

On approval of the state program of industrial-innovative development of Kazakhstan for 2015-2019, and on amendments to the Decree of the President of the Republic of Kazakhstan, dated March 19, 2010 No.957 "On approval of the list of government programs"

Decree of the President of the Republic of Kazakhstan dated August 1, 2014 No. 874

COMMENTS

I DECREE:

1. To approve the state program of industrial-innovative development of Kazakhstan for 2015-2019 (hereinafter - the Program).

2. The Government of the Republic of Kazakhstan shall:

1) develop and approve the Action plan of the Government of the Republic of Kazakhstan on implementation of the Program within a month;

2) submit to the Administration of the President of the Republic of Kazakhstan the monitoring and assessment results of the Program pursuant to the procedure and within the period, specified in the Decree of the President of the Republic of Kazakhstan dated March 4, 2010 No. 931 "On some issues of the State Planning Systems further functioning in the Republic of Kazakhstan".

3. The central and local executive bodies, and the government authorities, direct subordinate and accountable to the President of the Republic of Kazakhstan, shall take measures on implementation of the Program.

4. To make additions to the Decree of the President of the Republic of Kazakhstan, dated March 19, 2010 No.957 "On approval of the list of government programs" (CAPG of the Republic of Kazakhstan, 2010, No.25-26, Art. 185; 2011, No.3-4, Art. 39; 2012, No. 9, Art. 171; No.47, Art. 626; 2013, No.11, Art. 200; No.55, Art. 768) reading as follows:

The list of government programs, approved by the above the Decree, shall be added by the line with an item number 11, reading as follows:

"11.	The state program of industrial-innovative development of Kazakhstan for 2015-2019	Ministry of Industry and New Technology of the Republic of Kazakhstan	till June 1, 2014	2015-2019	till July 1, 2014".
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5. Administration of the President of the Republic of Kazakhstan shall be responsible for control of implementation of this Decree.

6. This Decree shall come into force from the date of its signature.

*President
of the Republic of Kazakhstan N. Nazarbayev*

APPROVED BY
the Decree of the President
of the Republic of Kazakhstan
dated August 1, 2014 No. 874

**THE STATE PROGRAM of
industrial-innovative development of Kazakhstan
for 2015-2019**

Astana, 2014

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1. Program Passport

Name The state program of
industrial-innovative development of Kazakhstan
for 2015-2019

Basis for development

1. the Decree of the President of the Republic of Kazakhstan dated February 1, 2010 No. 922 "On Strategic development plan of the Republic of Kazakhstan till 2020".
2. President`s Address to the people of Kazakhstan of January 17, 2014 "Kazakhstan`s way – 2050: One goal, One Interest and One Future".
3. The instructions of the Head of State, made at 26th plenary session of the Foreign Investors Council under the President of the Republic of Kazakhstan Responsible for Ministry of Industry and New Technology Development of the Republic of Kazakhstan

Goal To stimulate diversification and improve competitiveness of the secondary industry

Objectives

- 1) rapid development of the secondary industry;
- 2) to improve effectiveness and increase value added in priority sectors;
- 3) to expand markets for production of non-primary goods;
- 4) to increase productive employment;
- 5) to ensure new level of technical effectiveness for priority sectors of the secondary industry and provide the basis for development of sectors of the future by creating innovation clusters;
- 6) to promote entrepreneurship and develop small and medium-sized businesses of the secondary industry

Period of implementation 2015-2019

Target To achieve by 2019 the following economic indicators with respect to the level of 2012:

- 1) increase of production volume of the secondary industry by 43 % in real terms;
- 2) increase of gross value added of the secondary industry by no more than 1,4 times in real terms;
- 3) increase of labour productivity of the secondary industry by 1,4 times in real terms;
- 4) increase of non-primary (finished) exports by no more than 1,1 times;
- 5) decrease of energy value of the secondary industry by no more than 15 %;
- 6) employment growth in the secondary industry by 29,2 thousand people.

Sources and amount of financing Total expenses, provided for in the republican budget for implementation of the Program of 2015 - 2019, will amount for 643909, 6 million tenge, including:

- in 2015- 327 506,3 million tenge*
- in 2016 - 111 324,6 million tenge*

in2017 - 74 464,6 million tenge*

in2018 - 64 785,3 million tenge*

in2019 - 65 828,8 million tenge*

Notes*

the amounts are under hold in accordance with the state budget for the relevant financial year

2. Introduction

The state program of industrial-innovative development of Kazakhstan for 2015-2019 (hereinafter - the Program) was developed in accordance with long-term priorities of the Strategy "Kazakhstan-2050", to implement the key area "To accelerate the economy diversification" of the Strategic development plan of the Republic of Kazakhstan till 2020, the Concept of Kazakhstan joining the top 30 developed countries of the world, and to implement the instructions of the Head of State, made at the 26th plenary session of the Foreign Investors Council under the President of the Republic of Kazakhstan, and in the framework of implementation of the President`s Address to the people of Kazakhstan of January 17, 2014 "Kazakhstan`s way – 2050: One goal, One Interest and One Future" dated January 17, 2014.

The Program is a follow-up of the State program for accelerated industrial and innovative development of the Republic of Kazakhstan for 2010-2014 (hereinafter - SPAIID) and it takes into account its operational experience. The Program is part of the industrial policy of Kazakhstan and it is focused on development of the secondary industry taking efforts and resources in a limited number of sectors, regional specialization using the cluster approach and effective industrial regulation.

The Program was developed based on principles and approaches of the Concept of industrial-innovative development of Kazakhstan for 2015 - 2019, approved by the Regulation of the Government of the Republic of Kazakhstan dated December 31, 2013 No.1497, taking into account the principles and provisions of the Concept of Kazakhstan's Innovative Development till 2020, approved by the Decree of the President of the Republic of Kazakhstan dated June 4, 2013 No.579, Concept of forming promising national clusters of the Republic of Kazakhstan till 2020, approved by the Regulation of the Government of the Republic of Kazakhstan dated October 11, 2013 No. 1092, and other program documents on industrialization, and guided by regulations of international agreements, to which Kazakhstan is a party.

The Program is sensitive to public policy aspects affecting the business climate. The Program success is related to achievement of the objectives by the Republic of Kazakhstan to improve the environment of doing business, increase the Global Competitiveness Index, decrease the share of state participation in economy by conducting the planned privatization, taking into account "principle of Yellow Pages", Kazakhstan joining into the FDI Confidence Index by A.T. Kearney, and indicators of human capital assets. In addition, efficient implementation of the Program depends on the funding model, full and timely allocation of budget.

3. The current situation analysis

1. The current situation analysis of industrial development in the Republic of Kazakhstan

Currently, industry takes the third part in Kazakhstan's economic structure. The mining sector provides more than 2.9% of employment and 18% of gross value added (hereinafter - GVA) in economy. Investments in fixed assets of the mining industry today amount for more than 30% of the total, and that of the secondary industry - 12% only. Kazakhstan, the world's leading exporter of extractive industries (primarily due to oil), is ahead of all CIS countries according to per capita exports. However, per capita exports of the secondary industry in the Republic of Kazakhstan are twice lower than in Russia.

By the end of 2012 compared to 2008, Kazakhstan shows a positive growth trend on the main SPAIID indicators: gross domestic product (hereinafter - GDP) grew by 22.5%; GVA non-energy sector - by 23.4%; GVA of the secondary industry - by 22.3%; labour productivity of the secondary industry - by 70%; non-primary exports - by 6.5%; the level of innovation activity of enterprises - by 3.6%; innovative products - by 240%, energy value of GDP decreased by 13.6%. Local content share of goods, works and services for procurement of monitoring entities has increased from 48.2% in 2010 to 63.1% in 2013.

At the same time, according to country report of the International Monetary Fund (hereinafter - the IMF) for September 2013¹ there are signs of "Dutch disease" in economy, in particular, unfavourable conditions of trade, growth of costs in economy and institutional problems. This is also confirmed by the structure of foreign trade. According to data of the Statistics Agency of the Republic of Kazakhstan, the share of mineral products in exports for 2003 -2013 has increased from 64.5% to 80%. These features will worsen with the growth of the world prices for resources.

Kazakhstan faces the challenge of "middle income trap". When a certain welfare level is reached in the range of 10 000 to 15 000 USD of per capita GDP the economy growth may slow down due to increase in wages, transaction costs and decrease in price competitiveness of the country. Due to this position, Kazakhstan will not be able to compete with both the developed economies with high skills and innovation, and the economies of low-income, low level of wages and low-cost production of industrial goods. Countries, which overcame the barrier last century (Taiwan, Finland, South Korea, and others) were able to achieve economic growth based on accelerated development of the secondary industry.

During industrialization, the industry gradually focuses on the secondary industry, although the level of its development remains to be relatively low. The secondary industry forms less than 7% of employment and 11% of GVA of the country's economy. As a comparison, the level of productivity in the secondary industry of Kazakhstan is twice lower than the average of the member countries of the Organization for Economic Cooperation and Development (hereinafter -

OECD), according to the share of employed in the secondary industry Kazakhstan is behind all OECD countries.

¹IMF country report No.13/291, September 2013.

Industrial regulation

Nowadays an important tool of economic safety of the country and appropriate way of promoting domestic products on markets are represented by technical regulation that establishes the level of technical requirements to technology and helps industry to make technical solutions.

Every year there is growth dynamics of system in general:

- 1) number of accreditation facilities increased by 20 % (87 certification bodies, 657 testing, 332 certification and 31 calibration laboratories are operating);
- 2) number of Kazakhstan enterprises, which implemented and certified management systems has reached 6346;
- 3) over 2800 expert auditors were certified.

Unified State Fund of normative and technical documentation contains more than 67,000 international, regional and other normative documents on standardization, 5223 of which are the national standards of the Republic of Kazakhstan. Over 70% of them are harmonized with international standards, which, in turn, allowed to master production of more than 150 new products in engineering, pharmaceutical, chemical and food industry and other sectors.

Due to integration processes deepening in the Common Economic Space and upcoming Kazakhstan's entering process into the WTO it is important to solve a number of existing problems:

- 1) sectoral government authorities, business communities and industries that do not pay proper attention to standardization;
- 2) slow harmonization process of national and international standards;
- 3) lack of feasibility analysis and prediction of investment projects related to issue of final products;
- 4) failure of test base and certification bodies' systems;
- 5) underdevelopment of metrological infrastructure in the western and central regions of Kazakhstan;
- 6) shortage of personnel in the field of technical regulation, metrology and management system.

Internationalization

In 2010-2013 Kazakhstan's economy invited foreign direct investments in the amount of more than 100 billion dollars. Non-primary economic sectors had investment in the amount of about 25 billion dollars out of this sum. This was possible due to basic incentives created for investors, who are operating in the priority sectors of economy, like customs, tax preferences, state land grants.

However, it is not enough to have the current investment activity to implement the Programme. For this we need to eliminate these barriers:

- 1) weak guarantees to protect and support long-term investment;
- 2) complex procedures for obtaining entrance visas and permits for foreign labour to stay in Kazakhstan;
- 3) lack of awareness of foreign business circles about investment prospects in the Republic of Kazakhstan.

According to exports Kazakhstan takes the 42nd place among the exporting countries (in 2008 - the 48th place).

Exports of processed goods in 2013 decreased by 3% compared to 2008 and amounted to 19.5 billion dollars. Exports development of processed goods is constrained by certain barriers:

- 1) weak commodity export diversification;
- 2) high costs required for promotion of goods export;
- 3) tariff and non-tariff barriers of foreign states in relation to Kazakhstani goods;
- 4) lack of awareness of Kazakhstan's exporters.

Technology and innovation

According to the results of reforms, conducted since implementation of SPAIID, the share of innovation active enterprises increased from 4% to 7.6%, costs of enterprises for technological innovations increased by 3 times (from 113.5 to 326 billion tenge), volume of innovative products also increased by 3 times (from 111.5 to 379 billion tenge). Based on "Innovation" factor of the World Competitiveness Index of the World Economic Forum Kazakhstan improved its ranking by 18 positions and took the 84th place, and on "Technological availability" factor - by 25 positions (57th place).

Despite the significant measures taken during the recent years to support innovation activities there are still such key issues, as:

- 1) poor stimulation of transfer for advanced technology;
- 2) ineffective mechanisms for solving and searching for the priority technological tasks of enterprises and businesses;
- 3) low level of susceptibility of business to technological innovations;
- 4) lack of technological and managerial competences;
- 5) underdevelopment of innovative technology in educational system;
- 6) imperfection of monitoring system to implement the innovative projects.

Financial resources

During implementation of SPAIID a wide range of industries was funded, which led to a shortage of funds while financing sectoral support measures and some parts of projects. However, lack of funding was mainly related to underdeveloped domestic market financial infrastructure, where funds of "long-term" money would be formed and long-term investment would be attracted.

Due to no proper funding from commercial financial institutions the government had to take that niche on the Kazakhstan market through a system of national holdings and development institutions. System of development institutions has been expanded and set considering the needs of industrial and innovative development. Various tools for supporting the industrial development were tested: subsidizing of interest rates, reimbursements and grants for innovation and technology implementation of technology, reimbursement of some costs of industrial innovation facilities, loan guarantees, and so on.

Key barriers are still represented by high loan debt burden of existing manufacturing enterprises and absence of free liquid assets of the latter to provide debt financing:

- 1) lack of access to financial resources to form a stock capital;
- 2) lack of access to long-term loans;
- 3) cost of credit resources.

Stock market in Kazakhstan is currently assessed as institute that was not fully formed, because it is not an integral part of the financial industry yet, which serves as a source enriching the stock capital. In addition, underdevelopment of this mechanism is mainly prevents from using the financial resources of the Single Pension Savings Fund for industrialization needs.

The high cost of credit, and especially long-term loans of Kazakhstan financial institutions remains to be a significant barrier.

In 2013, the average rate of return on long-term loans of regulated bank amounted to 17.3% per annum in native currency. In comparison with 2008, the loan pricing in native currency increased by 1.1 percent. The relative cheapness of long-term foreign currency loans (10% per annum in 2013 on average) is levelled off by high foreign exchange risks.

The high "debt load" of enterprises and problem situation with non-performing loans prevent the corporate lending by regulated bank from growing. The high level of non-performing loans (overdue by more than 90 days) is preserved in the loan portfolio of banks since 2010. On February 1, 2014 non-performing loans amounted to 4.3 trillion tenge or 32.2% of the loan portfolio of regulated bank, having increased since the beginning of the year by 3.6%.

Infrastructure

At the beginning of 2014 there are 10 special economic zones and 10 industrial zones (hereinafter - IZ) in Kazakhstan, which operate in various economic sectors such as chemical and petrochemical industry, metal industry, information and communication technology, textiles,

logistics, tourism. 83 industries with investments of 203 billion tenge are operating in special economic zones (hereinafter - SEZ), 68 projects with investments of 1.8 trillion tenge to be implemented, 348 projects with investments of 571 billion tenge are at the stage when investment decision will be made.

During 2001-2013 5,967 jobs were created in the SEZs, and production volume amounted to 210.8 billion tenge.

Under the SEZ and IZ industrialization facilities have the state support in terms of access to basic infrastructure.

During 2009-2014 infrastructure was completed in a number of SEZ (Table 1).

Table 1. Readiness percentage of certain SEZ

No.	SEZ name	Readiness percentage of infrastructure	
		for 2009	for 2014
1.	NIPTP	0 %	10 %
2.	PIT	83 %	100 % (1 queue)
3.	Astana – New city	47 %	80 %
4.	Industrial park (Sary-Arka SEZ)	10 %	90 %
5.	Seaport Aktau	21 %	30 %
6.	Ontustik (South)	82 %	100 %
7.	Burabai	0 %	100 %
8.	Pavlodar	-	0 %
9.	Khorgos - East Gate	-	0 %
10.	Chemical Park Taraz	-	0 %

Formation of SEZ and IZ infrastructure has not been completed, and there is lack of sufficient funding for SEZ infrastructure. There are also problems with efficient management of SEZ and IZ.

Generally, underdevelopment of transport and logistics, energy and other infrastructure in the country prevents the industrial sectors from development.

In addition, lack of predictable long-term tariffs for services of natural monopolies negatively affects the competitiveness of Kazakhstan's industry.

Key issues, faced by domestic companies are the following:

- 1) high tariffs on railway traffic, and transportation of electricity;
- 2) frequent changes in rates of transport and energy monopolists;
- 3) underdevelopment of transport and logistics infrastructure;
- 4) lack of sufficient funding for SEZ infrastructure, including production infrastructure.

Human Resources

A number of people employed in the industry since 2009 (921.9 thousand people) increased by 12.7% and in 2013 their number exceeded 1 million people (1 039.1 thousand people). Under the Industrialization Map for 2010-2013 more than 67 thousand permanent jobs were created.

At the same time, there are problems in providing human resources for the Program:

- 1) lack of rights of SEZ participants to attract skilled labour during the investment period besides the is quotas and issue of special permits;
- 2) shortage of personnel and personnel with low technical and engineering skills and specialities based on technical and vocational education;
- 3) shortage of scientific personnel for technical, engineering specialities, and innovation management;
- 4) lack of harmonization of professional and educational standards;
- 5) engineering and technical personnel's poor knowledge of English language.

Additional barriers in terms of human resources are the migration problems:

- 1) poor inter-regional labour mobility;
- 2) complex procedure for foreigners to obtain work visas and work permits in Kazakhstan.

Public procurement

While implementing SPAIID for 4 years the local monitoring facilities have purchased goods, works and services in the amount of 31.2 billion tenge, including domestic goods, works and services in the amount of 17.6 trillion tenge or 56.5%. Local content share of local in goods, works and services purchases has increased from 48.2% to 63.1% in 2013 compared with 2010.

We reached a significant progress due to support of domestic producers through a system of public procurement, and procurement of quasi-public sector and subsoil users. However, in general, the secondary industry cannot access the procurement system because of the next barriers:

- 1) lack of innovation criteria of purchased products;
- 2) lack of mechanisms for concluding long-term supply contracts on the basis of technology agreements;
- 3) lack of requirements in national standards within the technical specifications;
- 4) lack of protection against defective and unsafe products;
- 5) lack of mechanism to enter into offset agreements.

Entrepreneurship and small and medium-sized enterprises

Due to the state support measures the small and medium-sized enterprises made a significant contribution into the economy of Kazakhstan. By the end of 2012, the share of small and

medium-sized enterprises (hereinafter - SME) in the country's GDP was 17.3%. On January 1, 2014 a number of active entities exceeded 871 000, a number of employed people was 2.6 million.

However, there are several issues preventing further development of entrepreneurship and SME, e.g.:

- 1) a high concentration of quasi-public sector and raw transnational corporations (hereinafter - TNCs) in economy;
- 2) sophisticated licensing and regulatory system while opening and doing business;
- 3) lack of access of businesses and SMEs to financial resources.

Promotion of competition

Key barriers to stimulate competition are:

- 1) unreasonable government participation in the economy;
- 2) lack of necessary guarantees for investors to protect business;
- 3) ineffective mechanism to pull inefficient enterprises out of the market.

2. Regional specialization

Regional specialization of the secondary industry is defined based on historical structure and implementation of SPAIID.

The given regional specialization can be verified considering its further deepening.

1. Akmola region - food production, production of construction materials, non-ferrous metallurgy, rolling-stock manufacturing and agricultural engineering.
2. Aktyubinsk region - non-ferrous metallurgy, ferrous metallurgy, oil and gas processing, production of chemicals for industry, construction materials, food production.
3. Almaty region - food production, production of electric equipment, basic drug products, construction materials, clothing, furniture.
4. Atyrau region - petrochemical industry, production of chemicals for industry, production of machinery and equipment for oil refining and oil producing industry, production of construction materials, food production.
5. West Kazakhstan region - production of machinery and equipment, construction materials, food production.
6. Zhambyl region - production of chemicals for industry, agricultural chemistry, ferrous metallurgy, production of construction materials, food production, production of leather and related products.
7. Karaganda region - ferrous metallurgy, non-ferrous metallurgy, production of chemicals for industry, production of machinery and equipment for mining industry, production of electric

equipment, construction materials, food production.

8. Kostanay region - ferrous metallurgy, food production, production of motor vehicles, agricultural equipment.

9. Kyzylorda region - production of construction materials, food production.

10. Mangystau region - oil refining, petrochemistry, gas refining, production of machinery and equipment for oil refining and oil producing industry, food production.

11. South Kazakhstan region - food production, oil refining, light industry, production of basic drug products, construction materials, ferrous metallurgy, electric equipment, agricultural chemistry.

12. Pavlodar region - ferrous metallurgy, non-ferrous metallurgy, oil refining, production of railway engineering, chemicals for industry, food production.

13. North Kazakhstan region - engineering (equipment for oil refining and oil producing industry, railway transport, energy), food production.

14. East Kazakhstan region - non-ferrous metallurgy, production of motor vehicles, agricultural equipment, electric equipment, shut-off valves, construction materials, food production.

15. Astana - food production, production of railway engineering, electric equipment, construction materials.

16. Almaty - food production, production of electric equipment, machinery and equipment for oil refining and oil producing industry, machinery and equipment for mining industry, production of construction materials, basic drug products, furniture.

3. Analysis of the strengths, weaknesses, opportunities and risks in industrial development (SWOT analysis)

Strengths:

- 1) high availability of mineral resources;
- 2) macroeconomic and political stability;
- 3) improvement of business climate and reforms;
- 4) availability of development institutions for implementation of industrial policy.

Weaknesses:

- 1) low investment activity in the secondary industry;
- 2) low availability of human resources with required level of qualification;
- 3) availability of narrow spaces in infrastructure (transport and logistics, energy, water supply);
- 4) underdevelopment of small and medium-sized businesses while the state-owned companies are dominating;
- 5) low competitiveness in the secondary industry;
- 6) low competitiveness of innovative system;
- 7) low resource efficiency and high energy value of industry;

- 8) poorly developed system of technical regulation;
- 9) structural problems in economy (the "Dutch disease", middle income trap, employment problem);
- 10) high level of "bad" loans in economy.

Opportunities:

- 1) to access to the market of the Customs Union, the market opportunities in China, Central Asia and Caspian bordering countries;
- 2) resource sectors can have demand for technical equipment, specialized services and innovation;
- 3) to introduce modern production and management technologies in the secondary industry;
- 4) to improve efficiency of public, quasi-public procurement and procurement of subsoil users.

Risks:

- 1) negative impact of global and regional crisis on development of the economy and industry of Kazakhstan;
- 2) changing situation on the world commodity markets;
- 3) growing competition of companies of the Customs Union countries in the domestic market of Kazakhstan;
- 4) entering the WTO.

4. Selection of priority sectors

When defining the priority sectors of the Program sectors were analysed by two-factor model. First, the market prospects for sector were considered, including the amount and growth of both the local market and market of macro-region, and potential economic benefits from development of the sector. Second, we also considered the possibilities of this sector in the Republic of Kazakhstan, including the current level and prospects of development.

