
24. Development of proposals on improvement of legislation of the Russian Federation in the part of requirements to state registration and circulation of biological and innovational medical products taking into account European Union practice and recommendations of the World Health Organization	Report to the Government of the Russian Federation	September 2013	Ministry of Health of the Russian Federation, MIT of Russia, MEDT of Russia, Russian Academy of Medical Sciences
25. Establishment of centers of preclinical translation research complying with GLP international requirements in order to arrange full cycle of preclinical researches of innovational medical preparations	Report to the Government of the Russian Federation	IV quarter of 2016	Ministry of Health of the Russian Federation
<u>Biomedicine</u>			
26. Approval of science platforms in the field of top priority biomedical and biotechnological researches	industry-specific regulations	IV quarter of 2013	Ministry of Health of the Russian Federation

27. Establishment of national center for strategic biomedical technologies and biosecurity; the center shall provide development of biomedical competencies absent in Russia	Report to the Government of the Russian Federation	IV quarter of 2016	Ministry of Health of the Russian Federation, MEDT of Russia, RF Ministry of Finance
28. Opening of national depository of biomaterials including biobanks of different level	Report to the Government of the Russian Federation	IV quarter of 2018	Ministry of Health of RF, FMBA of Russia, MIT of Russia, Ministry of Education and Science of the Russian Federation, Russian Academy of Science, Russian Academy of Medical Sciences
29. Establishment of common use centers providing conditions for training of high-qualified staff in the field of biotechnology, genetic engineering and molecular biology	Report to the Government of the Russian Federation	IV quarter of 2018	Ministry of Health of the Russian Federation
30. Establishment of bioinformatics centers	Report to the Government of the Russian Federation	IV quarter of 2018	Ministry of Health of the Russian Federation
31. Development and submission of the draft of federal law on circulation of biomedical cellular products to the Government of the Russian Federation providing organization of regulatory framework for the establishment of innovative biomedical cellular products used in regenerative medicine	Federal Law	III quarter of 2013	Ministry of Health of the Russian Federation, MEDT of the Russian Federation
32. Development of the	industry-specific legal	March 2014	Ministry of

draft for proper practice in respect of production of biomedical cellular products	acts		Health of the Russian Federation
33. Establishment of GTP-certified cellular laboratories in order to characterize more specifically and standardize cellular lines and products obtained from them	Report to the Government of the Russian Federation	January 2019	Ministry of Health of the Russian Federation
<u>Industrial biotechnology</u>			
34. Making changes into the state program of the Russian Federation "Industry development and increase of its competitiveness" in the part of development of new subprograms "Industrial biotechnology", "Engineering development" and making changes into subprograms "Forest sector development" and "Chemical sector"	Executive Order of the Government of the Russian Federation	IV quarter 2013	MIT of Russia, RF Ministry of Finance, MEDT of the Russian Federation
35. Approval of plans for preparation of standards and codes of practice: for raw materials, semi-finished products and finished products from renewable feedstocks including biodegradable products; for biological defense technology for crops, biological fertilizers, biological preparations for crop production, biological additives to animal feedstuffs and means of their use; for products and technologies of agricultural sector wastes	industry-specific legal act	January 2014	MIT of Russia, RF Ministry of Agriculture, Federal Agency on Technical Regulating and Metrology