According to the analysis six priority sectors of the secondary industry were selected, such as metallurgy, chemical, petrochemical industry, engineering, construction materials, food industry, which are divided into 14 sectors:

- 1) ferrous metallurgy;
- 2) non-ferrous metallurgy;
- 3) oil refining;
- 4) petrochemical industry;
- 5) food production;
- 6) agricultural chemistry;
- 7) production of chemicals for industry;
- 8) production of motor vehicles, its parts, mountings and engines;
- 9) production of electrical machinery and electric equipment;
- 10) production of agricultural equipment;

											%
1	Total production	%	100,0	101,6	108,0	117,1	119,5	133,4	138,8	143,0	143,0
2	Gross value added	%	100	101,8	108,3	117,7	120,1	134,2	139,7	144,6	by 1,4 times
3	Labour productivity on GVA	%	100	100,8	105,5	113,2	114,4	127,1	132,4	137,0	by 1,4 times
4	Value of non-primary (finished) exports	%	100	93,1	91,5	106,3	107,8	90,5	100,8	109,2	by 1,1 times
5	Energy value of GDP	%	100	103	101	97	93	90	87	85	by 15 %
6	Number of employed people	thousand people	543.5	548.0	557.8	563.9	569.3	572.9	572.3	572.6	by 29.2 thousand people

Insignificant growth of non-primary (finished) exports is connected with the objective of oil refining sector, on the one hand, and with complete provision of domestic market with oil products by 2020, on the other hand. However, by preserving the exports of oil refining sector at the level of 2012 there would be increase in non-primary exports of the secondary industry in general by 20,7 % in 2019, and to the level of 2014 - by 37,0%.

Alternatively, under implementation of the Program a special attention will be given to the needs of domestic market that must be satisfied by its own production and then, when domestic market is saturated, we need to ensure export. This approach will allow to solve the challenges of development of domestic products of the secondary industry. Imports of the secondary industry currently exceed the GVA value of the secondary industry by 1,8 times.

Objectives:

- 1) rapid development of the secondary industry;
- 2) to improve effectiveness and increase value added in priority sectors;
- 3) to expand markets for production of non-primary goods;
- 4) to maintain productive employment;
- 5) to ensure new level of technical effectiveness for priority sectors of the secondary industry

and provide the basis for development of sectors of the future by creating innovation clusters;

6) to promote entrepreneurship and develop small and medium-sized businesses of the secondary industry.

Goals, objectives and target indicators in priority sectors.

For sustainable growth of the secondary industry the activities of the state central and local executive bodies, development institutions, private associations, financial organizations, privately owned and state-owned enterprises will be consolidated, which focus on development of priority sectors.

Program measures will be aimed at solving tasks to pass through the key barriers and implement projects in priority sectors of the secondary industry, and that helps to achieve the target indicators. Successful implementation of the Program projects in priority sectors of the secondary industry depends on available financing, provision of logistics, energy and communication infrastructure on competitive tariffs and it is related to the following risks:

Macroeconomic risks: slowdown in economy growth and level of investment activity, change of the world prices for metal products, energy sources and transportation.

Geopolitical risks: stability of political situation in macroregion countries and integration depth in EurAsEC.

Regulatory risks: lack of technical and regulatory support of the Program, ensuring a favourable regulatory and economic environment.

Financial risks: lack of available funds.

Ferrous metallurgy

Ferrous metallurgy is a large industry in history, and its share in the secondary industry amounts to 13 %. Ferrous metallurgy is a basis for development of engineering and metal work, its products are widely used in all spheres of economy. Development of primary sectors, engineering and construction provides a fixed demand on domestic market and macroregion markets.

Import capacity of domestic market and macroregion markets on priority commodity groups is 2,7 and 25,3 billion dollars respectively.

Production has increased by 6,2 % in real terms from 2008 to 2013 and amounted to 632 billion tenge. At the same time, the share of ferrous metallurgy within the secondary industry has decreased from 20 % in 2008 to 10,7 % in 2013.

Gross value added increased from 393,0 billion tenge in 2008 to 453,2 billion tenge in 2012. Number of employed people in the industry reduced by 28 thousand from 2008 to 2013. In 2013 labour productivity amounted to 89,9 thousand dollars and from 2008 to 2013 it increased by 1,2 times. Although, in 2012 the industry was still behind the average performance of the OECD

countries (151,9 thousand dollars) at 37%. In 2013 exports of products of ferrous industry compared to 2008 decreased by 47,3 % and amounted to 3,4 billion dollars (Table 3).

Table 3. Information on the sector for 2008-2013

Indicators	2008	2009	2010	2011	2012	2013*
Share of ferrous metallurgy in the secondary industry	20,0	16,1	17,9	16,5	13,1	10,7
GVA, billion tenge**	393,0	311,4	388,0	495,1	453,2	308,8
Production of the secondary industry	3 359,6	2 946,0	3 844,7	4 801,4	5 446,7	5 882,5
IFO, % in relation to last year	97,5	97,1	113,9	107,7	101,2	101,6
Production volume of ferrous metallurgy	670,8	474,7	687,4	785,4	712,5	631,9
IFO, % in relation to last year	86,6	101,6	109,4	106,8	88,2	89,6
Wage earners listing, people	65 622	62 038	60 005	58 398	38 038	36 831
Number of existing enterprises	22	22	30	26	28	33
Labour productivity, thousand tenge	8 889	6 928	9 581	13 118	16 732	13 814
Labour productivity, thousand dollars	73,6	46,7	65,0	88,4	111	89,9
Average labour productivity on the OECD countries, thousand dollars	148,3	120,0	143,2	153,2	152,0	n/a
Use of the annual capacity in the reporting year, %***	56,9	64,5	73,8	79,0	65,5	n/a
Wear degree of fixed assets, %	33,92	30,23	38,21	32,30	35,27	n/a
Renewal coefficient of fixed assets, %	29,7	8,1	6,5	14,6	11,7	n/a
Availability of fixed assets at the end of the year at book value, billion tenge	126 242	84 303	97 279	89 630	115 468	n/a
Investments in fixed assets, billion tenge	26 849	36 715	83 418	112 378	125 390	152 149
Exports, USD million	6 530,8	3 069,1	3 765,0	4 875,6	4 030,8	2 793,5
Imports, USD million	5 570,9	5	2 222,5	3 040,8	4 743,0	5 407,8

		192,6				
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Source: Statistics Agency of the Republic of Kazakhstan and Customs Control Committee of the Republic of Kazakhstan to the Table 3:

Note:

*here and elsewhere in the sectoral areas operational data of the Statistics Agency of the Republic of Kazakhstan were used;

*here and elsewhere in the sectoral areas operational data of the Statistics Agency of the Republic of Kazakhstan for 9 month of 2013 were used;

*** indicator has been calculated by the Kazakhstan Industry Development Institute JSC (hereinafter - KIDI JSC) based on statistical data

Development of sectors was affected by external and internal factors. Difficulties on international markets affected the export of products and plant capacity of ferrous industries, such as ArcelorMittal JSC, Casting LLP, ALZ LLP and KSR Stee1 LLP. Modernization program of Arcelor Mittal Temirtau JSC to increase steel production to 6 million tons per year was not implemented.

Today there are the following major players of the industry on the world market, included in the list of leading transnational companies in the world according to Forbes - Clobal 2000 magazine: Posco (South Korea), Arselor Mittal (Luxembourg), Evraz Group (Russia).

Key issues in the sector:

- 1) low value of production capacities of existing enterprises;
- 2) high wear degree, worn out and outdated equipment in enterprises;
- 3) poor domestic market;
- 4) decline in exports and increase in imports of products with high added value;
- 5) poor quality and a narrow range of products;
- 6) high tariffs on railway traffic, and transportation of electricity;
- 7) lack of test databases and laboratories for product certification;
- 8) high power and labour-intensity of products;
- 9) low level of transport and logistics infrastructure;
- 10) shortage of suitably skilled personnel;
- 11) need in modernization of material and technical, experimental-industrial base of sectoral research institutes.

Purpose: to ensure sustainable development and conditions for diversification and competitive growth of ferrous metallurgy.

Target indicators:

The Program implementation will allow to achieve the growth of economic indicators in 2019 at the level of 2012 (Table 4):

- 1) gross value added by no less than 1,3 times in real terms;

- 2) employment by 3,1 thousand people;
- 3) labour productivity by 1,18 times in real terms;
- 4) exports by no less than 1,04 times.

Table 4. Target indicators

N o.	Performan ce targets	Unit	201 2 repo rt	2013 expect ed	Forecast for 2012						2019 in relatio n to 2012, %
					201 4	201 5	201 6	201 7	201 8	201 9	
1	Gross value added	%	100,0	89,6	107,5	120,2	120,6	125,2	125,2	128,4	by 1,3 times
2	Number of employed people	thousa nd people	35,8	34,6	34,9	37,0	39,7	40,1	39,6	38,9	by 3.1 thousa nd people
3	Labour productivi ty	%	100	92,7	110,5	116,4	108,7	111,8	113,3	118,1	by 1,18 times
4	Export	%	100	69,3	68,1	91,1	93,1	98,2	99,8	103,7	by 1,04 times

Objectives:

- 1) to provide competitive growth through diversification and modernization;
- 2) to ensure conditions to promote innovations aimed at improving product quality, labour productivity and reducing power intensity of products;
- 3) to increase production capacity of existing enterprises and create new competitive industries with high value added;
- 4) to reduce imports of metal products through development of a competitive domestic production;
- 5) to provide existing industries and investment projects with necessary infrastructure;
- 6) to provide industry with qualified technologists;
- 7) to ensure modernization of material and technical, experimental-industrial base of sectoral research institutes.

Priority activities

Under the Program the priority activities were determined (Table 5).

Table 5. Priority activities

CCEA -4	Name
2410	Production of cast-iron, steel and ferrous alloys
2420	Production of pipes, pipelines, sections, steel fittings
2431	Cold drawing (production of iron rod and solid billet)
2432	Cold rolling of strips and narrow strips
2433	Cold moulding and folding
2434	Production of wires by cold drawing

Priority commodity groups

Priority commodity groups are designed not only for domestic market, but also for macroregion market: CIS countries, Iran and China. Development of new or expansion of existing industrial plants producing priority products/ commodity groups will help to reduce imports and increase exports of the industry (Table 6).

Table 6. Priority commodity groups

Classification of Products by Activity	Name	Volume and share of imports*							
		2010.		2011.		2012.		2013.	
		thousand tons	%	thousand tons	%	thousand tons	%	thousand tons	%
24.20.11	Pipes of different diameters, hollow seamless sections made of steel	468,6	66,1	467,9	80,3	1000,6	80,3	2064,5	87,1
24.20.40	Steel, non-cast pipe	13,4	99,1	14,2	98,9	22,71	98,9	22350	98,5

	fittings								
24.34.11	Wires produced by cold drawing	58	90,9	61	81,5	61	81,5	78	77,2
24.10.63	Hot rolled rods and bars; sections made of stainless steel	618,9	87,3	620,8	71,9	696,1	71,9	754,6	68,8
24.10.74 24.10.75	Fabricated sections and tongued-and-grooved constructions made of steel and ferrous materials for railways	138,9	99,6	97,3	100	151,1	100	244,9	100
28.22.20	Buckets, grabs, parts for drilling machine	5,58	100	3,65	100	5,58	100	3,5	100

Source: Statistics Agency of the Republic of Kazakhstan and Customs Control Committee of the Republic of Kazakhstan

Priority projects

From 2015 to 2019 the state policy on development of ferrous industry will be aimed at implementing priority areas for production of high quality raw materials to produce steel (granulated iron and hot briquetted iron, increase in production of new types of ferrous alloys), production of new types of steel (piped and corrosion-resistant, heat-resistant and hot-resistant, tool, ball bearing, rail and spring steel) and increasing product line of highly alloyed steel.

The Programme will implement large-scale investment projects in accordance with proposals

of business structures with a total investment of more than 400 billion tenge to increase production and value-added products, and reduce negative impact on the environment.

A number of large projects to develop production of intermediate-carbon ferrochrome based on innovative technology will be implemented in Aktobe and Pavlodar regions.

A project aimed at production of pig iron with total capacity of 400 thousand tons of pig iron per year on the basis of innovative technology will be implemented in Almaty region.

Production of ferrous alloys will be increased up to 300 thousand tons per year in Zhambyl region by expanding the resource base.

Production of steel will be increased up to 6 million tons per year and complex alloys with total capacity of 75 thousand tons per year will be produced in Karaganda region.

Work in ensuring production of metallized iron product with total capacity of 1.8 million tons of hot briquetted iron will be continued in Kostanay region.

A project will be implemented in Mangystau region for construction of electric furnace complex with total capacity of 600 thousand tons.

A number of major development projects for development of pipe rolling with increased capacity up to 270 thousand tons of pipes per year will be implemented in Pavlodar region.

It is planned to produce wrought iron pipes with total capacity of 200 thousand tons per year in Almaty.

Non-ferrous metallurgy

Non-ferrous metallurgy is a key sector of the secondary industry of the Republic of Kazakhstan, forming the country's export potential. Production of the sector is used in engineering, electrical engineering, construction, and electronics.

Import capacity of domestic market and macroregion markets on priority commodity groups is 111 and 6718 million dollars respectively.

The share of non-ferrous metallurgy within the secondary industry has increased from 19,6 % to 22,8% in 2012 compared to 2008, and decreased in 2013 by 19,2 %. Gross value added increased from 377,9 billion tenge in 2008 to 749,9 billion tenge in 2012. Production has increased by 1,7 times in nominal terms from 2008 to 2013. Number of employed people in the industry reduced by 22.2 thousand from 2008 to 2013. In 2013 labour productivity of non-ferrous metallurgy amounted to 107,8 thousand dollars. This performance of the OECD countries for the same period amounted to 147,5 thousand dollars on average, which is by 18,9 % than the same performance of Kazakhstan. In 2013 exports of non-ferrous products remained at the level of 2008 and amounted to 4,2 billion dollars (Table 7).

Table 7. Information on the sector for 2008-2013

Indicators	2008.	2009.	2010.	2011.	2012.	2013.
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Share in metal industry	19,6	20,0	23,7	25,2	22,8	19,2
GVA, billion tenge**	377,9	376,0	492,2	687,6	749,9	523,3
Production of the secondary industry	3359,6	2946,0	3844,7	4801,4	5446,7	5882,5
IFO, % in relation to last year	97,5	97,1	113,9	107,7	101,2	101,6
Production volume of non-ferrous metallurgy	658,6	596,9	902,4	1141,5	1244,0	1131,4
IFO, % in relation to last year	104,5	92,0	115,7	108,2	107,2	98,8
Wage earners listing, people	69529	64885	65569	62771	53213	47245
Number of enterprises	47	39	36	36	36	34
Labour productivity, thousand tenge	8164	8827	10495	15033	18692	16565
Labour productivity, thousand dollars	67,6	59,5	71,2	101,3	124,0	107,8

Labour productivity on the OECD countries, thousand dollars	131,6	121,7	141,1	149,6	147,5	n/a
Use of the annual capacity in the reporting year, %**	93,2	86,7	88,2	86,5	82,2	n/a
Wear degree of fixed assets, %	38,85	39,58	34,87	35,24	47,47	n/a
Investments in fixed assets, billion tenge	109 285	121 381	106847	132061	133868	119678
Renewal coefficient of fixed assets, %	19,4	25,6	19,3	19,4	12,7	n/a
Availability of fixed assets at the end of the year at book value, billion tenge	109 784	143 087	157 846	190 782	197 317	n/a
Exports, USD million	4274,4	2407,1	3388,7	5636,5	4343,4	4230,3
Imports, USD million	489,8	299,2	206,9	364,1	411,9	3558,4

Source: Statistics Agency of the Republic of Kazakhstan to the Table 7:

Note: ** indicator has been calculated by KIDI JSC based on statistical data

Negative dynamics of non-ferrous industry is associated with termination of Zhezkazgan

copper-smelting plant due to transfer to new technologies.

Failure to achieve target indicators on production of gold is related to delayed commissioning of the planned production facilities Bakyrchikskoe GFC LLP. It happened because of delays in construction of smelter and development of underground mine with a productivity rate of 1.5 million tons of ore per year in conjunction rising costs of the project due to technology refinement, related to environmental aspects. Also, construction of processing plant for with capacity of 5 million tons of gold ore by Jubilee LLP was not finished due to selection of optimal processing technology related to assessment of environmental impact.

Strategy for the further development of the sector is based on cooperation with multinational companies such as Rio Tinto Plc, Clencore International AG, ThyssensKrupp AG, Sumitomo.

Key issues in the sector:

1) depletion of reserves of rich and easy-to-reach nonferrous metal ores, enrichment problems due to complexity of mineral compositions;

2) high wear degree, worn out and outdated equipment in enterprises, poor domestic market;

3) low value of production capacities;

4) volatility of prices for basic metals on the world market and reduction in demand on markets;

5) decline in exports and increase in imports of products with high added value;

6) high tariffs on railway traffic, and transportation of electricity;

7) high power and labour-intensity of products;

8) underdevelopment of transport and logistics infrastructure;

9) shortage of suitably skilled personnel;

10) need in modernization of material and technical, experimental-industrial base of sectoral research institutes.

Purpose: To increase production of basic metals, develop and establish industries producing basic metal products.

Target indicators:

The Program implementation will allow to achieve the growth of economic indicators in 2019 at the level of 2012 (Table 8):

1) gross value added by no less than 1,3 times in real terms;

2) labour productivity by 1,4 times in real terms;

3) exports by no less than 1,1 times.

Table 8. Target indicators

Ite	Performan	Uni	2012	2013	Forecast for 2012	2019
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m No.	ce targets	t	repor t	expecte d	201 4.	201 5.	201 6.	201 7.	201 8.	201 9.	in relatio n to 2012, %
1	Gross value added	%	100	98.8	98.8	117,1	117,4	120,7	122,4	127,1	by 1,3 times
2	Labour productivity	%	100	111,3	111,2	130,0	125,4	131,4	135,2	140,8	by 1,4 times
3	Export	%	100	81,9	80,7	98,0	99,2	105,3	108,7	114,4	by 1,1 times

Objectives:

- 1) to increase capacity of existing industries;
- 2) to ensure modernization of existing industries to improve production efficiency by increasing labour productivity and resource efficiency;
- 3) to create conditions to promote innovations for complex processing of ores;
- 4) to increase existing production and develop new products release made of base metals for related sectors;
- 5) to reduce imports of steel products by developing a competitive domestic production;
- 6) to stimulate demand in domestic market;
- 7) to expand markets for implementation of non-primary goods and participation in value chains (hereinafter - VC);
- 8) to provide existing industries and investment projects with necessary infrastructure;
- 9) to provide industry with qualified technologists;
- 10) to ensure modernization of material and technical, experimental-industrial base of sectoral research institutes.

Priority activities

Under the Program the priority activities were determined (Table 9).

Table 9. Priority activities

CCEA -4	Name
2441	Production of noble (precious) metals

2442	Production of aluminium
2443	Production of lead, zinc and stannum
2444	Production of copper
2445	Production of other non-ferrous metals

Priority commodity groups

From 2015 to 2019 the state policy on development of non-ferrous metallurgy of the country will focus on creating new or increasing existing industries to produce priority commodities/ commodity groups, which will help to reduce imports and increase exports of the sector (Table 10).

Table 10. Priority commodity groups, in tons

Classification of Products by Activity	Name	Production in Kazakhstan	Import		
			Russia	China	Other countries
24.44.26	Pipes and copper tubes	-	1428,9	129,3	417,3
24.44.23	Copper wire, bars and copper sectors	-	651,4	82,5	173,3
24.44.24	Plates, sheets and strips or copper bands	-	518,8	9,8	249,7
24.42.22	Aluminium bars and sectors	-	3392,3	1374,8	3061,1
25.11.10	Aluminium metal structures	-	24616,2	811,5	1455,2
25.91.11 25.91.12	Barrels, drums, tanks, boxes and relevant reservoirs	-	4903,8	33,2	452,4
	Total:	-	35507,0	2441,0	5809,0

Priority projects

From 2015 to 2019 the state policy on development of non-ferrous metallurgy of the country will increase production of base metals: copper, gold, titanium and aluminium; increase in production of products: wire rods, wires, rolled stock, sectors and alloys, foils, jewellery, products for related industries.

Large-scale investment projects will be implemented in accordance with proposals of business structures with a total investment of about 800 billion tenge.

It is planned to produce aluminium sectors with total capacity of 12 thousand tons per year in Almaty region.

A project will be implemented in Akmola region to increase production of rare earth metals with an output of 3,000 tons of bulk concentrate of rare earth metals per year.

A project for development of Aktogay field by introducing new enriching industries in the amount of 85 thousand tons of copper concentrate and 25 thousand ton of cathode copper will be implemented in East Kazakhstan region. Also, implementation of the project on Bakyrchik field to produce cathode gold will be continued. Currently industries are looking for cost-effective technologies.

To produce titanium slabs with total capacity of about 6 thousand tons per year and ilmenite concentrate with total capacity of 15 thousand tons per year, its investment projects will be implemented.

Production of nickel is being considered, because it was not previously produced in Kazakhstan. Also, it is considered to build a metallurgical plant in cobalt-nickel ore deposit "Gornostayevskoye" with total capacity of 40 thousand tons of commercial ferronickel.

Copper-smelting plant is being reconstructed in Karaganda region due to its transition to a new hydrometallurgical technology that will keep production volumes of copper and ensure possible extension of Zhezkazgan field with total capacity of 60 thousand tons of cathode copper.

Implementation of the project for development Boschekul field will be continued in Pavlodar region.

It is considered to start production of vanadium in Kyzylorda region. There are unique reserves of vanadium in Bala Sauskandyk and Kurumsak fields.

In South Kazakhstan, East Kazakhstan and Mangystau regions it is considered to establish and start pilot production of scandium out of uranium solutions with an output of 2.5 tons of scandium per year.

Project for increase of primary aluminium production will be developed.

Oil refining

Oil refining is an appealing sector of the secondary industry taking into account market prospects, economic benefits and competitiveness of Kazakhstan. Sector has a significant share of total manufacturing output - 13.8%, while dynamics of the indicator remains to be positive for several years.

Average annual market growth of petroleum products of Kazakhstan for 2008-2013 amounted to 35.7% and reached the level of 2.4 billion dollars in 2013. Physical output increased from 13.7 million tons (2008) to 16.5 million tons (2012), having increased by 20.5%. There is noticeable steady increase in imports, which value reached 1.8 billion dollars in 2013, 89% of

which are distillates (light - 45%, medium and heavy - 44%).

Sector's competitiveness is raising. Labour productivity increased by 2.3 times up to 54.7 million tenge per person for 2008 - 2012. This is due to a significant increase in gross value added by 2.7 times up to 499 billion tenge, while employment increased by only 16% and amounted to 9.1 thousand people. Exports during 2008-2013 increased by 9.4% per year on average and amounted to 4.6 billion dollars in 2013. Export concentration is rather high: 86% of its money is accounted for by medium and heavy distillates (67%) and liquid propane (19%).

Key indicators of the sector are given in Table 11.

Table 11. Information on the sector for 2008-2013

	2008.	2009.	2010.	2011.	2012.	2013.
Share of the sector in the secondary industry, %	6,3	7,2	9,2	8,5	11,5	13,8
Production volume of refined products, million tenge	210 559	211 456	352 582	407 360	626 783	810 222
IFO, % in relation to last year	103,1	105,0	114,2	100,9	100,5	101,4
GVA, million tenge	183 288	225 387	354 523	448 541	499 377	350 017
Wage earners listing, people	7 860	8 193	8 686	9 184	9 130	9 323
Labour productivity, thousand tenge/person	23 319	27 510	40 815	48 839	54 696	37 543
Labour productivity, thousand dollars /person.	193,8	186,5	277,0	333,1	366,8	246,8
Number of existing enterprises	36	40	47	38	38	-
including:						
Large	4	4	5	6	5	-
Medium	4	5	5	6	6	-
Small	28	31	37	26	27	-
Availability of fixed assets by the end of the year on initial cost, million tenge	121 622	130 177	148 445	184 662	212 269	-
Wear degree of fixed assets, %	24,2	27,7	31,0	28,9	32,6	-
Investments in fixed assets,	40 118	25 095	36 177	49 272	56 707	75 905

million tenge						
Renewal coefficient of fixed assets, %	6,9	4,1	6,7	2,6	4,1	-
Occupation rate of plants**, %	49,7	47,7	56,7	61,5	62,1	62,8
Exports, USD million	2967	1665	2649	3872	4410	4642
Imports, USD million	1747	895	539	1476	1659	1753

Source: Statistics Agency of the Republic of Kazakhstan and Customs Control Committee of the Ministry of Finance of the Republic of Kazakhstan to the Table 11:

Note: ** weighted average loading of three main factories

Atyrau Refinery, Shymkent Refinery and Pavlodar Petrochemical Plant provide more than 90% of total production of the sector together. Pavlodar Petrochemical Plant is focused on processing of the Urals from the Russian Federation. Two remaining refineries are aimed at processing of domestic oil. Due to low competitiveness of production of mini-refineries, their share in total production of the oil refining sector has declined by 5.8% and perhaps it will not grow. It is connected with industrial and technical characteristics, limiting the depth of oil refining and product quality.

Despite the positive dynamics of oil production and growing demand for petroleum products, Kazakhstan takes one of the last places in the world in terms of total capacity ratio of Refineries and production output. Thus, in 2013, oil refining reached 15.3 million tons, and coefficient of processing/ production amounted to 18.7% only.

Significant barrier, preventing the growth of production of refined products, is represented by higher yield of oil exports in comparison with incomes of supply in domestic market. Information in Table 12 shows the imbalance in allocation of returns on individual sectors in SDS.

Table 12. Allocation of returns on segments, tenge

	Direction	Selling price	Operating income
Production	Export	71758,0	30286,5
	domestic market	49145,5	2408,4
Processing (oil refinery)	domestic market	8436,8	1506,6
Wholesale	domestic market	71874,9	316,0
Retail sale	domestic market	54838,7	3820,5

Source: Ministry of Oil and Gas of the Republic of Kazakhstan, Statistics Agency of the Republic of Kazakhstan
to the Table 12:

Note: data were obtained based on calculation of turnover of the first ton of oil. Indicators for Refineries were calculated based on weighted average tariff for processing, calculated on the basis of tariffs, approved by the Government of the Republic of Kazakhstan for each Refinery (the above "selling price" for Refineries means the processing rate). Wholesale price is weighted average price of the whole basket of petroleum products. Retail price is weighted average price for tradable items (gasoline and diesel), calculated based on price limits for oil product sales, which were approved by the Government of the Republic of Kazakhstan.

Oil supply from existing fields in domestic market by 2030 will be insufficient to cover the needs of three Refineries and Aktau bitumen plant, according to existing contracts.

Another barrier is associated with the current technical conditions of Kazakhstan Refineries. Wear degree of fixed assets of the sector reached 33% in 2012 and it tends to increase, and renewal coefficient of fixed assets is in the range from 2 to 7% during the recent years. Technological backwardness causes insufficient refining depth of raw materials (Table 13) and rather low labour productivity, which despite having a good dynamics for growth, is still behind the average performance of the OECD countries.

Table 13. Information on refining depth of three main manufacturers

Name	RoK Refinery, 2013, fact	Russian Refinery		Refinery of the Western Europe	Refinery of the USA
		fact	Plan		
Refining depth, including:	70 %	71 %	85 %	85 %	95 %
Atyrau Refinery	59.8 %				
Pavlodar Petrochemical Plant	74.2 %				
PKOP	74.4 %				

Source: KMG - processing and marketing, SPG

Purpose: To implement resource potential of Kazakhstan to the maximum in order to provide domestic market with quality refined products, gas products and petrochemicals, and to develop export in the macroregion countries.

Target indicators:

The Program implementation will allow to achieve the growth of the next economic

indicators in 2019 at the level of 2012:

- 1) gross value added by no less than 1,6 times in real terms;
- 2) labour productivity by 2,3 times in real terms;

Table 14. Target indicators

Item No.	Performance targets	Unit	2012 report	2013 expected	Forecast for 2012						2019 in relation to 2012
					2014	2015	2016	2017	2018	2019	
1	Gross value added	%	100	101,4	103,0	103,1	103,2	159,8	160,0	160,1	by 1,6 times
2	Labour productivity on GVA	%	100	99,3	128,8	152,1	149,6	231,3	231,2	231,2	by 2,3 times

Objectives:

- 1) to provide fully domestic market with quality petroleum products;
- 2) to ensure a stable supply of raw materials for oil refining industry;
- 3) to improve efficiency of oil refining industry;
- 4) to ensure entering of Kazakhstan's products into the macroregion markets.

Priority activities

Priorities for development of the sector are shown in Table 15.

Table 15. Priority activities of oil refining sectors

CCEA -4		Name
1920	Oil and oil products	

Priority commodity groups

Priority commodity groups are defined based on volumes of Kazakhstan market and macroregion market, technological "complexity" of commodity groups, and their possible production (Table 16). In addition, requirements to reduce environmental emissions were taken into account.

Table 16. Priority commodity groups according to FEACN classification

Classification of Products by Activity	Name of commodity group	Import capacity of domestic market, USD thousand	Import capacity of macroregion market, USD thousand
192024, 192025, 192026, 192027, 192028, 192029	Other distillates and products (heavy distillates, medium distillates, motor oil and other)	677 681	42 368 357
192023	Light distillates and products	793 469	5 133 032
192042	Oil bitumen	170 245	2 017 956
192023	Liquid propane	380	2 004 626
192032	Liquid butane	1 211	1 490 846
192042	Oil noncalcified coke	248	956 939
192032	Liquid ethylene	2	459 502
192042	Oil calcified coke	3 264	299 964
192029, 381225	Oil and oil products (except for crude) made of bituminous rocks, containing biodiesel	449	299 964
192032	Other liquid petroleum gas	562	142 165
192041	Other coloured or colourless mineral waxes and relevant products, produced while synthesis or other processes	91	101 247

Source: Statistics Agency of the Republic of Kazakhstan, Customs Control Committee of the Ministry of Finance of the Republic of Kazakhstan and UN COMTRADE

According to these requirements production of motor fuels of Euro 4 and Euro 5 class and increase in yield more light products by 76-82% were defined as priorities.

Priority projects

Implementation of projects of Refinery modernization will be completed by 2017. This will increase oil refining by 19.5 million tons per year and start production of environmentally safe motor fuels, meeting the requirements of K4, K5 classes.

Project for production of base oils will be developed.

Petrochemical industry

Base petrochemical industry (production of primary petrochemicals) is a new promising sector of the economy of Kazakhstan. Kazakhstan manufacturers, producing plastics for various purposes, e.g. for construction materials, packaging, and others, use base petrochemical products. To meet the needs of these sectors Kazakhstan receives annual imports of polymer raw materials in the amount of 400 million dollars on average. Production of domestic market of base petrochemicals is about 72 billion tenge, while imports are accounted for more than 70%.

Petrochemical products have high export potential. According to priority commodity groups imports of macro-region countries amount to more than 20 billion dollars.

Import substitution will be possible after introduction of the facility producing aromatic hydrocarbons at Atyrau Refinery, integrated gas chemical facility, and facility producing butadiene and polybutadiene in Atyrau region and after implementation of other projects.

In 2012, a share of industry in the total output of chemical industry was 10.8%, having increased by 3.9% when compared to 2008. Production from 2008 to 2012 has increased by 12.8% in real terms. Gross value added of the industry increased from 3,5 billion tenge in 2008 to 14,6 billion tenge in 2012. Labour productivity increased by 5,8 times from 2008 to 2012. Wear degree of fixed assets was 52% in 2012, and renewal coefficient of fixed assets was 22.4%. Investments in fixed assets amounted to 48.7 billion tenge in 2012, which is more than 27 times higher than that performance in 2008.

Exports of base petrochemical products from Kazakhstan has grown by almost 29 times from 2008-2012: from 2.2 to 63.7 million dollars.

In case of no facilities that could meet the domestic needs, then a rapidly growing demand for base petrochemical products is mainly provided by imports.

Key indicators for development of industry producing chemicals for 2008-2013, are shown in Table 17.

Table 17. Information on the sector for 2008-2013

Indicators	2008.	2009.	2010.	2011.	2012.	2013.
Share in the secondary industry	0,2	0,2	0,3	0,4	0,4	0,3
Share in chemical industry	6,9	8,3	11,2	11,6	10,8	10,0
Production of base petrochemical products, million tenge	7310	7 089	11 647	17 189	19 378	18 517
GVA, million tenge	3 536,5	3 809,1	9 687,9	13 914,6	14 616,5	11 103,9
Wage earners listing, people	1 669	1 980	1 019	971	1 191	2 021
Labour productivity, thousand tenge/person	2 119	1 924	9 507	14 330	12 272	5 494
Wear degree of fixed assets, %	39,2	48,5	55,7	50,5	51,9	39,2
Investments in fixed assets, million tenge	22 959	31 107	39 772	34 046	37 172	33 572
Renewal coefficient of fixed assets, %	151,9	29,0	14,1	14,3	22,4	151,9
Availability of fixed assets by the end of the year on initial cost, million tenge	45,5	26 248,1	18 863,5	16 183,1	15 740,4	45,5
Export, USD billion	2,2	4,0	20,8	35,6	51,0	40,6
Import, USD billion	343,2	267,5	383,7	526,2	565,8	598,0

Source: Statistics Agency of the Republic of Kazakhstan

In Kazakhstan there are plants producing polypropene in Pavlodar (Petrochem Company Ltd.)

Largest players on the world market producing petrochemical products, such as² Exxon Mobil Crop (the USA, 334 billion dollars), Chevron Crop (the USA, 233 billion dollars), Royal Duth Shell plc (Britain-Holland, 360 billion dollars), Gazprom (Russia, 375 billion dollars), Statoil ASA (Norway, 135 billion dollars), are vertically integrated, operating in production area, and also in oil refining and petrochemical industry.

Development of petrochemical industry will help to solve two main objectives of the country:

1) to ensure efficient use of crude hydrocarbons - associated oil and dry gas that will reduce economic costs, including environmental costs;

2) to provide cheap materials for chemical industry, industries producing construction materials, rubber technical goods, as manufacturers of plastics and rubbers today use imported raw materials, which leads to value appreciation of the final products.

Key issues in the sector:

- 1) use of the bulk of raw materials, produced gas, for process purposes (gas flooding, electric generation);
- 2) low technological level of enterprises in production of petrochemical products;
- 3) lack of funding provided for infrastructure of SEZ "National Industrial Petrochemical Technology Park";
- 4) shortage of suitably skilled personnel;
- 5) restrictions in attracting foreign skilled workers (quotas, permits);
- 6) imperfection of the legislation on finance, land relations, special economic zones, preventing foreign investment.

Purpose: To develop petrochemical industry by implementing existing resource potential of Kazakhstan and favourable situation of market

Target indicators:

The Program implementation will allow to achieve the growth of economic indicators in 2019 at the level of 2012:

- 1) gross value added by no less than 19,1 times in real terms;
- 2) employment by 2,6 thousand people;
- 3) labour productivity by 6 times in real terms;
- 4) value of non-primary (finished) exports by no less than 41 times.

Table 18. Target indicators

Item No.	Performance targets	Unit	2012 report	2013 expected	Forecast for 2012						2019 in relation to 2012, %
					2014	2015	2016	2017	2018	2019	
1	Gross value added	%	100	95,2	102,1	110,8	110,6	447,5	1360,9	1909,7	by 19,1 times
2	Number of employed people	thousand people	1,2	2,0	2,0	2,0	2,5	3,0	3,4	3,8	2,6 thousand people
3	Labour productivity on GVA	%	100	56,1	60,2	65,4	52,4	175,7	471,8	600,8	by 6 times
4	Value of	%	100	86,6	117,	152,	162,	401,	2712	4096	by 41

non- primary (finished) exports					9	4	8	3	,5	,6	times
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Objectives:

- 1) to provide projects with necessary raw materials to produce basic products on a competitive basis;
- 2) to expand markets for implementation of non-primary goods;
- 3) to ensure financial support for development of infrastructure and plants on the territory of SEZ "National Industrial Petrochemical Technology Park";
- 4) to provide projects with necessary infrastructure on the territory of SEZ "National Industrial Petrochemical Technology Park";
- 5) to ensure transport and logistics for petrochemical exports;
- 6) to provide necessary personnel with high skills in petrochemical and gas sector.

Priority activities

Priority activities of the industry are shown in the Table 19.

Table 19. Priority activities on CCEA -4

CCEA -4	CCEA Name
20.14	Production of other main organic chemicals
20.16	Production of primary plastics
20.17	Production of primary synthetic rubbers

Priority commodity groups

Priority commodity groups are defined based on situation of domestic market, and volume and growth potential of the international market (Table 20).

Table 20. Priority commodity groups

Classification of Products by Activity	Name of commodity group	Import capacity of domestic market, USD million	Import capacity of macroregion market, USD million

201610	Polyethylene with a share of 0,94 or more	202,5	6906,3
201651	Polypropene	17,6	6449,1
201610	Primary polyethylene with a share of less than 0,94	37,9	3183,3
201651	Propylene copolymer	14,0	2267,2
201630	PVC, which is not mixed with other components	26,0	2057,4
201411	Butadiene	0	790,7
201710	Primary butadiene rubber (BR)	0,9	833,6
201656	Polyurethanes	9,7	808,9
201640	Polyethyleneterephthalate	99,8	1286,5

Priority projects

From 2015 to 2019 the state policy on development of petrochemical sector will be aimed at creating new facilities producing primary polymers (polypropylene with total capacity of 500 thousand tons per year; polyethylene with total capacity of 800 thousand tons per year; polymer products with capacity of PP film - 4.1 thousand tons, BOPP film - 14.7 thousand tons, PP bags - 48 million items per year; butadiene with total capacity of 250 thousand tons per year; polybutadiene with total capacity of 125 thousand tons per year in Atyrau region), and organic compounds as raw materials for both petrochemical industry itself and chemical industry in general (facility producing aromatic hydrocarbons in Atyrau region).

From 2015 to 2019 large-scale investment projects will be implemented in accordance with proposals of business structures with a total investment of more than 1.2 trillion tenge, aimed mainly at production of polymers and products made of it.

Food production

Food production is a strategically important industry that ensures food security of the country. Population of the country is growing steadily due to an increase in food consumption and change of consumption patterns because of more quality products. The sector is closely related to agricultural production as a raw material supplier. Enterprises of food production are concentrated close to the consumption centers (of cities, large towns).

A share of food production in the secondary industry has decreased from 18.6% in 2008 to 16.5% in 2013, while from 2008 to 2013 volumes of food production increased by 56.0%.

GVA in food production has increased by 1.5 times from 2008 to 2013.

In 2013 exports compared to 2008 decreased by 17,1 % and amounted to 902,1 billion dollars. Food imports during the same period increased by 17.4% and amounted to 2 446.5

million dollars.

Key indicators for the sector of food production for 2008-2013 are shown in Table 21.

Table 21. Information on the sector for 2008-2012

Indicator	2008.	2009.	2010.	2011.	2012.	2013.
Food production, million tenge	623488	629756	695244	828005	865570	973030
Share in the secondary industry	18,6 %	21,4 %	18,1 %	17,2 %	15,9 %	16,5 %
GVA, million tenge	230 589,1	264 604,1	360 433,4	427 430,8	472 810,9	355 404,9
Staff listing (thousand people)	52,3	52,6	52,8	53,9	53,2	52,4
Labour productivity on GVA, thousand tenge/person	4 286	5 324	7 620	9 017,5	9 891,4	7 094
Labour productivity, dollars/ person.	35548	35808	51696	60970	65759	46980
Number of existing enterprises	2442	2402	2326	2263	2219	1573
Wear degree of fixed assets, %	27,9	33,8	32,5	50,9	35,5	-
Exports, USD million	1088,6	797,6	854,2	886,5	898,1	902,1
Import, USD million	2083,4	1615,5	2190,6	2450,4	2456,3	2446,5
Investments in fixed assets, million tenge	22959	31107	39772	34046	37172	33572
Renewal coefficient of fixed assets, %	14,3	13,8	11,6	8,9	10,1	-
Availability of fixed assets by the	174489,9	236200,2	289893,2	392229,3	336416,6	-

end of the year on initial cost, million tenge						
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Source: Statistics Agency of the Republic of Kazakhstan

A main share in food production comprises cereal-processing industry (23.5%), milk processing (16.3%), bakery (15.3%), meat processing (13.4%), fruit-and-vegetable cannery (8.1%), oil and fat (7.8%) and other industries (15.6%).

The key problems include: lack of quality raw materials of local production; underdevelopment of trade and logistics infrastructure; low availability of floating assets for processing plants; high share of worn out equipment; shortage of skilled personnel; problems of statistical records of trade and industry development; problems in technical regulation, including control over compliance with standards; high cost of tariffs for municipal and transportation services; low availability of packaging; high loan burden on existing enterprises; lack of support in promoting products in domestic and foreign markets.

Purpose: to create conditions in order to improve competitiveness of food production in Kazakhstan.

Target indicators:

The Program implementation will allow to achieve the growth of economic indicators in 2019 at the level of 2012 (Table 22):

- 1) gross value added by no less than 1,2 times in real terms;
- 2) employment by no less than 2,4 thousand people;
- 3) labour productivity by 1.1 times in real terms;
- 4) value of non-primary (finished) exports by no less than 1.2 times.

Table 22. Target indicators

Item No.	Performance targets	Unit	2012 report	2013 expected	Forecast for 2012						2019 in relation to 2012, %
					2014	2015	2016	2017	2018	2019	
1	Gross value added	%	100	105,0	108,0	111,0	113,0	114,0	115,0	116,0	by 1,2 times
2	Number of people	thousand	53,2	52,4	54,2	54,6	55,6	55,6	55,6	55,5	2.4 thousand

	employed at food productio n	people									nd people
3	Labour productivi ty on GVA	%	100	105,0	106, 0	108, 0	108, 0	109, 0	110, 0	111, 0	by 1,1 times
4	Non- primary (finished) exports	%	100	95,8	86,0	93,0	100, 0	106, 0	111, 0	117, 0	by 1,2 times

Objectives:

1) to increase availability of agricultural raw materials for plants, processing agricultural products; 2) to increase availability of financial services for plants, processing agricultural products;

3) to reduce infrastructure costs (municipal, transportation services, costs of packaging, etc.) of production in the industry, including through PPP mechanism;

4) to create conditions in order to expand domestic sales of food products;

5) to develop a culture of food consumption;

6) to develop technical regulations in food industry;

7) to improve trade regulation of imports/ exports;

8) to providing enterprises processing agricultural products, with skilled personnel;

9) to improve accounting turnover.

By solving the above tasks we will achieve the following target indicators.

Priority activities

Priority activities on food production sector are given in Table 23.

Table 23. Priority activities

CCEA -4	CCEA Name
1011	Meat processing and preserving
1012	Poultry meat processing and preserving
1013	Products from meat and poultry meat

1020	Processing and preserving of fish, crustaceans and shell fish
1031	Potato processing and preserving
1032	Production of fruit and vegetable juices
1039	Other types of processing and preserving of fruits and vegetables
1041	Production of oil and fat
1042	Production of margarine and similar animal fat
1051	Milk processing and cheese production
1061	Production of grain mill products
1062	Production of starch and products made of starch
1071	Production of bread; production of fresh pastry, cakes and fancy cakes
1072	Production of crackers and cookies; production of pastry, cakes, fancy cakes, pies and biscuits, designed for long-term storage
1073	Macaroni production
1081	Sugar production
1082	Production of cocoa, chocolate and sugar confectionery products
1083	Processing of tea and coffee
1085	Production of prepared food and semi-finished products
1086	Production of infant food and dietary food

Table 24 shows priority commodity groups, aimed at key markets.

Table 24. Priority commodity groups

Classification of Products by Activity	Name of commodity group	Import capacity of domestic market of 2012 (million tenge)	Import capacity of macroregion market of 2012 (million tenge)
1	2	3	4
101120	Edible by-products of cattle, pigs, sheep, goats, horses and equidae, fresh or frozen	4,1	530,5
101130	Meat and cooled edible by-products; meat and other edible by-products	13 901,8	1 484 755,1
101210	Poultry meat, fresh or frozen	106,6	16534,1
101220	Frozen poultry meat	1 808,1	25 615,5
101314	Sausages and similar products made of meat, meat by-products and animal	14065,6	26177,9

	blood		
101315	Prepared and preserved from cattle meat	103 705,18	22 302
102013	Frozen fish	1 714,9	193 428,0
102014	Frozen fish fillet	-	9 583,6
102023	Stock fish, salted or unsalted fish, brine fish	269,3	9 494,0
102025	Fish, prepared or preserved in other way, except for ready fish meals	3 267,4	47 619,0
103111	Frozen potato	638,04	38 025
103114	Processed or preserved potato	3 872,08	14 988
103200	Fruit juices (including grape juice) and vegetable juices, containing no spirit	67 178,05	137 557
103917	Other vegetables (except for potato), preserved without vinegar and acetic acid, except for ready vegetable dishes	4,034.51	47,990
103918	Vegetables (except for potato), fruits, nuts and other edible parts of plants, preserved without vinegar or acetic acid	350.15	14,483
103923	Fruits, nuts and other edible parts of plants, prepared or preserved in other way, whether or not containing sugar or other sweeteners or spirit, which are not specified or included elsewhere	9 338,11	96 446
103930	Vegetable raw materials, vegetable waste, vegetable residues and by-products	15,29	1 198
103992	Jams, fruit jellies, marmalades, fruit or nut puree, fruit or nut paste, produced by cooking, and by adding sugar or other sweeteners	4 452,45	30 171
104120	Unrefined vegetable oil	1,7	427 749,0
104124	Animal and vegetable fat or oil and their hydrogenated and esterified fractions without being processed	71 494,75	587 843

	further		
104141	Oil cake and wastes of solid fats and other vegetable oils	4 427,90	273564
104150	Refined oil, excluding wastes	8 372,1	1 429 468,1
104210	Margarine and similar products	17 738,51	144 685
105111	Milk and cream, not concentrated and not containing added sugar or other sweeteners	83 537,18	31 266
105121	Powdered skim milk	10 245,3	135 856,2
105122	Dried whole milk	2 838,8	219 598,3
105130	Butter and dairy spreads (pastes)	5 902,4	145 994,2
105140	Cheese and curd cheese	92 779,56	360 478
105152	Yogurt, milk and fermented or other sour creams	8461,6	23 416,2
106111	Polished rice	141,1	1 862,4
106121	Fine ground wheat flour or mangcorn flour	129 347,76	136 810
106122	Fine ground cereal flour (except for wheat)	134,9	135 889
106123	Fine ground or household vegetable flour	1 683,67	2 201
106131	Grit, household flour and cereal grain kibble	139,1	593,9
106133	Other cereal products, including corn flakes	1 084,32	23 613
106140	Other boltings, siftings, wastes from cereal processing	3 883,71	29 158
106211	Starch; inuline; wheat gluten; dextrin; other modified starches	471,43	89 866
107111	Bread, pastry, fancy cakes, cookies and other bakery and pastries, whether or not containing cocoa; wafers plates, empty capsules used for pharmaceutical purposes, sealing wafers, rice paper and similar products	11 885,12	206 448
10721	Crackers and cookies; confectionery products and fancy cakes for long-	2 937,2	5 669,5

	term storage		
107311	Pasta, whether or not cooked and stuffed (made of meat or other products) or plain, or otherwise prepared, such as spaghetti, macaroni, noodles, elbow products, dumpling, ravioli, cannelloni; couscous, whether or not ready-to-eat	22 284,60	46 693
108111	Solid cane raw sugar or beet raw sugar	231,3	30 157,1
108112	Brown or beet-root refine sugar and chemically clean solid cane sugar without any flavour or colouring additives	10 586,0	72 367,3
108221	Chocolate and finished food products containing cocoa (except for sweetened cocoa powder), in big packages	1 540,9	13 864,2
108222	Chocolate and food products containing cocoa (except for sweetened cocoa powder), in small packages	36 973,4	239 955,4
108223	Sugared confectionery products, including white chocolate, not containing cacao	12 907,3	84 544,0
108224	Fruit, fruits, nuts, fruit-peels and other parts of plants, candied, glazed, saturated with sugar and dried (saturated with sugar syrup, glazed or candied)	144,56	2331
108300	Processed tea and coffee	11 949,0	238 195,3
10851	Finished food products and dishes	37 658,1	338 459,1
108610	Homogenized and dietary food products	8 823,9	224 520,7

to Table 24:

Note: *macroregion countries: Armenia, Azerbaijan, Belarus, China, Georgia, Iran, Kyrgyzstan, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.