processing using industrial biotechnology methods; for products and technologies of industrial wastes processing using industrial biotechnology methods			
36. Development of support mechanisms for the establishment of engineering centers in the field of industrial biotechnology	Report to the Government of the Russian Federation	IV quarter of 2013	MIT of Russia, MEDT of Russia, RF Ministry of Finance
37. Development of recommendations for introduction of biological products and technologies for crop and animal raising, production of feed stuffs, feed additives and premixes, processing of agricultural sector wastes, processing of industrial wastes and forest sector wastes	industry-specific legal acts	April 2014	RF Ministry of Agriculture, MIT of Russia, RF Ministry of Natural Resources, Ministry for Regional Development of Russia, RF Ministry of Energy, Russian Forestry Agency
38. Development of programs for introduction of products obtained from renewable raw materials	industry-specific legal act	April 2014	MIT of the Russian Federation
39. Industrial testing aimed to introduce biological products and technologies for crop and animal raising and processing of agricultural sector wastes	Industry program for introduction of biological products and technologies for crop and animal raising and processing of agricultural sector wastes being approved by the decree of the Ministry of Agriculture of Russia	2014 - 2015	RF Ministry of Agriculture, MIT of Russia
40. Organization of coordination board for industrial biotechnology	industry-specific regulation	III quarter of 2013	MIT of Russia, federal executive authorities in interest
<u>Bio-energy</u>			
41. Analysis of un-demanded (excessive) facilities for the production of ethyl	Report to the Government of the Russian Federation	III quarter of 2013	Federal Service for Alcohol Market Regulation, federal executive

alcohol from food raw materials available at the territory of the Russian Federation with an opportunity of their conversion into facilities for the production of bioethanol			authorities in interest, executive authorities of constituent entities of the Russian Federation
42. Development of technology for inputting of denaturing agents being performed before rectification stage during bioethanol production and method for automatic metering and accounting of the concentration of denaturing agents in denatured bioethanol	Report to the Government of the Russian Federation	IV quarter of 2014	Federal Service for Alcohol Market Regulation
43. Development and submission of the federal law draft o the Government of the Russian Federation on making changes to the Federal Law "Concerning the State Regulation of the Production and Circulation of Ethyl Alcohol and Alcoholic and Alcohol-Containing Products and on Limitation of Consumption (Drinking) of Alcoholic Products" and other legal acts of the Russian Federation in the part of introduction of respective concepts required for regulation of bioethanol production, setting requirements to the production, accounting, transportation, basic technological equipment	Federal Law	I quarter of 2015	Federal Service for Alcohol Market Regulation, MEDT of Russia, RF Ministry of Energy, MIT of Russia, RF Ministry of Finance, RF MIA, FCS of Russia

and storage rules for bioethanol and well as allocation of liability for violations in the field of production and circulation of bioethanol and any other technological processes and operations for bioethanol processing with the purpose of removal of denaturing agents			
44. Development and submission of the federal law draft o the Government of the Russian Federation on making changes to the Chapter 22 of the Tax Code of the Russian Federation providing for covering bioethanol with the procedure of calculation of excise duty provided for organizations making transactions with denatured ethyl alcohol according to which sale of bioethanol used as biofuel should not include excise duties	Federal Law	I quarter of 2015	RF Ministry of Finance, Federal Service for Alcohol Market Regulation, MEDT of Russia, federal executive authorities in interest
45. Development of proposals on making changes to Customs Union Technical Regulations "About requirements to automobile and aviation gasoline, diesel and ship fuel, fuel for jet engines and to fuel oil" (TR TS 013/2011) approved by the decision of the Customs Union Commission as of	Draft of changes to technical regulations	II quarter of 2015	MIT of Russia, RF Ministry of Energy, Federal Service for Alcohol Market Regulation

October 18, 2011 No. 826 in the part of introduction of use of denatured bioethanol in automobile gasoline			
46. Organization of industrial production of bioethanol: 1 st stage – pilot project; 2 nd stage - introduction (taking into account new organizational and legal framework)	Report to the Government of the Russian Federation	1 st stage - IV quarter of 2014	Federal Service for Alcohol Market Regulation, MIT of Russia, RF Ministry of Energy
		2 nd stage - IV quarter of 2015	MEDT of the Russian Federation
47. Converting idle state enterprises for the production of ethyl alcohol into enterprises for the production of bioethanol for biofuel	Report to the Government of the Russian Federation	IV quarter of 2015	Federal Service for Alcohol Market Regulation, MIT of Russia, executive authorities of constituent entities in the Russian Federation
48. Preparation of methodological recommendations for the development of settlements heating charts by local authorities providing for mandatory analysis of practicability of commissioning of new and reconstruction of existing thermal energy sources using renewable energy sources, analysis of their use in constituent entities in the Russian Federation	guidelines Report to the Government of the Russian Federation	April 2014	Ministry of Regional Development of Russia, RF Ministry of Energy
		II quarter of 2015	
49. Submission of the federal law draft o the Government of the Russian Federation focused on establishment of favorable conditions for using of biomass and wastes including with the	Federal Law	IV quarter of 2013	RF Ministry of Agriculture, RF Ministry of Energy, MIT of Russia, MEDT of Russia, FTS of Russia