Priority projects

From 2015 to 2019 food production area provides for implementation of priority projects for processing: poultry products (production of poultry meat, eggs); milk (milk powder, butter, cheese and curd cheese, drinking milk, dairy products); meat (frozen, canned, sausages and similar products); fish (frozen fish, fish fillets, cooked and canned fish); grain (flour, pasta, starch, gluten, inulin, etc.); oil (production of vegetable oil, margarine); vegetables and fruit (juice, canned fruit and vegetables); sugar, confectionery products (made of sugar, chocolate and sugar, fresh and long-term storage bakery pastry).

To increase availability of agricultural raw materials for plants, processing agricultural products;

In order to provide processing enterprises with quality and affordable raw materials systematically we will implement the Program on development of agriculture in the Republic of Kazakhstan for 2013 -2020 "Agribusiness 2020", approved by the Resolution of the Government of the Republic of Kazakhstan dated February 18, 2013 № 151 (hereinafter - Agribusiness 2020).

To increase availability of financial services for plants, processing agricultural products

In order to create conditions for stable production of domestic food products we need to provide processing enterprises with sufficient credit resources to increase floating assets and purchase fixed assets. A certain support is needed to stimulate construction of processing enterprises, including by investment grants, venture capital financing, etc.

To expand access to financing of enterprises of food production instruments of state support will be reconsidered and will form funding of some costs of loans and leasing, partial reimbursement of expenses (construction and installation activities, purchase of equipment, agricultural and special equipment) when investments are made. Also, insurance and guarantee system of loans will be introduced.

To reduce infrastructure costs (municipal, transportation services, costs of packaging, etc.) of production in the industry, including through PPP mechanism

In order to reduce primary costs of produced food measures will be taken to develop national companies, producing packaging, labelling products, including due to mechanism of public-private partnership.

It is also important to take measures for using differential rates for municipal and transportation services of processing enterprises.

To create conditions in order to expand domestic sales of food products

To increase sales volume of domestic food products in domestic market we will expand modern shopping spaces, trade and distribution centers, and create conditions to access them.

For entering the external markets we want to create a network of specialized logistics centers on the bordering lines based on the main transport routes.

In addition, we will develop exchange trade and attract maximum number of potential national and foreign buyers in electronic trading platform.

To develop a culture of food consumption

To develop a culture of consumption of domestic products we will define a list of key information messages to develop food processing industry, requiring priority coverage of the mass media.

We plan to create national brands of domestic food products.

To involve population we will create propaganda programs aimed at protection of consumers' rights.

At the same time to receive information about defective products from the public we will continue to create counseling offices.

In addition, we plan to reconsider the terms of procurement of food products to include requirements in purchasing fresh and natural food products as a priority, and for the acquisition of priority, fresh and natural foods, and to fund production costs and costs required for advertising national food on domestic market.

To develop technical regulations in food industry

In order to ensure safety of food and processing industry, expansion of sales markets, and to protect domestic market from low-quality products we will take measures in terms of technical regulation.

Particular attention will be given to laboratory tests during the state supervision (control) over compliance of technical regulations and protection from fabrication of food products. For this purpose at least 1 test laboratory will be established (upgraded) in each region of the country.

Scope of accreditation of certification bodies and testing laboratories will be also reconsidered.

Standards will be revised, testing standards for quality monitoring and measurement procedures will be developed, which are necessary to fulfill the requirements of technical regulations, and to identify food and its falsification.

To improve trade regulation of imports/ exports;

In order to respond rapidly to changing conditions in domestic and foreign markets, we must introduce movement monitoring of food and processing products.

Based on monitoring results we plan to develop and send proposals to the Eurasian Economic Commission regarding the use of measures regulating foreign trade.

In addition, measures were provided to attract public associations and business associations, who will defend of the rights and interests of entrepreneurs in the government authorities and organizations.

To improve accounting turnover.

In order to conduct a full analysis of food and processing industry, required for control measures taken by agricultural markets, some changes will be introduced into methodology on statistical surveys of food production to ensure their completeness and accuracy. It was also possible to improve accounting method of mutual trade between the countries of the Customs Union due to introduction of corrective factors.

It is also necessary to ensure statistical monitoring of food production facilities available and used.

Agrochemistry

Priority of agrochemicals production sector is determined by availability of raw materials required, large operating enterprises, high demand for agrochemical products in the country and in markets of neighboring countries.

Volume of Kazakhstani agrochemical market in 2013 was approx. 71,8 billion tenge, where more than 58 % are accounted for import. Macroregion import volume for priority commodity groups is approx. 6,8 billion USD.

In 2012 sector's share in processing industry was 0,6 %, and in chemical production volume was almost 20 % (table 25).

From 2008 to 2012 agrochemical sector production in nominal terms saw 1,7 increase and was equal to 34,7 billion tenge (table 25).

Potential requirement in mineral fertilizers is approx. 1 mln. tons of active ingredient, where 58,4 % is accounted for phosphate fertilizers, 40 % - for nitrogenous and 1,6 % - for potassium. In 2013 84,5 thousand tones were applied which was 12 times less than application rate required. Farm area treated with mineral fertilizers in 2013 was 1,4 mln. ha.

From 2008 to 2012 GVA in agrochemical sector saw 2,7 times increase. Labor productivity in the Republic of Kazakhstan in 2012 saw 2,7 times increase as compared to 2008 and was equal to 13,6 mln tenge which was more than 2,5 times less than the indicator of average labor productivity in OECD countries.

Export volume of mineral fertilizers and pesticides in 2012 decreased by 13,6 % as compared to 2008 indicator and was equal to 63,5 mln. USD while import volume for this period increased

by 36 % and was approx. 117 mln. USD. Decrease in export and increase in import of agrochemical sector products are related to growth of domestic demand.

Key indicators of agrochemical sector development for 2008 - 2012 are shown in table 25.

Table 25. Sector readings for 2008-2013

Indicators	2008	2009	2010	2011	2012	2013
Argochemistry production share in processing industry, %	0,6 %	0,5 %	0,4 %	0,6 %	0,6 %	0,7 %
Argochemistry production share in chemical industry, %	18,9 %	17,9 %	14,9 %	18 %	19,4 %	21,3 %
Processing industry, mln. tenge	3 359 551	2 945 966	3 844 658	4 801 407	5 446 749	5 882 456
Volume index in % against previous year	97,5	97,1	113,9	107,7	101,2	101,6
Chemical industry, mln. tenge	106 157	85 542	104 107	147 929	178 971	184 919
Volume index in % against previous year	107,4	75,7	121,4	130,1	103,2	103,3
Agrochemistry production, mln. tenge	20 089	15 331	15 509	26 584	34 664	39 480
GVA, mln. tenge**	9 719	8 238	12 900	21 520	26 147	23 674
Labor productivity in the RoK, thousand tenge/person	4 964	3 999	6 939	11 772	13 618	15 557
Labor productivity in the RoK, dollars/person	41 168	26 895	47 073	79 594	90 533	100 993
Average labor productivity in the OECD, dollars/person	204 402	194 394	236 331	247 917	248 843	
Staff strength of salaried employees, persons	1 958	2 060	1 859	1 828	1920	2 029
Number of operating enterprises	24	22	21	25	28	
including:						
large	3	3	3	3	2	

medium	1	1	1	2	2	
small	20	18	17	20	24	
Capacity utilization ratio, %*	44,4	38,8	42,8	39,6	38,8	
Deterioration of equipment, %	28,7	52,7	37,7	37,6	38,7	
Capital investments, mln. tenge	338	484	424	1 851	3 484	782
Coefficient of renewal of fixed assets, %	5,6	3,9	39,2	55,2	8,9	
Fixed assets at initial value as on the end of the year, mln. tenge	4 254	4 090	6 358	10 213	16 954	
Export, mln. USD	74,1	17,1	28,5	72,8	64,3	70,7
Import, mln. USD	231,0	196,8	186,3	212,0	263,4	255,2

Source: Statistics Agency of the Republic of Kazakhstan

Note for table 25: * - indicator has been calculated by «KIDI» JSC based on statistical data.

Fertilizer manufacturing in Kazakhstan is represented by manufacturers of phosphoric and nitrogen fertilizers: «Kazphosphate» LLP (superphosphate, ammophos) and «KazAzot» LLP (ammonium nitrate).

Currently there are no large enterprises producing potassium fertilizers, however geological exploration works are being performed at potassium deposit in the Western region of Kazakhstan.

Nitrogen fertilizers use in 2012 was 403 thousand tons, where 165 thousand tons produced within the Republic of Kazakhstan, and 319 thousand tons imported. Consumption of phosphate fertilizers in 2012 was 60,7 thousand tons, where 69,5 thousand tons produced within the Republic of Kazakhstan, and insignificant volume imported. Consumption of potassium fertilizers in 2012 was 22 thousand tons however its full volume was imported. Complex fertilizers market in the Republic of Kazakhstan consists completely of imported products and is equal to approx. 6 thousand tons per annum.

Pesticide industry segment is represented by small-scale enterprises which primarily deal with crop protection agents: «Agrohimiya» LLP, «KazTrustKem» LLP, «Bai Zher» LLP, «Astana-NanChemicals» LLP, «Herbicides» JSC. In 2012 pesticides consumption in the country was equal to 28,5 thousand tons where 10,5 thousand tons produced in the country and 18 thousand tons imported.

To develop sector international chemical companies are to be involved into agrochemistry sector. DuPont Company works on establishing agriculture chemicals production within the

Republic of Kazakhstan. One of the largest mineral fertilizers producers in Russia, joint-stock company «EuroChem» plans to construct a complex fertilizers production plant.

Agrochemical sector can also involve transnational companies (Mosaic, PotashCorp, Agrium, YaraInternational, Monsanto, Singenta, «Fosagro» ZAO).

Key problems of sector:

- 1) low level of capacity utilization in enterprises of the sectors;
- 2) shortage of sectors enterprises funds for modernization and production development;
- 3) high deterioration of equipment;
- 4) weak logistics system for marketing/distribution of mineral fertilizers and pesticides on the part of agrochemistry producers;
- 5) no test basis for doing studies of agrochemical products;
- 6) lack of personnel with relevant qualification.

Goal: development of agrochemical sector by encouraging domestic demand and export potential development.

Target indicators:

Implementation of the Program in 2019 will allow increasing economic indicators to the level of 2012 (Table 26):

- 1) gross value added by not less than 3 times in real terms;
- 2) employment by 1,1 thousand persons;
- 3) labor productivity 1,9 times more in real terms;
- 4) value volume of non-primary (processed) export by not less than 2,8 times.

Table 26. Target indicators

No.	Target indicators	Unit	2012 report	2013 MRF	Forecast vs. 2012						2019 vs. 2012, in %
					2014	2015	2016	2017	2018	2019	
1	Gross value added	%	100	98,2	99,5	142,7	165,4	193,5	269,0	296,0	3,0 times
2	Volume of employment	thous. persons	1,9	2,0	2,0	2,3	2,3	2,3	2,3	3,0	1,1 thous. persons
3	Labor productivity as per	%	100	92,9	94,2	119,2	138,1	160,0	222,4	188,1	1,9 times

	GVA										
4	Value volume of non- primary (processed) export	%	100	110, 0	116, 7	146, 7	194, 8	222, 8	266, 9	275, 6	2,8 times

Tasks:

- 1) modernization of existing enterprises to enhance productivity and diversification of output product;
- 2) domestic demand promotion;
- 3) market development for non-primary goods sale;
- 4) establishment of new enterprises;
- 5) provision of sector with personnel with relevant qualification;
- 6) establishment of test and certification infrastructure.

Priority activities

Priority activities have been defined within the Program (Table 27).

Table 27. Priority activities of agrochemical industry

CCEA-4	Name
2015	Production of fertilizers and nitrogen mixtures
2020	Production of pesticides and other agrochemical products

Priority commodity groups

Priority commodity groups will be focused not only on domestic market but macroregion market as well: CIS countries, Iran, China and Turkey. Creation of new or increase in operating capacities of enterprises manufacturing priority commodities/commodity groups will contribute to import reduction and increase in export of agrochemical products.

Table 28 provides commodity groups with high import volume.

Table 28. Priority commodity groups of agrochemical industry

Classification	Name of commodity group	Import volume of	Import volume of
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of products by activity-6		domestic market, mln. USD	macroregion markets, mln. USD
201531	Carbamide	5,7	205,8
201532	Ammonium sulfate	2,8	13,3
201551	Potassium chloride	5,1	3 032,3
201552	Potassium sulfate	0,11	95,2
201559	Other potassium fertilizers	17,3	33,5
201571	Complex fertilizers	6	1 187,4
201573	Monoammonium phosphate/diammonium phosphate	0,3	153,7
202011	Insecticides	18,6	439,5
202015	Fungicides	12,9	637,2
202012	Herbicides	71,5	980,6

Priority projects

As a part of the Program state policy concerning agrochemical sector development will be aimed at implementation of priority areas of production of compound (NPK-fertilizer), potassium fertilizers, crop protecting agents.

Over the 2015 to 2019 period large investment project will be implemented as consistent with proposals of business structures with total investment volume of more than 454 bln. tenge designed to enhance production and value added of products, establish new productions in the sector.

In Aktobe oblast it is planned to kick-start production of compound mineral fertilizers (Monoammonium phosphate/diammonium phosphate) using the ore from Chilisay deposit and potassium fertilizers using potassium salt of Zhilyanksoye deposit.

In Zhambyl oblast a number of projects for agrochemical production are planned. By 2019 it is planned to reach production of 1 mln. tons of mineral fertilizers per annum, to implement projects concerning potassium sulfate production (300 thousand tons per annum) and glyphosate (10 thousand tons per annum).

The following projects are under elaboration: production of wet-process phosphoric acid with subsequent production of feed phosphates, production of chemical products based on methanol and ammonia (formaldehyde, acetic and peracetic acid, ammonium nitrate, nitric acid, carbamide, compound fertilizers and carbamide-formaldehyde and melamine formaldehyde resins), establishment of one stop principle agrochemical service centers providing a wide range of services.

Production of chemicals for industry

Sector producing chemicals for industry includes raw material supplier, semi-products, items for conventional industries (mining and metals sector (hereafter - MMS) and oil and gas industry), and for high technology sectors (electronic industry, manufacture of accumulators, energy efficient and innovation construction materials, mechanical engineering). In general development of industry leads to an increase in demand for sector's products.

Existing production of chemicals for industry in Kazakhstan is represented primarily by base chemistry products: inorganic acids and alkalies used in minerals production, production of mineral fertilizers, and paints and varnishes, explosives and surface acting agents.

In 2012 domestic market capacity was 1,4 bln. USD. Kazakhstan's import capacity for priority commodity groups exceeds 300 mln. USD, import capacity for the same commodities of macroregion is equal to approx. 6 bln. USD.

Average share of sector in processing industry is 2 %, in chemical industry - 68 %. Overall production of sector in 2012 was 118,5 bln. tenge in nominal terms, which was 60 % more than in 2008. As compared to 2008 sector's GVA saw a 2,5 times increase. Labor productivity increased in 2,3 times. At the same time, it is more than 2 times less than the same indicator in OECD countries.

Deterioration of equipment at enterprises of the sector is almost 40 %, capacity utilization is more than 60 %. High capacity utilization is typical for exporting enterprises: «AZHS» JSC and «Kazphosphate» LLP. Increase in coefficient of renewal of fixed assets in 2012 by 8,5 % affected reduction of equipment depreciation coefficient from 45 % in 2011 to 30 % in 2012. In 2012 export in sector producing chemicals for industry was increased by 16,4 % as compared to 2008 and was more than 600 mln. USD. Primarily low-added value products are exported, while commodities with higher degree of processing are imported. Key indicators of sector producing chemicals for industry for years 2008 - 2012 are shown in table 29.

Table 29. Sectors reading for 2008 - 2013

	2008	2009	2010	2011	2012	2013
Sector's share in processing industry, %	2,2	2,0	1,9	2,1	2,2	2,0
Share of chemical industry sector, %	70,0	69,0	69,6	66,6	66,2	64,7
Overall chemicals production for industry, mln. tenge	74 275	59 055	72 474	98 527	118 555	119 685
GVA, mln. tenge	37 677	33 670	63 571	83 964	93 740	75 762
Average labor productivity in OECD countries, USD	104 167	104 304	111 909	117 373	117 105	

/person						
Labor productivity, USD /person	24 308	18 912	33 899	32 508	45 273	
Labor productivity, thousand tenge/person	2 931	2 812	4 997	4 808	6 810	
Staff strength of salaried employees, persons	12 856	11 972	12 723	17 465	13 766	13 703
Number of operating enterprises	138	154	156	155	153	
including:						
large	6	7	9	9	8	
medium	12	16	19	17	20	
small	120	131	128	129	125	
Investments, mln. tenge	6 645	29 295	17 381	19 870	40 391	26 462
Deterioration of equipment, %	35,3	37,4	41,1	44,8	30,1	
Coefficient of renewal of fixed assets, %	10,6	10,4	13,1	11,9	20,4	
Fixed assets at initial value as on the end of the year, mln. tenge	10 884	4 218	10 377	18 276	26 097	
Export, mln. USD	516,0	269,3	369,6	511,5	600,6	624,9
Import, mln. USD	1 040,1	893,5	1 054,8	1 209,3	1 296,3	1 459,1

Source: Statistics Agency of the Republic of Kazakhstan, TradeMap, Euromonitor database

The sector is represented by enterprises producing sulphuric acid («CK3-U» LLP, «Kazphosphate» LLP), yellow phosphorous («Kazphosphate» LLP), chromic compounding («Aktobe plant of chromic compounding» JSC), fluoric acid («Ulba Fluorine Complex» LLP), chloralkali segment («Caustic» JSC), paints and varnishes («Alina» company group), explosives («Orika-Kazakhstan» JSC).

High rollers of the sector are «Kazphosphate» LLP whose share in total volume of chemical industry is 22 %, «Aktobe plant of chromic compounding » JSC - 12,5 %, «Caustic» JSC - 2,4 %. Sector producing chemicals for industry is primarily for domestic consumption, because the most part of the product is difficult to transport and is hazardous for people's health.

To subsequently develop the sector it is required to involve international chemical companies in order to implement investment projects on the territory of Kazakhstan. At the moment negotiations are in progress with international companies: China Kingho Energi Group Co., Ltd. (China), IndussGroup (Belgium), DowChemicalsCompani (USA), Lanxess (Germany), GreenDay (Germany), LanzaTech (USA).

Key barriers of sector development are:

- 1) change in transport and energy monopolists tariff policy;
- 2) shortage of sector enterprises' own financial resources for modernization and production development;
- 3) underdevelopment of test and certification infrastructure;
- 4) lack of personnel with relevant qualification.

Goal: expansion of overall production and modernization of existing enterprises, establishment of productions of new output.

Target indicators:

Implementation of the Program in 2019 will allow increasing economic indicators up to the level of 2012 (Table 30):

- 1) gross value added not less than 1,5 times more in real terms;
- 2) employment not less than by 1,1 thousand people;
- 3) labor productivity 1,4 times more in real terms;
- 4) value volume of non-primary (processed) export not less than 1,3 times more.

Table 30. Target indicators

No.	Target indicators	Unit	2012 report	2013 MRF	Forecast vs. 2012						2019 vs. 2012, times
					2014	2015	2016	2017	2018	2019	
1	Gross value added	%	100	98,2	107,3	115,8	118,9	128,6	142,6	153,2	1,5 times
2	Volume of employment	thousand people	13,8	13,7	14,2	14,2	14,2	14,3	14,9	14,9	1,1 thousand people
3	Labor productivity as per GVA	%	100	98,7	104,4	112,5	115,4	123,9	131,8	141,6	1,4 times

4	Value volume of non- primary (processed) export	%	100	104, 0	108, 6	112, 9	117, 1	121, 4	125, 7	130, 0	1,3 times
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Tasks:

- 1) increase in capacity of operating enterprises;
- 2) modernization of existing enterprises to enhance productivity;
- 3) diversification of operating enterprises products;
- 4) establishment of new enterprises;
- 5) provision of new productions with infrastructure and renovation of infrastructure of operating enterprises;
- 6) provision of sector with qualified personnel resources.

Priority activities

As the part of the Program Priority activities have been defined (Table 31).

Table 31. Priority activities of sector producing chemicals for industry

CCEA-4	Name
2011	Industrial gas production
2012	Dyestuffs and coloring agents production
2013	Main inorganic compounds production
2030	Production of paints, varnishes and similar coloring materials
2041	Manufacture of soap, cleansers, detergents and polishes
2051	Explosives production
2059	Production of other chemical products

Priority commodity groups

Creation of new or increase in existing capacities of enterprises producing priority commodities/commodity groups will contribute to reduction of import and increase of export of products of sector producing chemicals for industry.

Table 32 shows commodity groups with higher import.

Table 32. Priority commodity groups

Classification of products by activity	Name of commodity group	Unit	2008	2009	2010	2011	2012
201324	Hydrogen chloride (HCl)	import, tons	31 945	28 995	29 434	29 318	27 700
		import, thousand USD	7 384	5 141	3 597	8 681	7 540
201343	Dinatrium carbonate	import, tons	390 557	311 564	342 661	376 832	434 795
		import, thousand USD	97 134	74 655	40 653	100 126	111 030
201325	Sodium hydroxide (caustic soda) in aqueous solution	import, tons	77 535	94 674	62 020	26 071	32 652
		import, thousand USD	15 958	17 891	8 882	16 409	14 553
201363	Hydrogen pyroxide	import, tons	4 059	8 685	12 648	10 960	14 410
		import, thousand USD	3 152	6 512	8 460	7 982	10 235
201321	Calcium chloride	import, tons	8 019	5 897	11 434	9 028	9 519
		import, thousand USD	2 719	1 667	1 324	3 793	4 471
203012	Polyesters-based paints and varnishes	import, tons	20 878	21 174	23 064	19 214	17 068
		import, thousand USD	32 318	30 108	23 796	49 292	30 011
205111	Finished explosives except for powder	import, tons	18 688	19 583	13 078	12 986	16 732
		import,	36	36	15 740	20 929	26 853

		thousand USD	277	738			
205942	Antiknock additive, antioxidants, gum inhibitors, thickeners, anti-corrosive agents and finished additives for oil products or other liquids	import, tons	17 624	18 510	10 759	10 459	9 662
		import, thousand USD	73 590	63 101	43 226	45 534	43 416
205956	Catalysts	import, tons	1 058	692	753	1 065	1 482
		import, thousand USD	10 066	4 979	3 081	7 141	13 313
205943	Finished antifreezes and deicing fluids	import, tons	25 245	25 549	30 576	30 464	37 194
		import, thousand USD	30 792	21 814	14 208	38 046	41 405

Priority projects

Over the 2015 to 2019 period state policy concerning development of sector producing chemicals for industry will be aimed to increase production capacities of operating enterprises and establish new enterprises.

Over the 2015 to 2019 period it is planned to implement large-scale investment projects as consistent with proposals of business structures with total volume of investments of approx. 80 bln. tenge designed to increase production output and product value added.

Manufacture of vehicles, spare parts, accessories and motors

Manufacture of vehicles, spare parts, accessories and motors is a new economic industry which holds a significant share in total volume of mechanical engineering in Kazakhstan.

Development of national motor vehicle industry has multiplier effect on other sectors of economics. One new job created in motor industry gives an opportunity to create from 3 to 11 jobs in such related sectors as metallurgic, chemical and electronic industry, metalworking, manufacture of spare parts, transport and service sector.

Capacity of domestic market of country is equal to approx. 5 bln. USD where 82 % is borne by import. Priority commodity groups import capacity of macroregion countries exceeds 70 bln. USD where approx. 30 bln. USD is accounted for vehicle components.

A number of domestic companies have concluded an industrial assembly agreement with the Government of the Republic of Kazakhstan, as a part of which the state gives preferences. As a part of the agreement companies are obliged in specified period to ensure a level of development, deeper technological conversion and mastering components manufacture.

From 2008 to 2012 gross value added of sector saw 5,8 times increase. Around 2000 people work in automobile manufacture. From 2008 to 2012 labor productivity saw 7,5 times increase and was at the level of OECD countries.

Export of the sector is insignificant and in 2012 it was equal to 35 mln. USD.

Table 33. Sector reading for 2008-2013

Indicator	2008	2009	2010	2011	2012	2013
Mechanical engineering, mln. tenge	301 386	281 310	376 184	536 876	687 235	853 923
Volume index vs. previous year, %	89,7	82,5	133,6	119,0	116,5	114,6
Vehicles, spare parts, accessories and motors, mln. tenge	13 565	6 347	15 768	35 404	78 423	156 563
Manufacture of vehicles, trailers and semitrailers, in % against previous year	54,0	36,8	210,6	210,7	198,3	178,9
GVA, mln. tenge	5 989,1	3 514,4	8 003,2	16 708,0	34 615,3	33 984,0
Staff strength of salaried employees, persons	1 763	1 283	1 133	1 252	1 351	1 731
Labor productivity in RoK*, thousand tenge/person.	3 398	2 740	7 064	13 346	25 623	-
Labor productivity in RoK*, USD	28 101	18 463	47 922	90 145	170 484	-
Average labor productivity in OECD countries, USD	82 915	75 482	83 368	90 822	91 293	-
Number of operating enterprises	16	17	15	20	22	-
Level of capacity utilization,	18,3	9,6	14,3	22,2	36,9	-

%**						
Degree of fixed assets depreciation, %	21,9	29,1	32,4	33,7	30,9	-
Investments in fixed assets, mln. tenge	156	828	537	12 550	2 234	9 468
Coefficient of renewal of fixed assets, %	4,3	1,7	4,2	12,7	14,4	-
Fixed assets at initial value as on the end of the year, mln. tenge	1 813	1 647	1 660	1 923	2 861	-
Export, mln. USD	43,8	35,6	33,1	41,0	35,1	44,1
Import, mln. USD	2 378	1 408	1 236	1 816	3 202	4 285

Source: Statistics Agency of the Republic of Kazakhstan

note to the table 1: *Labor productivity is calculated as a quotient from of GVA sector on volume of employment in the sector;

** Indicator has been calculated by «KIDI» JSC based on statistical data.

Manufacture of light vehicles is concentrated in East-Kazakhstani and Kostanay oblasts, carrying vehicles – in Akmola and Almaty oblasts. Special and specialized vehicles are manufactured in West-Kazakhstani and Almaty oblast. Trailers and semitrailers are primarily manufactured in Zhambyl oblast and in Almaty.

Strategy for further development of automobile industry in the Republic of Kazakhstan is based on cooperation of domestic companies with global leaders, such as General Motors, Hyundai, Kia, Peugeot, Renault-Nissan-Avtovaz, Skoda, Toyota, Iveco. The strategy enables Kazakhstan to promptly overcome existing lack in technology, build up competences which will subsequently allow building in global automobile ecosystem.

Leaders of the world market producing accessories for automotive vehicles are Denso (Japan), Magna International (Canada), Aisin Seiki (Japan), Delphi Automotive (Great Britain), TRW Automotive Holdings (USA), Valeo (France) are to be involved to Kazakhstan.

Key problems of the sector:

- 1) small domestic market volume;
- 2) no high-volume³ output of vehicles;
- 3) low local content and value added;
- 4) no infrastructure with regard to technical regulation;
- 5) no unified disposal system;
- 6) no available financial resources;
- 7) low purchasing power of population;
- 8) lack of personnel with relevant qualification;
- 9) weak development of research and development works (hereafter – R&D);

10) high transportation tariffs for delivery of vehicles within the Republic of Kazakhstan;
 11) availability of technical barriers when exporting Kazakhstani products to the market of the Customs Union countries (hereafter – the CU), dependency on technical test base of Russian Federation in terms of technical regulation, and no homologation opportunity.

Kazakhstan’s accession to the WTO imposes specific requirements on state support measures for domestic vehicle manufacturers.

Goal: establishment of competitive large-scale automobile vehicles manufacture and improvement of local content.

Target indicators:

Implementation of the Program in 2019 will allow achieving economic indicators up to the level of 2012 (Table 34):

- 1) gross value added - 4,9 times more by 2019 as compared to 2012;
- 2) employment not less than by 4,8 thousand people;
- 3) labor productivity 1,1 times more in real terms;
- 4) export to the tune of 30 % of overall production by 2019.

³ High-volume production is a type of volume production where the products are manufactured continuously in large quantities. High-volume production uses specialized equipment, product lines and automated facilities

Table 34. Target indicators

No.	Target indicators	Unit	2012 report	2013 MRF	Forecast vs. 2012						2019 vs. 2012
					2014	2015	2016	2017	2018	2019	
1	Gross value added*	%	100	185,5	201,3	257,6	310,9	386,8	411,3	487,1	4,9 times
2	Volume of employment	thous. people	1,4	1,7	1,5	1,8	2,0	3,9	4,2	6,2	by 4,8 thous. people
3	Labor productivity	%	100	144,8	181,2	193,4	211,4	132,6	133,5	106,9	1,1 times
4	Value volume of non-primary	%	100	125,7	128,9	135,4	140,8	149,6	157,6	168,5	30 % of annual overall producti

export										on
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Note for the table 34: * 2012 Comparable prices

Tasks:

- 1) support of projects focused on large-scale automobiles production;
- 2) establishment of own vehicle components base;
- 3) promotion of domestic demand;
- 4) development of markets for non-primary goods sale;
- 5) establishment of technical regulation infrastructure;
- 6) improvement of technical regulation system aimed to improve safety and quality of product at domestic market and clearing of technical barriers at target export markets;
- 7) promotion of unified disposal system creation;
- 8) enhancement of financial resources available;
- 9) arrangement of conditions for infrastructure tariffs competitiveness improvement;
- 10) provision of automobile industry sector with qualified personnel;
- 11) supporting of technology transfer and R&D.

Priority activities

As the part of the Program priority activities have been defined (Table 35).

Table 35. Priority activities

CCEA	Name of activity
2910	Manufacture of automotive vehicles
2920	Manufacture of bodies for automotive vehicles, trailers and semitrailers
2931	Manufacture of electrical and electronic equipment for automotive vehicles
2932	Manufacture of other parts and accessories for automotive vehicles and motors
3099	Manufacture of other automotive vehicles and equipment not included into other groups

Priority commodity groups

Priority for developing commodity groups is manufacture of automotive vehicles, spare parts, accessories and motors (Table 36).

Priority projects in the area of spare parts and accessories to be manufactured for automotive vehicles in partnership with domestic companies having particular potential are production of accumulator batteries, electrical products, glassworks, rubber goods, lubricant grease, engine oil, filters, brake blocks, textile goods for upholstery, and other elements of interior and exterior.

The next priority strand for the development is service, engineering service of sector enterprises.

Table 36. Priority commodity groups

Classification of products by activity-6	Name of commodity group	Import capacity of domestic market, thousand USD	Import capacity of macroregion markets *, thousand USD
292010	Bodies for motor vehicles of commodity item 8703	104 853	3 800 300
293220	Other parts and accessories for bodies (including cabins)	17 494	6 889 033
293230	Other parts and accessories of automobiles of commodity items 8701-8705	77 399	4 623 022
291041	Other motor vehicles for cargo transportation with compression ignition engine (diesel or semidiesel) with total vehicle weight of more than 20 tons	280 869	3 394 797
293230	Suspension bumpers	45 941	2 131 760
292010	Secondary structures (bodies, boards, vans)	21 214	438 232
292023	Tank-cars for liquid transportation	15 491	163 078
291041	Trucks with total weight of less than 5 tons	63 680	1 926 059
291041	Trucks with total weight of more than 5 tons to 20 tons	65 297	1 154 475
291030	Buses	78 878	835 069
293230	Brakes and servo gains brakes, their spare parts	27 878	2 147 263
293230	Travelling wheels, their spare parts and accessories	37 143	1 772 328
293230	Leading axles with differential assembly or separately from other transmission elements	18 977	1 584 348

292023	Other trailers and semitrailers for transportation of cargo	80 779	1 291 690
293230	Steering wheels, steering masts and steering gearboxes	8 502	2 338 362
293230	Clutch assembly and its spare parts	10 456	680 500
293230	Exhaust boxes and exhaust pipes	8 869	689 287
293230	Collision bumpers and its parts	7 644	647 948
293230	Heating elements	20 586	592 061
293122	Starters and starter-generators	11 256	307 904
293121	Ignition plugs	8 780	257 774
293210	Seat furniture used in motor vehicles	1 579	393 392
293220	Airbags with inflating system, their spare parts	3 620	719 656
293121	Distribution blocks, ignition coils	3 106	218 194
293220	Seat belts	754	190 373
293130	Electrical lighting equipment or signalization parts	756	449 540

Note to the table 36: *countries of macroregion: Armenia, Azerbaijan, Belarus, China, Georgia, Iran, Kyrgyzstan, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.

Priority projects

Over the 2015 to 2019 period it is planned to implement a number of projects in East-Kazakhstani, Kostanay and Almaty oblasts designed to organize large-scale manufacture with designed capacity reaching 190 thousand automobiles by 2019 and manufacture of components to reach local content equal to 50 %.

Electrical equipment

According to the International Energy Agency growth in demand for electrical machinery and equipment is expected, it is conditioned upon expanding consumption of electric power in the world, where more than 80 % increase up to year 2030 will be provided by developing economies. In the period up to 2030 cumulative global investments for sector development will be 13,7 trln. USD.

Domestic market of sector products is equal to 3,5 bln. USD, where 2,9 bln. USD is

accounted for import. According to priority commodity groups import capacity of domestic market and macroregion market is approx. 1 bln. USD and 38 bln. USD accordingly.

2008 onwards gross value added saw 2,3 times increase and was equal to 47,4 bln. tenge in 2012. Volume of employment in sector also has positive dynamics: 2008 onwards increase in volume of employment was 1,5 thousand people, in 2012 total volume of employment in electric equipment production was 9,2 thousand people.

Labor productivity in sector, at the end of 2012, was 34,6 thousand USD which was almost three times less than the indicators of similar sector in OECD countries.

As from 2009 export grows steadily and in 2012 it was 131,3 mln. USD.

Table 37. Electrical equipment reading for 2008 - 2013

Indicators	2008	2009	2010	2011	2012	2013
Mechanical engineering, mln. tenge	301 386	281 310	376 184	536 876	687 235	853 923
Volume index , in % against previous year	89,7	82,5	133,6	119,0	116,5	114,6
Electrical equipment, mln. tenge	49 040,05	43 949,83	57 742,48	72 869,69	80 603,58	88 113,40
Electrical equipment manufacture, in % against previous year	109,6	102,2	121,1	98,0	106,8	109,3
Share of electrical equipment in processing industry	1,5 %	1,5 %	1,5 %	1,5 %	1,5 %	1,5 %
Share of electrical equipment in mechanical engineering volume	16 %	16 %	15 %	14 %	12 %	10 %
GVA, mln. tenge	20 355,7	19 342,8	44 104,5	43 260,8	47 437,3	40 259,90
Staff strength of salaried employees, persons	9 425	7 402	8 073	8 870	9 207	9 561
Labor productivity in mln. tenge	2,6	2,6	5,4	4,9	5,2	-
Labor productivity in thousand USD	22,0	17,7	36,9	33,2	34,6	-
Labor productivity in OECD countries, thousand	94,3	88,7	96,7	100,8	99,0	-

USD						
Number of operating enterprises	59	52	48	64	65	-
Use of annual average capacity in reporting year, %*	47,9	36,2	59,7	64,8	74,6	-
Level of deterioration of equipment, %	25,6	28,6	37,1	40,5	34,2	-
Capital investments, mln. tenge	3 860,6	2 185,3	7 068,1	5 224,3	5 156,2	7 164,2
Coefficient of renewal of fixed assets, %	24,8	20,0	13,2	12,3	19,4	-
Fixed assets at initial value as on the end of year, mln. tenge	14 939,2	19 429,0	29 981,1	28 315,6	34 391,1	-
Export, mln. USD	123,1	65,0	69,0	117,6	124,8	136,3
Import, mln. USD	2 585,9	2 221,5	2 445,0	2 655,1	2 857,0	2 683,7

Source: Statistics Agency of the Republic of Kazakhstan, TradeMap.

note to the table 37: indicator has been calculated by «KIDI» JSC based on statistical data

Globally electrical equipment manufacture sector is represented by the following companies being part of Global 2000: Fuji Electric (Japan), Vestas Wind Systems (Denmark), WEG (Brazil), Prismian (Italy), LS Corp (South Korea), Furukava Electric (Japan), Dongfang Electric (China), Ametek (USA), Nidec (Japan), LeGrand (France), WW Grainger (USA).

Competitive growth of enterprises manufacturing electrical equipment is affected by a number of key factors: access to export electrical equipment markets, technological and innovative potential, suppliers' ecosystem and developed human resources.

Key problems of sector:

- 1) low labor productivity in electrical equipment sector as compared to OECD countries;
- 2) lack of personnel with relevant qualification;
- 3) lack of own competitive world-class developments and dependency on technology import;
- 4) insufficient development of technical regulation;
- 5) insufficient funding available;
- 6) improvement of competition on the part of manufacturers from China, Russia and Belarus.

Goal: improvement of competition of sector enterprises, growth in production required at domestic and external markets.

Target indicators:

Implementation of the Program in 2019 will allow achieving growth in economic indicators up to the level of 2012 (Table 38):

- 1) gross value added not less than 2,1 times in real terms;
- 2) employment by 2 thousand people;
- 3) labor productivity 1,7 times more in real terms;
- 4) value volume of non-primary (processed) export not less than 1,9 times more.

Table 38. Target indicators

No.	Target indicators	Unit	2012 report	2013 r. MRF	Forecast vs. 2012						2019 vs. 2012, in %
					2014	2015	2016	2017	2018	2019	
1	Gross value added	%	100	96,1	119,1	136,1	163,6	196,3	201,6	200,7	2,1 times
2	Volume of employment	thous. people	9,2	9,6	9,9	10,1	11,2	11,7	11,5	11,2	by 2 thous. people
3	Labor productivity as per GVA	%	100	92,5	111,2	124,1	134,0	153,8	161,3	164,7	1,7 times
4	Value volume of non-primary (processed) export	%	100	109,2	119,3	130,4	142,4	155,6	170,0	185,7	1,9 times

Tasks:

- 1) increase in labor productivity;
- 2) expansion of markets for non-primary goods sale;
- 3) modernization of capacities of existing enterprises;
- 4) improvement of technical regulation system aimed to improve safety and product quality at domestic market and overcome technical barriers at target export markets;
- 5) enhancement of financial resources available;
- 6) creation of conditions for establishment of new productions;

- 7) support of technology transfer and R&D;
- 8) provision of sector with highly-qualified personnel.

Priority activities

As the part of the Program priority activities have been defined (Table 39).

Table 39. Priority activities

CCEA	Name of activity
2521	Manufacture of heaters and central heating boilers
2529	Manufacture of other metal cisterns, tanks and containers
2530	Manufacture of steam boilers except for central heating boilers
2711	Manufacture of electric motors, generators and transformers
2712	Manufacture of electric distribution and regulating equipment
2720	Manufacture of batteries and accumulators
2731	Manufacture of fiber optic cable
2732	Manufacture of other types of electric wire and cable
2733	Manufacture of electrical appliances
2740	Manufacture of electric light equipment
2790	Manufacture of other electrical equipment
2811	Manufacture of engines and turbines except for airplane, automobile and motorcycle motors
2825	Manufacture of industrial cooling and ventilation equipment

Priority commodity groups

Priority strands for sector development include manufacture of machinery and equipment that have high domestic and export potential, accessories and components (Table 40), and base production (casting, forging, metal working, etc). The priority of sector development is also management of service and technical maintenance of machinery and equipment.

Table 40. Priority commodity groups

Classification of products by activity-6	Name of commodity group	Import capacity of domestic	Import capacity of macroregion markets,
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		market, thousand USD	thousand USD
271150	Static converters	102 868	7 893 433
271231	benchboards, panels, consoles, boards, distribution boards and baseboards for electrical equipment for voltage not more than 1000 V	165 345	5 840 562
273313	Other electrical devices for commutation or electrical circuit protection or for connecting to electrical circuits or in electrical circuits for voltage not more than 1000 V	34 283	8 611 164
273213	Other electrical conductors for voltage not more than 80 V	186 969	2 975 706
282514	Other equipment for filtering and purifying gas	84 793	1 752 718
282512	window or wall-mounted air conditioners, in one assembly or «split system»	8 1849	1 099 735
281142	Other spare parts used exclusively or mainly for motors of commodity item 8407 or 8408	51 405	1 463 087
273311	Other switches for voltage not more than 1000 V	15 973	2 026 312
282513	Other cooling and freezing equipment, heat pumps	23 566	1 161 948
271141	Liquid-filled transformers with the capacity of more than 10000 kVA	112 547	892 735
273313	Other lamp sockets, plugs and sockets for voltage of not more than 1000 V	12 405	2 018 679
271132	Power generator package with RIC spark-ignited engines	23 163	515 226
271125	Other polyphase alternating current motors with capacity of more than 75 kW	61 981	927 476
271124	Other polyphase alternating current motors with capacity of more than 750 W, but not more than 75 kW	28 900	833 747
271131	compression-ignition automotive power generation packages	12 556	164 159

271141	Liquid-filled transformers more than 650 kVA but not more than 10000 kVA	10 515	175 233
271142	Other transformers with capacity of more than 1 kVA	21 126	889 823
271143	Other transformers with capacity of more than 16 kVA but not more than 500 kVA	22 610	107 202
282960	Other industrial or laboratory machinery, aggregates and equipment with electric or non-electric heating for treating materials using processes changing temperature	36 099	2 236 126
271210	Automatic switches for voltage of not less than 72,5 kv	16 539	186 467
271210	Other automatic switches	17 698	146 683
271210	Disconnecting switches and circuit breakers for voltage of not more than 1000 V	21 527	129 494
271222	Automatic switches for voltage of not more than 1000 V	21 194	522 980
271223	Other devices used for electric circuit protection for voltage of not more than 1000 V	10 802	1 259 729
271224	Other relays	11 335	407 805
271232	benchboards, panels, consoles, boards, distribution boards and baseboards for electrical equipment for voltage not more than 1000 V	61 801	1 180 772

Priority projects

Within five years period it is expected to implement a number of projects concerning manufacture of transformers in Akmola, East-Kazakhstani, West-Kazakhstani and South-Kazakhstani oblasts, cable products, control and measuring equipment, control elements and other products in Astana, Almaty and Akmola, Almaty, Karaganda and North-Kazakhstani and other oblasts.

Manufacture of agricultural equipment

In the Address to the people of Kazakhstan 2010 «New decade - new economic upturn – new opportunities of Kazakhstan» the President set two tasks: creation of agro-industrial

diversification by increasing the processing of agricultural raw material and implementing new equipments, new technologies and approaches into agriculture using international practices.

Demand for engineering products of agricultural machinery existing in Kazakhstan is primarily satisfied by import (80 %). Import capacity of macroregion countries is 6 bln. USD. There is high latent demand for agricultural equipment in Kazakhstan which is characterized by significant level of depreciation of agricultural equipment (up to 80 %). Implementation of new technologies in agroindustrial complex will result in development of new types of agricultural implements production. State support of demand for agricultural equipment and soft financing of customers is in place.

Over the 2008 to 2012 period sector GVA volume in absolute terms has increased from 5,3 to 16,8 bln. tenge (nominal increase is 3,1 times more).

Over the 2008 to 2012 period labor productivity in the sector saw 4,6 times increase from 16,3 to 60,8 thousand USD/person due to reduction in volume of employment in the sector by 32 % from 2 709 to 1 850 persons. Export of products saw 1,3 times increase as compared to 2008 and was equal to 14,3 mln. USD (2,1 bln. tenge) (Table 41).