purpose of thermal and electric power generation			
<u>Agricultural and food biotechnology (agriculture and food industry)</u>			
50. Establishment of centers for occupational retraining and professional development of specialists in the field of agricultural and food biotechnology on the basis of leading agricultural educational institutions in federal districts	industry-specific legal acts	IV quarter of 2014	RF Ministry of Agriculture, Ministry of Education and Science of the Russian Federation
51. Establishment of education and methodic association in agricultural biotechnology	industry-specific legal act	December 2013	RF Ministry of Agriculture, Russian Academy of Agricultural Sciences
52. Development and submission of the federal law draft of the Government of the Russian Federation providing for regulation of organic agricultural products manufacturing	Federal Law	IV quarter of 2013	RF Ministry of Agriculture
53. Development of action plan for improvement of regulatory and legal framework and technical framework in the field of development of agricultural and food biotechnologies	Action plan	IV quarter of 2013	RF Ministry of Agriculture, MIT of Russia, MEDT of Russia
54. Approval of series of actions in respect of mechanisms for development and support of biotechnological clusters in constituent entities of the Russian Federation in the field of food and processing industry	Series of actions	December 2013	RF Ministry of Agriculture, MEDT of Russia, Ministry of Regional Development of Russia, MIT of the Russian Federation
55. Implementation of	industry-specific	December 2014	RF Ministry of

pilot innovational projects for the production of functional nutrition products and food ingredients in constituent entities of the Russian Federation	regulations		Agriculture, MIT of Russia, Ministry of Regional Development of Russia, association of economic collaboration of constituent entities of the Russian Federation "Russian Innovative Regions Association" (upon agreement)
56. Approval of series of actions for bringing of Russian methods for testing and certification of agricultural and food biotechnological products in compliance with existing international methods and rules in order to provide mutual recognition of certification results by laboratories and certification centers	industry-specific regulations	IV quarter of 2013	RF Ministry of Agriculture, MEDT of Russia together with federal executive authorities in interest, Russian Academy of Agricultural Sciences, Russian Academy of Science
57. Establishment of center of functional genomics of agricultural crops, animals and aquaculture	Report to the Government of the Russian Federation	January 2014	RF Ministry of Agriculture, MIT of the Russian Federation, MEDT of the Russian Federation
<u>Forest biotechnology</u>			
58. Establishment of center of forest biotechnologies	Executive Order of the Government of the Russian Federation	January 2014	RF Ministry of Natural Resources, Ministry of Education and Science of the Russian Federation, Federal Forestry Agency, Russian Academy of Science
59. Establishment of the	Report to the Government of	June 2014	Federal Forestry

network of laboratories for DNA analysis in order to monitor the state of forest genetic resources, to control circulation of reproductive material of forest plants during forest regeneration, evaluation of phytosanitary state of forest nurseries, control over the legitimacy of timber origin	the Russian Federation		Agency, RF Ministry of Natural Resources, Russian Academy of Science
60. Development of regulations for the provision of expert evaluation and introduction of new forest biotechnologies into practice	industry-specific legal act	April 2014	RF Ministry of Natural Resources, Federal Forestry Agency, Federal Agency on Technical Regulating and Metrology, Russian Academy of Science
61. Development and introduction of standards in the field of new forest biotechnologies into practice	Decree of Federal Forestry Agency	April 2014	RF Ministry of Natural Resources, Federal Forestry Agency, Federal Agency on Technical Regulating and Metrology, Russian Academy of Science
62. Inclusion of national standards for biological forest defense technology on the basis of entomophages, entomopatogenes and biofungicides and development of technologies for their obtainment and use for forest protection from hazardous organisms into the plan of standards development	national standards	IV quarter of 2014	Federal Agency on Technical Regulating and Metrology, MIT of Russia, Federal Forestry Agency
<u>Environmental (ecological) biotechnology</u>			
63. Preparation of	Federal Law	III quarter of	RF Ministry of