Table 41. Sector reading for 2008-2013

Indicators		2008	2009	2010	2011	2012	2013
Mechanical engineering, mln. tenge		301	281	376	536	687	853
		386	310	184	876	235	923
Volume index , % against previous year		89,7	82,5	133,6	119,0	116,5	114,6
Agricultural equipment, mln. tenge		10 357	8 320	8 317	12 243	21	19
						536	509
Manufacture of agricultural and forestry equipment, in % against previous year		179,5	166,7	96,2	181,2	134,2	85,7
Share of agricultural equipment in processing industry, %		0,3	0,3	0,2	0,3	0,4	0,3
Share of agricultural equipment in mechanical engineering, %		3,4	3,0	2,2	2,3	3,1	2,3
GVA, mln. tenge		5	5	9	11	16	10
		326,0	014,1	216,2	255,7	768,3	303,8
Staff strength of salaried employees, persons		2 709	1 709	1 546	1 938	1 850	1 902
Labor productivity*	thous. tenge/person*	1	2	5	5	9	-
	thousand USD /person	966,0	933,9	961,3	807,9	063,9	
		16,3	19,9	40,5	39,6	60,8	-

Productivity in OECD countries, USD	77,3	69,8	75,0	80,7	79,3	-
Number of operating enterprises	n.a	n.a.	28	32	30	-
Level of capacity utilization, %						
Tractors for agriculture and forestry, pcs.	17,4	14,0	29,8	43,3	46,6	-
Ploughs, pcs.	0,5	1,0				-
Spare parts for harvesting and threshing equipment not included into other groups, thous. tenge	-	6,8	12,7	2,2	-	-
Spare parts for tilling machines, thous. tenge	-	67,3	66,4	35,0	46,4	-
Spare parts for other agricultural machines, thous. tenge	38,2	3,6	4,5	18,1		.-
Degree of equipment depreciation, %	16,8	19,1	20,3	25,9	28,3	-
Capital investments, mln. tenge	518	547	264	1 846	1 935	2 348
Coefficient of renewal of fixed assets, %	20,7	4,5	19,5	9,6	11,4	-
Fixed assets at initial value as of the end of year, mln. tenge	13 667,5	11 823,5	14 873,0	15 784,9	16 900,0	
Export, mln. USD	10,7	4,7	5,6	6,6	14,3	13,8
Import, mln. USD	812,9	482,1	308,4	302,1	523,0	514,7

Source: Statistics Agency of the Republic of Kazakhstan, TradeMap
note to the table 41: * Labor productivity has been calculated as a quotient of sector GVA by the volume of employment in sector

Significant level of agricultural equipment manufacture development is seen in northern regions of the country (Kostanay, North-Kazakhstani, Akmola and Pavlodar oblasts).

Volume of world agricultural equipment market in 2012 was 72 bln. USD where a share of tractors market was 36 %, combine harvesters - 21 %, attachments - 22 %, spare parts and other equipment - 21 %. Leaders of the world market are John Deere , CHN, Agco. Except for these companies significant rollers of world market are KUBOTA and YANMAR (Japan), CLAAS (Germany), Same Deutz Fahre (Italy) and Kverneland (Norway).

Competitiveness of agricultural equipment manufacture is affected by a number of key factors such as technological and innovative potential, availability of financial resources, human resources.

Key problems of sector:

- 1) low purchasing power of the agricultural sector;

2) no component parts including special grade of steel required for manufacture of working elements and supporting frames for agricultural machines;

3) insufficient development of instrument of subsidy of agriculture producers enabling them purchasing domestic agricultural equipment;

4) underdevelopment of financing instruments for sale of domestic agricultural equipment (Kazakhstani manufacturers of agricultural equipment are not capable of making loans and own leasing packages to the customers as compared to large foreign competitors);

5) low financial resources available;

6) technological backwardness;

7) lack of regular labor force and engineering skills with relevant qualification;

8) lack of development of technical regulation system.

Goal: differentiation of product and expansion of competitive product being in the demand at domestic and external markets; building in global value chains.

Target indicators:

Implementation of the Program in 2019 will allow achieving an increase in economic indicators up to the level of 2012 (Table 42):

1) gross value added of agricultural equipment manufacture not less than 1,4 times;

2) maintenance of volume of employment;

3) labor productivity in agricultural equipment manufacture 1,3 times;

4) value volume of agricultural equipment export 1,4 times.

Table 42. Target indicators

No.	Target indicators	Unit	2012 report	2013 r. MRF	Forecast						2019 vs. 2012, times
					2014	2015	2016	2017	2018	2019	
1	Gross value added	%	100	98,2	125,9	142,4	142,9	143,4	143,5	143,7	1,4 times
2	Volume of employment	thous. people	1,9	1,9	2,0	2,2	2,1	2,1	2,1	2,1	Maintenance of employment volume
3	Labor productivity as per GVA	%	100	121,6	119,7	128,0	129,3	130,6	130,7	130,8	1,3 times
4	Value	%	100	113,	116,	116,	117,	117,	117,	138,	1,4

volume of non-primary (processed) export			7	1	9	8	8	8	4	times
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Tasks:

- 1) promotion of domestic demand;
- 2) improvement of instruments of subsidy for agriculture producers when procuring agricultural equipment;
- 3) raising of own agricultural equipment manufacture volumes to 30 % in total delivery volumes;
- 4) improvement of instruments for export crediting;
- 5) promotion of development of high-performance competitive productions;
- 6) recruitment of foreign investors for joint manufacture of agricultural equipment with gradual location in Kazakhstan;
- 7) modernization of capacities of existing enterprises;
- 8) productivity improvement;
- 9) improvement of technical regulation system aimed to improve safety and product quality at domestic market and overcome technical barriers at target export markets;
- 10) provision of sector with highly-qualified personnel.

Priority activities

Priority activity of agricultural engineering industry is manufacture of agricultural and forestry machinery (CCEA 2830).

Priority commodity groups

Priority strand for development of commodity groups is manufacture of machinery and equipment for which promotion of domestic demand has been foreseen as a part of program Agrobusiness-2020 (Table 43).

The next priority of development is manufacture of component parts and aggregates for assembling: bearings, wheel centers, cultivator lamps, shares, conveyer belts, seeding machine distributing mechanisms, segments of cutting attachments of cutters and harvesters, gearboxes and hydraulics, and base production organization (casting, forging, metal working, etc).

Establishment of agricultural machinery and equipment service and technical maintenance is also a priority to develop the sector.

Table 43. Priority commodity groups according to codes of Classification of products by activity⁴

Classification of products by activity	Name of commodity group	Import capacity of domestic market, thousand USD	Import capacity of macroregion markets, thousand USD
283010	Remotely operated tractors for agriculture and forestry	5 452	28 344
283020	Other tractors for agriculture and forestry	105 491	1 187 827
283031	Ploughs	3 716	76 125
283032	Harrows, rippers, cultivators, weeding tools and hoes	15 671	319 471
283033	Seeding machines, planting machines	51 927	389 490
283034	Dung-spreaders and tools for distributing mineral fertilizers	3 010	29 349
283039	Other tilling machines	1 600	31 420
283040	Mowing machines, cutting machines for lawns, parks or sport grounds	3 673	71 889
283051	Mowing machines including mowers mounted in tractor not included in other groups	7 659	127 314
283052	Haymaking machine	973	29 332
283053	Pressure machines for chuff or hay including baling machines	12 461	109 120
283054	Machines for harvesting root crops and tuber crops	4 478	138 451
283059	Harvesting and threshing machines not included into other groups	157 158	983 289
283060	Mechanisms for distributing or spraying liquids or powders used in agriculture or horticulture	25 086	257 403
283070	Self-loading or self-unloading trailers and semitrailers used in agriculture	11 429	43 030
283081	Machines for cleaning, sorting or culling eggs, fruits or other products except for	2 694	78 262

	seeds, grain or dry legume crops		
283082	Milking machines	3 119	107 369
283083	Machines for making animal feedstuff	7 895	133 410
283084	Hatchers and brooders for poultry breeding	3 709	63 802
283085	Machines for poultry breeding	17 103	405 598
283086	Machines for forestry and agriculture (horticulture, poultry breeding, bee-keeping, silk-worm breeding), others	4 001	582 977
283091	Parts of harvesting and threshing machines not included into other groups	14 914	472 098
283092	Parts of tilling machines	44 573	283 649
283093	Parts of other agricultural machines	1 240	45 213

4 Trademap export and import statistical base

283094	Parts of milking units and equipment for dairy industry not included into other groups	192	33 639
	Total	509 224	6 027 871

Priority projects

Projects concerning manufacture of high-performance tractors, combine machines, attachments are expected to be implemented in Akmola, Almaty, Kostanay, North-Kazakhstani, South-Kazakhstan and other oblasts and in Astana and Almaty, service centers are expected to be established.

Railway equipment manufacture

Kazakhstan is within ten countries possessing large wagon and locomotive fleet and has significant prospects for developing railway equipment manufacture competitiveness. A distinctive feature of this sector is potential export of railway equipment primarily to territory of Customs Union and CIS countries. Import capacity of macroregion countries in sector is equal to 12,5 bln. USD.

Rolling stock in Kazakhstan accounts for 1,9 thous. units of locomotives, more than 2 thousand units of passenger cars and more than 127 thous. goods wagons.

Total fleet of locomotives in Kazakhstan in 2012 accounted for 1 866 locomotives including

552 electric locos, 1 314 diesel locos and special system locomotives.

Total fleet of passenger cars in 2012 was equal to 2 302 units, motor cars - 355 units, baggage wagons - 55 units.

In 2012 total fleet of goods wagons of the Republic of Kazakhstan was equal to 127 695 units where 66 503 units (52 %) were self-contained and 61 192 units (48 %) were private.

Over the 2008 to 2012 period the GVA volume of the sector in absolute terms increased from 2,5 to 31,9 bln. tenge. According to «Kazakhstan Temir Zholy» JSC (hereafter - KTZ) GVA of the sector in 2012 was equal to 64 bln. tenge with foundry and metal working production included.

Labor productivity in the sector in 2012 reached 70,3 thousand USD. Volume of employment in the sector saw 23 times increase from 159 to 3 654 employed people.

In 2012 export of railway products saw 2 times increase as compared to 2008 and was equal to 68,4 mln. USD (10,4 bln. tenge).

Table 44. Sector reading for 2008-2013

Indicators		2008	2009	2010	2011	2012	2013
Mechanical engineering, mln. tenge		301	281	376	536	687	853
		386	310	184	876	235	923
Volume index , in % against previous year		89,7	82,5	133,6	119,0	116,5	114,6
Railway equipment, mln. tenge		5 193	7 543	22 394	60 823	95	138
						422	326
Manufacture of railway locos and rolling stock, in % against previous year		176,2	119,6	797,9	146,8	142,3	111,5
Share of railway equipment manufacture in processing industry, %		0,2	0,3	0,6	1,3	1,8	2,4
Share of railway equipment manufacture in mechanical engineering, %		1,7	2,7	6,0	11,3	13,9	16,2
GVA, mln. tenge		2	3	8	20	31	17
		454,7	077,2	785,9	427,0	899,6	112,7
Staff strength of salaried employees, persons		159	145	623	2 158	3 043	3 654
Labor productivity	thous.	15	21	14	9 465,7	10	-
	tenge/persons	438,4	222,1	102,6		482,9	
	thousand	128,3	143,9	95,7	64,6	70,3	-

	USD/persons						
Average productivity in OECD countries, USD	92,8	89,6	90,5	100,6	96,8		
Number of operating enterprises	-	-	9	11	17	-	
Level of capacity utilization, %							
Degree of equipment depreciation, %	20,4	31,4	3,1	13,0	19,2	-	
Capital investments, mln. tenge	4 382	132	2 984	8 589	9 008	4 384	
Coefficient of renewal of fixed assets, %	3,2	5,5	67,5	27,2	29,2	-	
Fixed assets at initial value as of the end of year, mln. tenge	346,0	201,7	15 939,3	27 752,8	37 986,4	-	
Export, mln. USD	38,7	6,6	73,8	48,4	76,3	69,3	
Import, mln. USD	812,8	525,3	855,7	1 448,0	2 355,4	1 193,7	

Source: Statistics Agency of the Republic of Kazakhstan, TradeMap

The highest rollers at world railway manufacture market are Bombardier (Canada), Alstom (France), Siemens (Germany), General Electric (USA), General Motors (USA). Production of these 5 companies accounts for 60 % of world market share.

Competitiveness of railway equipment manufacture is affected by a number of factors such as access to export markets, technological and innovative potential, suppliers' ecosystem, availability and quality of human resources.

Key problems of sector:

- 1) underdeveloped technical regulation system (no body confirming compliance of railway products within the Customs Union);
- 2) technical barriers at target export markets;
- 3) no testing centers and/or laboratories for carrying out certification tests within the Customs Union;
- 4) need to harmonize standards of railway manufacture considering international requirements;
- 5) underdevelopment of key component suppliers;
- 6) low financial resources available;
- 7) insufficient coordination of machine builders design-engineering bureau in order to ensure common technological policy;
- 8) no own competitive developments at world market and dependency on technology import;
- 9) lack of labor and engineering skills with relevant qualification.

Goal: development of new markets for railway equipment sale and improvement of components and accessories production level.

Target indicators:

Implementation of the Program in 2019 will allow achieving economical indicators to the level of 2012 (Table 45):

- 1) gross value added not less than 2,8 times more in real terms;
- 2) employment by 1,5 thous. people;
- 3) labor productivity 1,9 times more in real terms;
- 4) value volume of non-primary (processed) export not less than 3,5 times more.

Table 45. Target indicators

No.	Target indicators	Unit	2012 report	2013 MRF	Forecast vs. 2012						2019 vs. 2012, in %
					2014	2015	2016	2017	2018	2019	
1	Gross value added	%	100	140,1	169,6	214,1	254,4	281,8	283,7	284,0	2,8 times
2	Volume of employment	thous. people	3,0	3,7	3,7	4,0	4,4	4,6	4,5	4,5	by 1,5 thous. people
3	Labor productivity as per GVA	%	100	116,7	137,6	161,5	176,6	187,3	189,8	189,8	1,9 times
4	Value volume of non-primary (processed) export	%	100	90,8	116,5	138,2	171,1	233,2	295,3	348,9	3,5 times

Tasks:

- 1) improvement of technical regulation system aimed to improve safety and product quality at domestic market and overcome technical barriers at target export markets;
- 2) establishment of a body confirming compliance of railway product within the Customs

Union;

- 3) establishment of testing centers and/or laboratories for carrying out certification tests within the Customs Union;
- 4) harmonization of railway manufacture standards considering international requirements;
- 5) expansion of markets for non-primary goods sale;
- 6) creation of new productions with particular types of high-technology items for rolling stock;
- 7) development of key components and accessories suppliers;
- 8) enhancement of financial resources available;
- 9) support of technology transfer and R&D;
- 10) further coordination of machine builders design-engineering bureau in order to ensure a common technological policy for railway items production;
- 11) provision of highly-qualified personnel.

Priority activities

Priority activity of the sector is manufacture of railway locomotives and rolling stock as well as accessories for railway techniques (CCEA 3020).

Priority commodity groups

Priority commodity groups and strands of sector development are manufacture of rolling stock for railway needs: locomotives, passenger cars and goods wagons, cisterns, platform trucks and other means of conveyance (Table 46).

The next priority for the sector development will be manufacture of accessories and spare parts for rolling stock, track and other equipment for railway needs and organization of base production (casting, forging, metal working, etc).

Service and auxiliary production are priorities.

Table 46. Priority commodity groups according to codes of Classification of products by activity - 6⁵

Classification of products by activity	Name of commodity group	Import capacity of domestic market, thousand USD	Import capacity of macroregion markets, thousand USD
302011	External source of electric power-operated railway locomotives	10 892	89 973
302012	Diesel locomotives	77 188	435 589

5 TradeMap export and import statistical base.

302013	Other railway locomotives and tenders of locomotives	7 788	71 350
302020	Self-propelled railcars and tramcars, motorcars and track motorcars (except for transport means used for repair and maintenance)	6 575	512 690
302031	Transport means used for repair and maintenance of railway and tram lines	52 486	207 219
302032	Non-self-propelled passenger, baggage and special railcars and tramcars	54 209	170 301
302033	Non-self-propelled goods wagons	1 642 182	2 292 237
302040	Parts of railway locomotives, tram motor cars and rolling stock including fixing hardware and reinforcement metal; traffic control mechanical equipment	497 266	3 055 117
	Total	2 348 586	6 834 476

Priority projects

Projects concerning manufacture of diesel engines, rolling stock and accessories are expected to be implemented in Astana city, Almaty, Karagandy, North-Kazakhstani, Pavlodar oblasts.

Manufacture of machinery and equipment for mining industry

In 2012 volume of domestic market was equal to 1,3 bln. USA and demonstrated continuous growth from 2009. According to reserves and level of main types of solid commercial minerals mined Kazakhstan is within first ten countries that have developed raw-material base. Need of Kazakhstani mining companies for maintenance of imported equipment, manufacture of accessories and spare parts by existing enterprises grows due to a plan to modernize existing enterprises of metallurgy and mining complex (hereafter - MMC) and put new deposits into operation. Import capacity of macroregion countries is equal to 7 bln. USA.

From 2008 to 2012 gross value added saw 2,6 times increase.

Labor productivity in the sector is comparable to average indicators of OECD countries and is equal to 2,5 mln. tenge for each employed person.

Volume of employment in the sector is approx. 6,8 thousand people.

Table 47. Sector reading for 2008-2013

Indicator	2008	2009	2010	2011	2012	2013
Mechanical engineering, mln. tenge	301 386	281 310	376 184	536 876	687 235	853 923
Volume index , in % against previous year	89,7	82,5	133,6	119,0	116,5	114,6
Machinery and equipment for mining industry, mln. tenge**	12 981	9 382	14 067	15 224	22 578	23 368
Manufacture of other types of special equipment, in % against previous year	78,4	124,9	170,4	119,5	79,3	105,4
Share of machinery and equipment manufacture for mining industry in processing industry,	0,4	0,3	0,4	0,3	0,4	0,4
Share of machinery and equipment manufacture for mining industry in mechanical engineering, %	4,3	3,3	3,7	2,8	3,3	2,7
GVA, bln. tenge***	6 674,4	5 647,9	15 587,6	13 995,4	17 579,5	16 363,2
Staff strength of salaried employees, persons	9 693	8 316	8 328	8 820	9 817	9 854
Labor productivity*, thous. tenge/persons/ USD	1 074	1 147	3 034	2 512	2 584	-
	8 892	7 734	20 586	16 967	17 191	-
Average labor productivity in OECD countries*, USD	97 190	80 815	95 249	102 925	101 618	-
Number of operating enterprises	43	82	28	28	28	-
Level of capacity utilization, %**	51,6	12,0	52,0	0,9	-	-
Degree of fixed assets depreciation, %	32,9	33,3	30,5	33,9	38,0	-
Capital investments, mln. tenge	3 317	2 537	1 756	1 622	4 965	3 984
Coefficient of renewal of fixed assets, %	18,8	10,7	18,5	5,2	9,5	-

Fixed assets at initial value as of the end of year, mln. tenge	16 997	19 974	26 118	28 657	29 273	-
Export, mln. USD	63,9	38,2	41,2	45,1	46,7	49,9
Import, mln. USD	1 676	1 086	1 184	1 145	1 350	1468

Source: Statistics Agency of the Republic of Kazakhstan.

note to the table 47:

* Labor productivity has been calculated as a quotient of sector GVA by the volume of employment in the sector.

**indicator has been calculated by «KIDI» JSC based on statistical data

Highest rollers at the world market manufacturing machinery and equipment for mining industry are⁶ Caterpillar (USA, 65,9 bln. USD), Thyssen Krupp (Germany, 52 bln. USD), Hyundai heavy industries (South Korea, 48,8 bln. USD), Komatsu (Japan, 23,9 bln. USD), Kubota (Japan, 12,2 bln. USD), Sani heavy industries (China, 8,1 bln. USD).

Competitiveness of sector is affected by a number of key factors like financial resources available, technological and innovative potential, particular companies efficiency, availability and quality of human resources.

Key problems of sector:

- 1) technological backwardness of production;
- 2) increased share of spare parts manufactured in single-item and short-scale production;
- 3) high resource intensity of production;
- 4) lack of personnel with relevant qualification;
- 5) depreciation of fixed assets;
- 6) lack of financial resources available;
- 7) underdevelopment of technical regulation;
- 8) low competitiveness of output products as compared to world analysis: price compared to China and Russian Federation, quality and productivity to European and American analogs.

Goal: growth in production of competitive product and diversification of product range.

Target indicators:

Implementation of the Program in 2019 will allow achieving increased economic indicators up to the level of 2012 (Table 48):

- 1) gross value added 1,2 times increase by 2019 as compared to 2012;
- 2) maintenance of volume of employment in sector;
- 3) labor productivity 1,3 times by 2019 as compared to 2012;
- 4) value volume of non-primary export 2 times by 2019 as compared to 2012.

⁶ 2013 Sales volume data

Table 48. Target indicators

No.	Target indicators	Unit	2012 report	Forecast vs. 2012							2019 vs. 2012, times
				2013 MRF	2014	2015	2016	2017	2018	2019	
1	Gross value added	%	100	100,2	102,2	110,2	113,8	137,5	121,2	121,4	1,2 times
2	Volume of employment	thous. people	6,8	6,8	6,9	6,7	6,6	6,5	6,4	6,2	-
3	Labor productivity	%	100	99,7	101,4	111,4	117,2	123,1	129,0	129,0	1,3 times
4	Value volume of non-primary export	%	100	100,0	100,0	134,9	155,9	176,8	197,8	204,8	2 times

Tasks:

- 1) establishment of new high-technology productions;
- 2) modernization of existing enterprises and reduction of resource intensity;
- 3) promotion of diversification and output of products in demand at markets;
- 4) expansion of markets for non-primary goods sale;
- 5) improvement of technical regulation system aimed to improve safety and product quality at domestic market and overcome technical barriers at target export markets;
- 6) support of technology transfer and R&D, offset policy;
- 7) enhancement of financial resources available;
- 8) provision of sector with highly-qualified personnel.

Priority activities

Priority types of activity are manufacture of machinery and equipment for metallurgy, equipment for mining industry, underground operations and construction, other special-purpose machines and equipment not included into other groups (CCEA 2891, 2892, 2899⁷).

Priority commodity groups

Priority commodity groups and priority strands for sector development are manufacture of machines and equipment for metallurgy and mining complex of the country – underground mining machinery and equipment, pit equipment, beneficiation and metallurgic machinery and equipment (Table 49).

The next priority for the sector development will be manufacture of accessories and spare parts and organization of base production (casting, forging, metal working, etc).

Service and auxiliary production are also priority.

Table 49. Priority commodity groups

Classification of products by activity-6	Name of commodity group	Import capacity of domestic market, thousand USD	Import capacity of macroregion markets, thousand USD
289226	Full-revolving machines	179 087	3 712 074
289225	Front-end loader	133 952	1 412 735
289939	Other machines and power attachments with separated functions	92 963	8 210 356

289212	Self-propelled drilling or heading machines	75 372	885 589
289261	Parts for drilling or heading machines	97 460	1 261 713
289262	Parts of equipment for sizing, flushing, grinding, milling, blending of mixing of soil, stone, ore and other solid mineral minerals	41 615	509 174
289229	Dumptrucks for operating in lack of road	85 840	1 499 635
289240	Crushing and grinding machines	73 529	1 061 163
289221	Straight dozers and angle dozers, tracked dozers	51 070	939 533
289227	Other shovels, excavators and single-bucket loaders	41 113	496 663
289230	Equipment for welfare activities, construction and other	24 164	585 201

	similar works		
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7 except for 28991 and 28992

Priority projects

Within five-year period it is expected to implement projects focused on manufacture of pit and special transport, underground mining machines and equipment in Almaty city, Karaganda, East-Kazakhstani oblasts.

Manufacture of machinery and equipment for oil refining and oil producing industry

In 2013 production of oil in the Republic of Kazakhstan was 81,7 mln. tons which was 103,2 % vs. 2012. Key increase in oil production was provided by companies «Tengizchevroil» LLP, «ZhaikMunai» LLP, «Petro Kazakhstan Ventures Inc» LLP, «SP «KuatAmlonmunai» LLP, «Mangistaumunaigas» JSC, «Karazhanbasmunai» JSC, «Emir Oil» LLP, «KMK Munai» JSC, «Kazpetrolgroup» LLP. Eventually it is planned to extend oilfields Tengiz, Karachaganak and open new fields.

Favorable long-term forecast for oil production in Kazakhstan correlates with global trend. According to the forecast consumption of oil as the main energy resource in transport sector will not be lower than 90 % of total consumption share till 2025.

Total volume of oil and gas equipment market of the Republic of Kazakhstan in 2012 was equal to 2 bln. USD. Domestic production was 7,1 % of total market volume. Import capacity of macroregion countries sector product is more than 15 bln. USD.

Gross value added in the sector, as compared to 2008, saw 4,2 times increase and in 2012 it was equal to 16,8 bln. tenge. Volume of employment in the sector is 5,6 thousand people.

At 2012-year end labor productivity in domestic sector manufacturing equipment for oil refining and oil producing industries was equal to 20,1 thousand USD thus having increased from 5,6 thousand USD in 2008, however it is still more than 5 times less than the level of OECD countries.

Level of export has a positive trend, in 2012 it was equal to 111,4 mln. USD which was 11,4 mln. more than in 2008.

It is to be noted that currently oil and gas projects came into operation stage. Therefore the market of machines and equipment for oil refining and oil producing industry dropped significantly.

Table 50. Readings of machines and equipment manufacture for oil refining and oil producing industries for 2008 - 2013

Indicators	2008	2009	2010	2011	2012	2013 *
Mechanical engineering, mln. tenge	301 386	281 310	376 184	536 876	687 235	853 923
Volume index , in % against previous year	89,7	82,5	133,6	119,0	116,5	114,6
Oil and gas mechanical engineering, mln. tenge	7 787,6	11 646,4	15 132,6	21 575,2	21 578,7	27 100,1
Volume index, in % against previous year	102,5	149,6	129,9	142,6	100,02	125,6
Share of sector in processing industry	0,2 %	0,4 %	0,4 %	0,4 %	0,4 %	0,5 %
Share of sector in total volume of mechanical engineering	2,6 %	4,1 %	4,0 %	4,0 %	3,1 %	3,2 %
GVA, mln. tenge*	4 008,9	7 020,5	16 768,2	19 835,6	16 801,8	10 290,3
Staff strength of salaried employees, persons	7 143	6 822	6 686	6 893	6 940	6 787
Number of operating enterprises	23	32	50	52	52	-
Labor productivity в mln. tenge	0,7	1,2	2,9	3,3	3,0	-
Labor productivity в thousand USD	5,6	8,1	19,6	22,6	20,1	-
Labor productivity in OECD countries, thousand USD	111,4	105,2	111,0	114,9	112,6	-
Utilization of average annual capacity in reporting year, %*	23,4	24,9	49,5	50,7	57,1	-
Degree of equipment deterioration, %	36,3	31,8	39,6	39,7	35,4	-
Fixed assets at initial value as of the end of year, mln. tenge	11 288,5	10 903,6	15 461,3	18 814,5	28 084,8	.
Capital investments, mln. tenge	1 635,5	683,9	2 125,8	2 253,2	6 525,2	4 810,3
Coefficient of renewal of fixed assets, %	9,8	8,7	14,1	8,6	26,5	-

Export, mln. USD	99,96	78,4	78,1	113,2	111,4	-
Import, mln. USD	2 666,5	2 525,1	1 638,4	1 815,2	1 992,7	-

Source: Statistics Agency of the Republic of Kazakhstan, TradeMap
note to the table 50: * indicator has been calculated by «KIDI» JSC based on statistical data

World sector of oil and gas machine building is represented by the following companies: Delaunay et Fils (France), Orlandi (Italy), Arc Energi Resources Ltd (Great Britain), Valter Tosto Spa (Italy), Rosetti Marino SpA (Italy), Siemens (Germany), Areva (France), Bel-valves (Great Britain), Man-Turbo (Germany), GE (USA), Nuovo Pignone (Italy), Amarinth (Great Britain), Aturia Pompe (Italy), CAT Pumps (USA), Trigua BV (Netherlands), Cerpelli (Italy), framo (Norway), Peroni Pompe SpA (Italy).

Competitiveness of oil and gas machine building is affected by a number of key factors such as developed infrastructure, access to export markets of oil and gas mechanical engineering products, technological and innovative potential, suppliers' ecosystem and human resources.

Key problems of sector:

- 1) low labor productivity in domestic sector of oil and gas machine building;
- 2) poorly effective system of local content monitoring;
- 3) low financial resources available;
- 4) underdevelopment of engineering and R&D;
- 5) Kazakhstani enterprises price is uncompetitive due to exemption of VAT and import taxes for imported goods of specific foreign oil and gas companies;
- 6) high entry barriers, large oil service companies have vast competences in engineering and R&D;
- 7) underdevelopment of technical regulation;
- 8) no modern technologies, narrow range of products;
- 9) lack of personnel with relevant qualification.

Goal: expansion of competitive production capacity and product differentiation, building into global value chains.

Target indicators:

Implementation of the Program in 2019 will allow achieving economic indicators up to the level of 2012 (Table 51):

- 1) gross value added not less than 1,8 times in real terms;
- 2) employment by 0,4 thousand people;
- 3) labor productivity 1,6 times in real terms;
- 4) value volume of non-primary (processed) export not less than 1,9 times.

Table 51. Target indicators

No.	Target indicators	Unit	2012 report	2013 MRF	Forecast vs. 2012						2019 vs. 2012, in %
					2014	2015	2016	2017	2018	2019	
1	Gross value added	%	100	99,9	127,3	142,0	164,7	170,3	170,5	175,4	1,8 times
2	Volume of employment	thous. people	5,6	5,6	6,0	6,1	6,0	6,0	6,0	6,0	by 0,4 thous. people
3	Labor productivity as per GVA	%	100	100,2	119,0	132,2	153,7	159,4	158,5	164,9	1,6 times
4	Value volume of non-primary (processed) export	%	100	109,2	119,3	130,4	142,4	155,6	170,0	185,7	1,9 times

Tasks:

- 1) improvement of technical regulation system and switch to generally accepted world standards;
- 2) creation of conditions for establishing new productions in cooperation with leading international companies with gradual localization of production;
- 3) increase in labor productivity;
- 4) promotion of development of innovative and scientific absorbing industries;
- 5) modernization of capacities of existing enterprises;
- 6) productions diversification to make product being in demand at markets;
- 7) enhancement of financial resources available;
- 8) support of technology transfer and R&D, offset policy;
- 9) provision of sector with highly-qualified personnel.

Priority activities:

Table 52. Priority activities

CCEA	Name of activity
2812	Manufacture of hydraulic equipment
2813	Manufacture of other pumps, compressors, plugs and valves
2814	Manufacture of other tap and air valves
2829	Manufacture of other machines and equipment of general use not included into other groups
2899 ⁸	Manufacture of other special-purpose machines and equipment not included into other groups

Priority commodity groups

Priority strand for the development of oil and gas machine building is further expansion of production capacity for the products being in demand – oil and gas shutoff valves, tanks, spare parts and accessories (Table 53).

Priority strand for recruiting investors enabling building in global distribution channels are manufacture of machines and equipment in order to satisfy needs of oil and gas managers including localization of particular nodes and components.

The next priorities for the development are support of development of mechanical facilities used for service and auxiliary maintenance of equipment and arrangement of base productions (casting, forging, metal working, etc).

Table 53. Priority commodity groups according to codes of Classification of products by activity - 6

No.	Classification of products by activity-6	Name of commodity group	Import capacity of domestic market, thous. USA	Import capacity of macroregion markets, thous. USD
1	281411, 281412, 281413	Other reinforcement for pipelines, boilers, reservoirs, cisterns, tanks or similar storage tanks	391 294	7 842 082
2	289261	Parts exclusively or primarily for drilling or heading machines of 843041 or 843049 subitem	97 460	1 261 713

3	281325, 281326, 281327, 281328	Other air or vacuum pumps, air or gas compressors	94 322	3 540 061
4	289939	Other machines and attachments with separated functions	92 963	8 210 356
5	282514	Other equipment for filtering or purifying gas	84 793	1 752 718
6	289212	Self-propelled drilling or heading machines	75 372	885 589
7	281331	Parts for pumps	56 179	1 035 494
8	289227	Other self-propelled machines and mechanisms	56 056	271 244
9	289261	Other parts for machines or mechanisms of commodity item 8426, 8429 or 8430	46 629	2 124 174
10	281213, 281215, 281312	Other displacement oscillating pumps	44 932	1 173 141

8 CCEA 28991, 28992

11	281314	Other fluid pumps	44 483	418 679
12	289212	Other drilling and heading machines	40 391	341 439
13	282219	Other parts for machines and mechanisms of commodity item 8428 90300 0	40 424	516 805
14	282982	Other parts for equipment and machinery used for filtering or purifying fluid or gas	34 588	1 366 888
15	281213, 281215, 281313	Other displacement rotor pumps	31 698	1 068 917
16	282214	Other non-wheel-mounted self- propelled hoisting mechanisms	32 623	299 830
17	281420	Parts for cranes, regulators, valves for fittings of pipelines, boilers, reservoirs, cisterns, tanks and similar storage tanks including reduction and	29 716	1 250 245

		thermostatic valves		
18	281332	Parts for air, vacuum pumps, air, gas and ventilation compressors; ventilation or recirculating exhaust hoods, airing cupboards with or without filters	29 345	1 384 651
19	281411	Relief or unloading valves	28 295	566 153
20	281314	Fluid lifting unit	26 822	48 807
21	281211, 281216	Power units and linear hydraulic engines (cylinders)	19 071	898 791
22	281311	Fuel feed, oil pumps or pumps for refrigerating fluid for internal combustion engines	25 189	962 012
23	282913	Equipment for filtering oil or fuel in internal combustion engines	32 826	616 023

Table 54. Goods in demand, production of which in the Republic of Kazakhstan is economically feasible

Materials / equipment/ service	Examples of potential foreign partners	Annual requirement (mln. USD)
Seamless pipes	Liva SpA, Salzgitter Mannesmann GmbH, Daimine SpA, Sumitomo, Tenaris (Italy-Japan), V&M Tubes (Germany-France), Breda Energia SpA	110,9
Header pipes	Russian and Chinese manufacturers	22,6
Drilling case pipes	Tenaris, Sumimoto, VallouresMannesmann	64,9
Pressure vessels/heat exchangers	Delauuany et Fils, Orlandi, Arc Energi Resources Ltd Imstatcon JSC, Walter Tosto Spa, Rosetti Marino SpA,	10,6
Fittings, flanges	Kisko, FAD Flange, Acciao&Derivation, Allied int SpA, Tectubi Raccordi SpA, FAST SRL, P. Van Leeuwen Jr s Buizenhandet BV, Canadoil Europe SRL, Breda Energia SpA,	9,5
Well head equipment: shutoff valves and spare parts	Petrovaive, Breda Energia, Nuovo Pignobe, Petrovaive, B.F.E., Tai Milano SpA, Oms Saleri SpA, Breda Energia	97,8
Electrical equipment,	Areva, Tyco, Siemens Building Technologi,	86,2

control instrumentation	Johnson control, Autrinica F&S AS, Foxboro, Kazakhstan Intergrated Serv. Ltd Kisko UK, Sea Star International LLP, Consolidated Suppli & Servies Inty l LLP, ABB LLP, Gateway Ventures (CA) Ltd LLP, VTD, Transformation SRL, Schneider Electric LLP, Siemens LLP	
Instrumentation and automation	Honeywell, Yokogava, Emerson, Invensis, ABB, Foxboro, Johnson Control, Argosy Technologies	54,7
Pumps, generators, compressors, electric motors, gas turbines	Siemens, Areva, Be1-vales, Man-Turo, GE, Nuovo Pignone, Amarinth, Aturia Pompe, CAT Pumps, Trigua BV, Gerpelli, Framo, Peroni Pompe SpA	74,2
Reservoir recovery raising equipment	Wellguip	

Source: the Ministry of oil and gas of the Republic of Kazakhstan

On September 25, 2013 «Tengizchevroil» LLP, «Karachaganak Petroleum Operating B.V.», «Hope Caspian Operating Company B.V.» and «NC «Kazamunaigas» JSC signed an Aktau cooperation declaration where the main goal is to elaborate mechanism for better coordination and coherence of individual programs for developing local content of managers, investors and state institutions.

Pursuant to an initiative shown by the above-named companies and within the operation of Aktau cooperation declaration based on biggest product consumption principle, a decision was taken to determine responsibility for production development of each company:

TSO	KPO	HCOC	KMG
Tubular goods Heat exchangers Reservoirs	Valves Electrical equipment Fittings Flanges	Rotating equipment (rotors, turbines, pumps, etc)	Service: Drilling Associated borehole services

Priority projects

Within five-year period it is planned to implement projects focused on manufacture of electrical submersible pumps, over-tonnage equipment and oversized tanks, shutoff valves and

other oil and gas equipment in Almaty city, Atyrau, West-Kazakhstani, Mangistau, North-Kazakhstani and South-Kazakhstani oblasts.

Constructional materials production

Production of constructional materials is an important consistently expanding economic sector of Kazakhstan ensuring 8,6 % volumes of processing industry. Priority ranking of the sector is determined on one hand by domestic demand from construction industry, development opportunities and realization of domestic products at macroregion countries markets, on another hand by an availability of own raw material base and potential of Kazakhstani enterprises.

Capacity of domestic constructional materials market has almost 800 bln. tenge. Import of constructional materials (wood, plastics and materials related to other non-metal mineral products) is approx. 2 bln. USD⁹. Priority commodities import capacity of macroregion is approx. 3 bln. USD.

There are 1 453 enterprises operating in the sector with more than 40 thousand people working in it. The most developed sector is cement production, making of ready-mix concrete, concrete products, plastic pipes, heat-insulation materials.

Sector development indicators demonstrate steady upward trend. From 2008 to 2012 production volume in nominal terms saw 1,6 times increase. Labor productivity saw 2,3 times increase. However, as compared with mean value of this indicator in OECD countries labor productivity in Kazakhstan in this sector is lower by 47 %.

Table 55. Sector reading for 2008-2013

Indicators	2008	2009	2010	2011	2012	2013
Share of constructional materials industry in processing industry, mln. tenge	7,9 %	7,6 %	6,8 %	7,3 %	7,7 %	8,6 %
Constructional materials industry, mln. tenge, including:	266 596	224 938	260 955	350 045	421 633	503 132
Production of other non-metal mineral products, mln. tenge	220 377	182 355	201 871	263 985	320 677	397 105
Volume index , in % against previous year	79,9	91,3	111,5	116,5	110,7	111,8
Wood constructional materials, mln. tenge	214	280	659	756	1 192	1 069
Production of wooden and corky wares except for furniture; straw items and platting materials items, in %	97,4	96,7	149,4	124,0	108,5	96,2

against previous year						
Plastic constructional materials, mln. tenge	46 004	42 304	58 424	85 304	99 764	104 957
Rubber and plastic goods, in % against previous year	106,7	92,4	135,6	120,1	103,1	102,5

⁹ Data provided according to CCEA codes included into priority activities (Table 53)

GVA, mln. tenge	125 781,5	110 110,8	172 569,1	216 535,4	257 217,2	211 586,6
Staff strength of salaried employees, persons	40 862	35 050	33 330	36 579	36 656	40 218
Labor productivity in RoK, thous. tenge	3 078,2	3 141,5	5 177,6	5 919,7	7 017,1	7 061,3
Labor productivity in RoK, USD	25 528,3	21 298,5	35 123,7	40 024,8	46 649,8	45 840,7
Average labor productivity in OECD countries, USD	82 865,4	76 792,7	83 650,7	88 003,8	88 005,4	-
Number of operating enterprises including		1 366	1 397	1 489	1 355	1 453
large		55	50	45	47	47
medium		122	123	129	140	141
small		1 189	1 224	1 315	1 186	1 265
Level of capacity utilization, % according to types of production:						
cement production, %	62,0	64,0	61,0	60,4	57,1	-
Production of plastic sheets, tire tubes and profiles, %	41,6	49,4	58,1	48,7	35,9	-
Manufacture of bricks, tile and other constructional products made of burnt clay, %	16,7	12,2	27,7	16,8	18,8	-
Degree of equipment						

depreciation in % according to types of production:						
Cement production, %	38,2	39,4	30,7	19,8	27,5	-
Production of plastic sheets, tire tubes and profiles, %	29,4	28,8	36,9	36,6	32,5	-
Manufacture of bricks, tile and other constructional products made of burnt clay, %	32,4	37,6	40,9	35,0	39,0	-
Production of concrete constructional products, %	35,3	37,1	39,6	44,5	44,1	-
Capital investments, mln. tenge	65 181	62 961	56 349	42 109	60 492	75 567
Coefficient of renewal of fixed assets in %	0,18	0,02	0,10	0,21	0,09	-
Fixed assets at initial value as of the end of year, mln. tenge	153 810,1	869 818,4	274 723,8	307 469,5	332 460,0	-
Export, mln. USD	70	47	70	88	115	118
Import, mln. USD	1 600	1 208	1 511	1 687	1 999	2 036

Source: Statistics Agency of the Republic of Kazakhstan, Euromonitor

Establishment of constructional materials production with high added value considers involvement of international transnational companies. Large companies within the Global 2000 list currently operating in Kazakhstan are German Heidelberg Cement (Bukhtarma cement company, Caspi Cement, Baikaz Beton, Bektas Group), Swiss Sika (additives for concrete, cement mixtures, industrial flooring materials, covering materials for concrete and steel, sealants, etc), Chevron companies (Chevron Munaigas Inc., Atyrau Pipe plant, Aturau pipe fitting plant). Among large global companies not being in the Global 2000 list, Knauf German company producing constructional gypsum materials and French cement company - Vicat Group operate in Kazakhstan.

After starting own polymeric materials production in Kazakhstan, South-Korea company LG Hausys specializing in production and marketing of polymeric and composite finish materials can be of specific interest. From among large Russian companies operating in Kazakhstan there is a company «Polyplastic» represented by Stepnogorsk tubular plant «Arystan».

Key barriers of the sector:

- 1) underdevelopment of modern constructional materials production techniques;
- 2) low share of constructional materials with high value added;
- 3) insufficient funding for the development of construction science and creation of

innovative constructional materials;

4) increased competition at domestic and external markets from foreign constructional materials producers in a view of their technological leadership;

5) low labor productivity as compared to developed countries;

6) relatively high depreciation of fixed assets;

7) high energy intensity of constructional materials production;

8) no accredited test laboratories for certifying constructional materials on their compliance to norms and standards of European Union which is associated with gradual switch of constructional norms and regulations to Eurocodes from 2015 to 2020;

9) increase in cargo transportation tariffs and increase in prices for raw materials and energy resources;

10) lack of personnel with relevant qualification.

Goal: creation of conditions in Kazakhstan for production of constructional materials with high value added with due account for requirements of industrialized methods of construction.

Target indicators:

Implementation of the Program in 2019 will allow achieving increase in economic indicators to the level of 2012 (Table 56):

1) gross value added not less than 1,4 times in real terms;

2) employment by 7,7 thousand people;

3) labor productivity 1,2 times in real terms;

4) value volume of non-primary (processed) export not less than 1,2 times.

Table 56. Target indicators

No.	Target indicators	Unit	2012 report	2013 MR F	Forecast						2019 vs. 2012, times
					2014	2015	2016	2017	2018	2019	
1	Gross value added	%	100	111,6	123,0	134,4	143,2	144,1	144,3	144,4	1,4 times
2	Volume of employment	thous. people	36,7	40,2	45,1	46,3	46,2	45,6	45,0	44,4	by 7,7 thous. people
3	Labor productivity	%	100	101,7	100,1	106,5	113,7	115,9	116,2	116,2	1,2 times

	y as per GVA										
4	Value volume of non-primary (processed) export	%	100	102,8	105,4	107,9	110,5	113,1	115,6	118,0	1,2 times

Tasks:

- 1) improvement of regulatory structure and technical regulation system;
- 2) raise in R&D volumes in constructional sphere;
- 3) creation of conditions for implementing production techniques for innovative, energy efficient, environmentally safe and new for Kazakhstan constructional materials including industrialized methods of construction;
- 4) provision of sector with qualified labor forces.

Priorities of sector development

Priority activities of constructional materials production are production of wooden constructional materials (section 16), production of plastic constructional materials (section 22) and production of other non-metal mineral products (section 23) (Table 57)¹⁰. Production of new and advanced high-technology modern energy efficient materials safe for human health and environment are priority.

Table 57. Priority activities

CCEA-2	CCEA-6	Name of activity
16	1621	Production of scale wood, veneer wood, plates and panels
22	2221	Production of plastic sheets, tubes for tire and profiles
	2223	Production of constructional plastic articles
23	2311	Production of flat glass
	2312	Formation and treatment of flat glass
	2313	Production of hollow glassware
	2314	Production of fiberglass
	2319	Production and treatment of other glassware
	2320	Production of refractory products
	2331	Production of ceramic coating and plates

2332	Production of bricks, tiles and other constructional products made of burnt clay
2342	Production of ceramic hygienic plumbing equipment
2343	Production of ceramic electrical insulators and insulating fittings
2349	Production of other ceramic products
2351	Production of cement including clinkers
2352	Production of lime and gypsum cement
2361	Production of concrete constructional items
2362	Production of gypsum for construction
2363	Production of concrete ready to be used
2364	Production of dry concrete mix
2365	Production of products made of asbestos cement and fiber cement
2369	Production of other concrete items, gypsum cement and cement
2370	Stone sawing, dressing and refinishing
2399	Production of other non-metal mineral products not included into other groups

Priority commodity groups

To resolve the issue concerning production of new types of competitive constructional materials with high added value a number of priority commodities has been determined (Table 58). Use of new and advanced constructional materials with better specifications will improve economic efficiency and quality of construction, ensure saving of energy cost on service.

Table 58. Priority commodities

Classification of products by activity-4	Name of commodity group	Import of RoK		Import capacity of macroregion	
		thous. USD	tons	thous. USD	tons
233110	Ceramic tiles	155 101	293 331	1 285 414	1 592 358
232012	Firebricks	104 200	170 174	533 311	625 410

¹⁰ Sections and activities (CCEA) are given according to common classification of products by activity of the Republic of Kazakhstan 03-2007 with amendment № 1 dated 25.12.2012.

231 112	Flat glass	54 223	132 457	802	885 266
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				858	
239 919	Heat insulation material	37 155	33 780	275 146	245 156
237 011	Marble, travertine	28 523	13 787	168 236	161 376
239 912	Roofing bituminous materials and shingle	32 939	50 863	228 060	318 047
234 210	Sanitary ceramics	15 236	3 271	131 163	56 720
23 13 12	Glassware (drinking glassware)	10 894	9 719	159 852	81 762

note to the table 58: as for imported materials Kazakhstan has far-reaching possibilities to establish own production. In cooperation with «National Management Holding «Baiterek» JSC flat-glass industry plant will be created with capacity of 197 thous. tons/year in Kyzylorda oblast. It is expected to establish several travertine industries with total capacity of 20 thous. tons in South-Kazakhstani oblast. Two dry building mixes plant will be extended in Zhambyl oblast.