changes to the Federal Law "Concerning the Protection of the Environment" in the part of top priority use of biotechnology being the most prospective type of modern environment protection technologies		2014	Agriculture, RF Ministry of Natural Resources
<u>Genetic engineering</u>			
64. Approval of state registration procedure for genetically engineered modified organisms intended for discharge to environment and products obtained using such organisms or containing them	Decree of the Government of the Russian Federation	IV quarter of 2013	Ministry of Education and Science of the Russian Federation, Ministry of Health of RF, RF Ministry of Agriculture, RF Ministry of Natural Resources, RF Ministry of Finance, Federal Service for the Supervision of Public Health and Social Development, Russian Agency for Health and Consumer Rights Federal Service for Veterinary and Phytosanitary Surveillance, Federal Forestry Agency
65. Approval of all-Russian classifier of genetic modifications	regulatory legal act	IV quarter of 2013	Ministry of Education and Science of the Russian Federation, Ministry of Health of RF, RF Ministry of Agriculture, Russian Academy of Science, Russian Academy of Medical Sciences, Russian Academy of Agricultural Sciences
66. Approval of the form of certificate of state	regulatory legal act	II quarter of 2014	Ministry of Health of RF, RF Ministry of

registration for genetically engineered modified organisms intended for discharge to environment			Agriculture, Federal Veterinary and Phytosanitary Monitoring Service, Russian Agency for Health and Consumer Rights
67. Commencement of registration of genetically engineered modified organisms and products obtained using them according to the procedure stipulated in Item 64 hereof	Report to the Government of the Russian Federation	III quarter of 2014	Ministry of Health of RF, federal executive authorities in interest
68. Development of certification (validation) procedure for methods and equipment	Report to the Government of the Russian Federation	III quarter of 2014	Ministry of Health of RF, MIT of Russia, Federal Agency on Technical Regulating and Metrology
69. Development of new generation of genetically engineered modified organisms using modern methods enabling to minimize risks from their use (terminal technologies, etc.)	Report to the Government of the Russian Federation	I quarter of 2015	Ministry of Education and Science of the Russian Federation, Ministry of Health of RF, RF Ministry of Agriculture, Russian Academy of Science, Russian Academy of Medical Sciences, Russian Academy of Agricultural Sciences
70. Development of model for the assessment of impact of genetically engineered modified organisms and products based on them to human and animal health	industry-specific legal acts	2013 - 2015	Ministry of Health of RF, RF Ministry of Agriculture
71. Approval of monitoring procedure in respect of impact genetically engineered modified organisms and products obtained using such organisms or containing them to	regulatory legal act	II quarter of 2014	Ministry of Health of RF, RF Ministry of Natural Resources, RF Ministry of Agriculture, Russian Agency for Health and Consumer Rights, Federal

humans and environment			Forestry Agency, Federal Veterinary and Phytosanitary Monitoring Service
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¹ Indicators may be specified in the course of implementation of the Federal Target Program "Development of pharmaceutical and medical industry of the Russian Federation for the period up to 2020 and further prospects" approved by the Decree of the Government of the Russian Federation as of February 17, 2011 No. 91 and other actions in the field of biopharmaceutics.

² In biomedical technologies "percent of import substitution" means import substitution, percent of preparations brought to the stage of clinical research (for preparations having import analogues).