Priority commodities include constructional materials with high volume of import to Kazakhstan and macroregion countries: flat glass, travertine, ceramic tiles, refractory products, sanitary ceramics.

To produce sanitary ceramics, glazed tile, ceramic granite there is currently no the important link in the process flow – clay processing industry using the clay from existing deposits. Due to this, capacities of enterprises producing glazed tile and ceramic granite (Shymkent, Taldykorgan) are underutilized and production of sanitary ceramic items can not be started. It is necessary to explore the issue of involving an investor to establish clay processing plant.

In order to produce flat glass there is also a need for establishing quartz enrichment plant.

Priority commodities should also be retromaterials: expanded clay, foamglass, exfoliated vermiculite, pumice stone and production of compounding binding materials.

To establish own flat-glass industry and polymers industry the priority strands for constructional materials production will be production of energy efficient and constructional glass using imported materials, as well as constructional chemistry materials and products - composite materials, plastics, sealer compounds, plasticizing agents, stabilizers, modifying agents, coloring agents, dyestuff, etc.

Priority projects

Over the 2015 to 2019 period state policy concerning development of constructional materials production will be focused on implementation of priority strands with respect to flat-glass industry, establishment and modernization of production of cement, dry building mixes, natural stone and other projects.

Goals, objectives and target indicators in innovative sectors

Innovative activity stimulates development of all sectors and manufacturing industries.

Goal: To reduce the gap of technological effectiveness level and research intensity of priority industrial sectors of Kazakhstan and sectors of OECD countries.

Objectives:

- 1) promote technology transfer and localization of high-technology production in priority sectors;
- 2) stimulate increased demand for innovations;
- 3) increase technological and managerial competencies.

Target indicators:

- 1) increase the share of innovation active enterprises to 20% of the total number of enterprises of Kazakhstan (in accordance with the methodology of the OECD);
- 2) increase the share of innovative products in the overall volume of gross domestic product to 2.5%;
- 3) increase the share of domestic expenditure on research and development of the gross domestic product to 2%.

Innovative sectors

Innovative sectors represent all sectors of the so-called “new economy”, the development of which is largely determined by the results of research and developments, including: the industry of mobile and multimedia technologies, nanotechnology and space technology, robotics, genetic engineering, search and discovery of the energy of the future.

The development of new innovative sectors and creation of knowledge intensive industries cannot be solved without the development of national science.

In this context, significant participation of autonomous organization of education “Nazarbayev University” (hereinafter - “Nazarbayev University” AOE), whose role will be to develop basic, applied and technological research and developments in the field of energy efficiency and energy conservation, renewable energy and environmental protection, promising materials and energy sources, development of translational and personalized medicine to create the foundations of the biomedical industry in the Republic of Kazakhstan.

Particular attention will be paid to the implementation of fundamental and applied scientific research on the following relevant and promising areas: space hardware and technologies, renewable energy technologies and smart grids, solar energy technologies, modelling of power systems development, information and communication technologies, computational studies, robotics, economics of environmental resources management, electrical engineering (items for optoelectronic devices), regenerative medicine and research on the development of new

biopharmaceuticals, development of biosensors for tuberculosis detection, infectious agents and cancer biology, protein expression, patterns and mechanisms of osteo-articular diseases, applied research in the areas of organic chemistry and chemical technology.

Formation of “Nazarbayev University” AEO as a world-class research university through the development of its research base and research-innovation support system is closely linked to the development of world class national scientific staff, successfully combining teaching and scientific-innovation activities, as well as creation of favorable conditions for attracting the best domestic and foreign scientists.

In order to develop an effective system of national scientific personnel preparation joint programs will be developed and implemented with foreign partners concerning preparation of Masters of Science, PhD doctors and organization of scientific internships, joint PhD programs have been organized for research scientists within their research projects (without interruption of research activities in Kazakhstan).

For the development of staff competencies and skills involved in the organization and implementation of research projects and programs (engineering and technical personnel, administrative and service support, maintenance, etc.), it is necessary to conduct regular retraining courses and advanced training in accordance with the basic and prospective areas of AEO “Nazarbayev University” activities development.

Space technology sector

Space technology sector – is a promising sector for development in the Republic of Kazakhstan in terms of a “knowledge economy” formation.

Following the results of the SPIID implementation national communications and broadcasting space system “KazStar” reached design capacity, the second spacecraft “KazStar-3” and reserved ground control complex have been commissioned. Since the delivery of «KazStar» series space craft containers rental services import substitution of these services has been carried out in the amount of more than \$ 3.5 billion tenge. «KazStar» space system production volume dynamics is presented in Table 59.

Table 59. «KazStar» space system production volume dynamics, mln. tenge

Name	2011	2012	2013	2014 *
«KazStar» series space craft containers rental services	12,97	1 156,15	2 004,45	341,44

Source: National Space Agency of the Republic of Kazakhstan

Note: * operational data

Data on GVA in space industry is presented in Table 60

Table 60. GVA of space activities, mln.tenge

Index	2010	2011	2012	2013
GVA, mln.tenge	8 903,0	13 472,6	7 633,9	2 721,8

Source: Statistics Agency of the Republic of Kazakhstan

The main driver of innovations development in the space sector is applied scientific research. Research and development work on the creation of the first prototype samples of domestic space technology, production of differential stations has been organized (hereinafter - DS) for high-precision satellite navigation system (hereinafter - HPSNS) and the first lot of DS has been released in the amount of 50 pieces.

Space science achievements could be much more substantial if long overdue issue would have been resolved concerning updating laboratory and experimental base of Space Research, which requires modernization in view of a significant degree of its moral and physical deterioration. There is a long overdue issue concerning the situation of serious scientific and technological breakthrough of the Republic of Kazakhstan as pertaining to creation of domestic samples of space equipment and technology, hardware and software assets of space products, services end users.

As part of the Interstate program of CIS member states innovative cooperation for the period until 2020, approved by the Board of CIS Heads of Government dated 18 October 2011, it is planned to implement two innovative projects:

- 1) development and certification of multi-purpose aerospace of forecast monitoring system;
- 2) development of international transport corridors management hardware and software complex.

Key issues:

- 1) lack of modern space research experimental base; lack of a full-fledged infrastructure of bringing space products and services to end-users; technological dependence of Kazakhstan space industry on foreign partners.

Goal: To create a full-fledged space industry as a science intensive and high-technology sector of the economy, contributing to acceleration of industrial and innovative development of the republic, strengthening of national security and defense, development of science and high

technologies.

Target indicators:

Implementation of the Program will allow to achieve in 2019 the growth of economic indicators to the level of 2012:

- 1) GVA by 30% in 2019 in real terms to the level of 2012;
- 2) increase the number of highly qualified specialists working in the space industry by 300 people by 2019;
- 3) increase the share of scientific and technical developments in the total amount of space research up to 50% by 2019;
- 4) increase the share of scientists with industrial experience in creating space technology, up to 25% by 2019;
- 5) increase the share of commercialized projects in the total volume of research and technology developments up to 25% by 2019.

Objectives:

- 1) develop and expand the of use group of orbital spacecraft (hereinafter - SC) communication, earth remote sensing (hereinafter - ERS) and scientific and technological purposes;
- 2) develop and expand ground space infrastructure use, which includes spacecraft assembly and test complex, special design and technology bureau of space technology with pilot production, HPSNS, space rocket complex “Baiterek” ground segments of space communication systems and ERS;
- 3) develop scientific and technological base of space industry, modernization and expansion of space research laboratory and experimental base;
- 4) develop space industry workforce capacity, providing training, retraining and advanced training of engineering and technical as well as scientific personnel in the field of space activities in the respective educational institutions and research centers, including in the framework of the international “Bolashak” program;
- 5) improve space industry regulatory framework.

Space industry development priorities

Priority types of activities in the space industry are research and development on the space hardware and technologies national samples creation, provision of production and maintenance of space communication systems, ERS and navigation, bringing products and services of these space systems to end users in different economy sectors of the country.

In the five-year period provision is made for implementation of 10 projects within the Industrialization Map (further - IM), planned for launch in the period of 2015-2019.

5. Basic areas, ways of achieving the set goals of the program and related measures

Measures of state support under the Program shall be provided in accordance with the international obligations of the Republic of Kazakhstan.

1. Investment climate

The program is intended to facilitate ascension of a private investor into the manufacturing industry. Important role of the state will be to create attractive conditions for private investment. It is necessary to work constantly over the improvement of the indicators of generally recognized global indices on the assessment of the investment environment. It is also necessary to improve Doing business conditions, enhance country's competitiveness (Global Competitiveness Index), to attract more foreign direct investments (World Investment Report), to reduce the share of state participation in the economy through the implementation of the planned privatization, taking into account the principle of Yellow pages.

To facilitate industrial development priorities implementation Kazakhstan will actively cooperate with such authoritative organizations as the United Nations Industrial Development Organization (hereinafter - UNIDO), International Bank for Reconstruction and Development (hereinafter - IBRD) and other international institutions. Within country programs international best practices aimed at strengthening the competitiveness of the national economy and, in particular, manufacturing industry will be used.

Table 61. Target indicators of the Global Competitiveness Index ratings (position of Kazakhstan in the rating)

Category	2015	2016	2017	2018	2019
Institutional development	55	52	49	47	45
Infrastructure	62	59	56	54	52
Macroeconomic field	23	23	23	23	23
Healthcare and general education	97	93	89	85	82
Higher and vocational education	54	51	48	42	44
Goods market efficiency	56	54	52	50	48
Labor market efficiency	15	15	15	15	15
Financial market sophistication	103	97	91	85	80
Technological readiness	57	54	51	49	45
Scope of market	54	54	53	53	52
Business sophistication	94	92	90	88	86
Innovations	84	82	79	76	74

Kazakhstan's positions in the Global Competitiveness Index of the World Economic Forum will be continuously improved. Further institutional reforms will provide a strong state protection of private property. Personnel policy should be conducted on the principles of meritocracy. Transparency at all levels of public administration taking into account the principle of inclusiveness minimizes the level of corruption in state system.

The quality of transport, energy and industrial infrastructure will be improved, which is of great importance for the effective functioning of the economy because it is an important factor determining the development of economic activities, as well as promising sectors of the economy.

The macroeconomic environment should remain favorable for long-term investments, as the economy cannot grow in conditions of key macroeconomic indicators instability.

The quality of healthcare requires significant improvement. Healthy nation, and with it a healthy workforce is crucial for the competitiveness and productivity of the country. It is necessary to improve the volume and quality of general primary education of the population, which helps to increase the effectiveness of each individual employee.

It is necessary to improve the quality of higher education and professional training of technical personnel. It has fundamental importance for the development of value chains in the production process.

We need to develop market efficiency and business productivity. Developed competitive market promotes beneficial exchange of goods and services in the economy.

It is important to further develop labor market so that workers will be employed in the production activities in the most effective way. Labor markets must be flexible and should ensure effective link between incentives for employees and their activities.

It is necessary to improve financial system of Kazakhstan. Market-based financial infrastructure has to be formed to attract long-term investments.

In order to introduce new technologies in Kazakhstan it is necessary to increase the willingness of business and the population to the use of innovative technical developments. Access to the Internet and related information resources will be greatly facilitated and expanded in terms of geographical coverage across the country.

It is necessary to increase the share of domestic producers both in foreign and domestic markets. Given the orientation of the Program on production development in the territory of the Republic of Kazakhstan we need to increase the access of goods to foreign markets and, in particular, markets of macro-regions therefore reducing discriminatory barriers.

It is important to raise the level of business development, including the overall quality of the business environment, as well as quality of strategies of particular companies. This component should be developed by encouraging the development of clusters, as well as creating the conditions for improving the quality of the companies' strategies (branding, marketing, embedding in the value added chains, production of unique and sophisticated products).

It is necessary to raise the level of scientific research work to create an enabling environment that public and private sectors support. In particular, this implies sufficient investments in research, particularly from business, high-quality research institutions, cooperation between universities and industry in the research and protection of intellectual property.

All indicators of Kazakhstan in the Doing business index should also be improved. To that effect, we have to reduce the number of procedures on obtaining permits for building, attraction of foreign labor force within implementation of strategic projects, reduce the cost of connection to housing and communal services, in particular, to electricity, and to reduce the costs associated with conducting international trade. It is necessary to simplify conducting international trade in terms of reducing requirements in export-import operations. Another important factor is introduction of information systems that reduce time in the provision and obtaining approvals for export and import. Based on international experience, the introduction of the Single electronic window and electronic declaration of goods greatly simplifies the implementation of export-import operations. It is also necessary to reduce transport costs of foreign economic activity participants. It is important to improve the quality of lending, which has to be carried out by the financial institutions with due regard to more accessible and reliable information about the creditworthiness of borrowers (individuals or entities) in the financial system. It is necessary to improve the effectiveness and usefulness of the bankruptcy institution functioning. Returning coefficient of funds has to be increased due to the process of reorganization, liquidation or debt enforcement.

As a result taken measures must assist in attracting foreign investments, improving business environment, as well as developing competition.

2. System-wide support measures for industrial development

When determining the main directions and ways to achieve these goals the relationship between manufacturing industry development and socio-economic development of the country must be taken into account.

Thus, the achievement of the set goals and objectives of the Program will entirely depend on the implementation of other socio-economic state programs, which together form strategic directions of The Concept of Kazakhstan's entry into the top 30 developed countries. In particular, this relates to the following aspects:

human capital level improvement by achieving the level of developed countries in education, health, social protection and labor market;

improvement of the institutional environment that provides favorable conditions for development of business and entrepreneurial initiatives.

As part of the SPIID implementation sectoral and project measures of state support have been identified. Sectoral support measures were carried out through the implementation of 27 sectoral programs and master plans to them, project support measures - with the help of business support programs: Business Road Map 2020, Performance 2020, Agribusiness 2020, as well as state

support to encourage and promote export of domestic processed goods, services and attract foreign investment.

Given the advantages and disadvantages of the programs and areas of support for enterprises implemented within SPIID instruments, mechanisms and conditions for measures provision within programs and areas of support for entrepreneurs should be revised. Set of provided support measures should not depend on the size of companies, since all enterprises need financial instruments that ensure the availability of financial resources for business development, as well as service instruments aimed at creating investment incentives, stimulating innovation; increasing productivity and resource efficiency; improving the quality of human capital; development of export potential and others.

Support measures are of financial and non-financial nature (service instruments). Financial measures provide availability of financial resources for business development. Non-financial measures are aimed at creating efficient investment incentives for project implementation, and support provision of specialized services to enhance the competitiveness of enterprises in the introduction of modern technologies and stimulation of innovations, increase of productivity and resource efficiency, improvement the quality of human capital, development of export potential and other priority areas.

The main differences will be in the amount of provided measures and level of decision-making concerning provision of certain measures.

The program will maintain continuity with SPIID and must use established support infrastructure and development institutions to the maximum extent possible.

The Program implementation will be carried out through direct and system-wide measures of state support.

The object of the system-wide support measures is manufacturing industry, including 14 priority sectors.

The object of direct support measures for the regions will be the Boards of national clusters and regional cluster associations.

The object of direct support measures for enterprises will be enterprises implementing promising investment projects with a large coverage of value chains in output of products.

Results of the SPIID implementation showed that now many companies of manufacturing industry have been loaned up, second-tier banks have no “long money” to finance long-term and medium-term investment projects, including those ones that entered the program. In this regard, there is an urgent need to increase Program volume and instruments of financing with the participation of development institutions.

The main objective of the Program financial support is to increase investments in priority sectors of the economy by expanding the availability of instruments and sources of financing. The main focus policy concerning applying state support measures must be made through mobilization of private financial resources and focusing lending activities of second-tier banks and other financial institutions to the purposes of industrialization. This implies that financial institutions must support investment projects only in priority sectors of manufacturing industry.

The system of financial support will be equated to the increase of financial resources availability for producers, suggesting favorable financing conditions, in accordance with the needs of investment projects, their rate of return and profitability.

Government financial resources will be directed through public and private operators. “NMH “Baiterek” JSC and NMH “KazAgro” JSC relate to operators of the public sector with their development institutions, “National Agency for Export and Investments «KAZNEX INVEST » JSC, “KIDI” JSC, “National Agency for Development of local content «NADLoc» JSC and others.

Second-tier banks, leasing companies, investment companies and other organizations of the financial sector relate to private operators. In this case, the criteria for selection of private operators will be transparent and open to the public and must ensure equal access of potential participants to project implementation.

In order to avoid duplication and form business support comprehensive infrastructure (the principle of “Single window”) activities of some development institutions will be structured with a focus on the needs of the business.

System-wide measures, aimed at enhancing general investment attractiveness of manufacturing industry, have been grouped on 9 main areas (directions) in the Program.

Industrial regulation

Nowadays we need to reach a new level of technological infrastructure in the industry laboratories, test centers, and adopt higher standards of technical regulation for accelerated industrial development of economic sectors. To ensure proper rating of sectors it is necessary to implement the process: investments - development - the process of introduction (production) – obtainment of qualitative improvement.

Thus, the state should be directly interested in the effective use of standardization as a lever of technical regulation. Greater involvement of industry experts in the standardization process is required, and the quality of the developed and adopted standards depends on this.

It is necessary to harmonize the existing and adopt new national standards given the best international standards (ISO, EN, API, ASTM, GLP and others). To do this, we should use instruments of subsidy and reimbursement of experts expenses associated with the development of standards in priority sectors, as well as analyze and systematize standards in sectors.

It is necessary to create equal economic conditions for enterprises in the supply of equipment, components and materials of the oil and gas industry within projects regulated by production sharing agreements (hereinafter - PSA).

Provision is made for creation of new, expansion and re-equipment of existing testing laboratories in the priority sectors of the economy in connection with the Kazakhstan’s accession to WTO and the OECD, in order to implement technical regulations of the Customs Union, produce competitive and high-quality products as well as create a mechanism for the recognition

of certificates of conformity and test reports issued in the Republic of Kazakhstan.

Implementation of the task set will be carried out on the following areas:

- use of budget financing in industries unprofitable for the private sector, directly related to safety;

- use of grant financing by the institutions of business development;

- using laboratory facilities of higher education institutions;

- confirmation of compliance of the national system of accreditation with international standards and international organizations for accreditation (ILAC, IAF).

At least 1,000 standards will be developed and adopted annually taking into account international requirements.

Workers' training and advanced training will be carried out in the field of technical regulation, metrology and management systems (at least 1 300 people per year).

Provision is being made for attraction of representatives-experts to participate in the technical committee on standardization in international and regional standardization organizations.

Projects will be assessed for compliance of the final manufactured product to the technical regulation and metrology system requirements (technical regulations, standards, availability of testing laboratory, etc.).

Internationalization

Specific plan has been developed to attract foreign investment, including a new package of incentives, introduction of investment contracts providing stability of legislation and investment subsidies.

Systematic work will be carried out on the attraction of companies from the Forbes Global 2000 list, TNC. It is planned to create a system of favorable preferential treatment for investors from OECD countries for industrial management in Kazakhstan, as well as an international network of national operator's representative establishments on the attraction of investments in priority countries. Visa regime has to be changed regulating citizens' entry and stay in Kazakhstan who come from OECD countries. Permits for visa-free travel and cancellation of registration are required for investors of OECD countries-members in the migration services.

Work on the provision of services to foreign investors will be continued using the following instruments: information-analytical activity; measures on foreign investors support; information and presentation activities in order to promote Kazakhstan favorable investment climate abroad; strengthening the activity on formation and promotion of investment image of the Republic of Kazakhstan abroad. For this purpose work on the creation of a single Brand Book for Kazakhstan will be accomplished. It is planned to provide training for a wide range of public officials, including diplomatic missions, government offices, akimats on how presentation of Kazakh Brand Book should be made.

Concerning larger and priority investment projects, including with the participation of TNC investment contracts providing additional state support measures will be concluded.

It is planned to create a single window for investors on the basis of the Investment Committee.

In order to protect rights and legitimate interests of foreign investors in Kazakhstan, and to assist investors in addressing emerging issues in extrajudicial and pre-trial procedure, it is planned to create an institute of investment ombudsman in Kazakhstan preventing illegal actions and decisions of public authorities.

It is necessary to enhance the activity concerning investors post-investment support on the basis of a network of investors service centers (hereinafter - ISC) in the regions.

It is necessary to apply national approach to development and export promotion system. For this purpose, work on service support of export will be continued, which includes measures on promotion of trademarks, presentations at international exhibitions in the format of a single national stand, companies' participation in international exhibitions, organization of trade missions abroad, edition of the export products reference book and literature to help exporters; information and analytical support to exporters; conducting training sessions, as well as foreign tours for export production; development of export packaging industry; promotion of Internet resources for exporters and buyers; formation of the ideology of export orientation; integration of Kazakhstan into the number of suppliers within the framework of humanitarian assistance. Also, work of the current Board of exporters under the Ministry of Industry and Trade of the Republic of Kazakhstan will be continued. The network of promotional support will be created in the target markets.

The main export destination will be the border regions of Russia, countries of CU and Central Asia, Afghanistan, Iran, countries of the Caucasus, western regions of China.

Technologies and innovations

Competitive growth of manufacturing industry is directly related to the introduction of new technologies and high innovation activity. In the area of innovations measures on the transfer of relevant technologies will be provided for priority sectors and further qualitative development of own innovation system, increase in demand for innovations in the economy, formation of technological competencies.

Transfer of advanced technologies

The main task will be transition from simple purchase of equipment to more complex forms of transfer and adapt them to local conditions.

One of the important enabling support instruments will be innovation grants. In this regard, work concerning clarification of the types of innovation grants, scheme optimization and procedures for providing them will be done.

Systemic measure will be promotion and support of strategic projects through the provision of innovation grants for foreign technology purchase. In such a case there will be relevant increase in the amount of the limit on this type of innovation grants. The selection of the

abovementioned projects will be carried out by “National Agency for Technological Development” JSC (hereinafter - “NATD” JSC). Approval of the list of projects will be carried out by the Industrial Development Commission of the Republic of Kazakhstan.

In addition, innovation grants will be allocated for holding of competitions between teams of developers through the request of sectoral state bodies, national companies involved with the solution of their technological tasks in the priority sectors of the industry.

In order to solve long-term technological tasks mechanism of innovation grants allocation will be elaborated for targeted technology programs.

Work on searching for priority technological tasks of the business will be done in a systematic manner, including through conferences of technical directors (R&D-directors) of industrial enterprises, which will be the basis for program-target, grant financing of scientific activity.

Issues concerning financial support for projects of venture capital funds by providing innovative grants will be addressed.

At the same time, work will be continued on the development of technology transfer network and participation in international programs on the development of science, technology and innovations.

Increased demand for innovations

Formation of demand for innovations will be provided by the state through regulatory and stimulation measures.

It is necessary to provide financial measures for the development of small and medium-sized businesses in the sphere of innovations, as well as improvement of legal restrictions and regulations on energy efficiency, harmonization of technical and environmental standards systems with standardization systems of CU and EU.

Issues of integrated solution for urban infrastructure will be considered (SmartCity), which will allow to reduce costs, for example, in the introduction of unified automated resources accounting systems in the municipal sector (SmartMetering), etc.

Enhancement of technological and managerial competencies

Consideration should be given to the establishment of sectoral competence centers in the regions through the provision of innovation grants. These centers will be specialized centers for joint use of equipment for the implementation of innovative projects, innovative workshops, experimental polygons, aimed at solving internal needs of the domestic enterprises in the manufacturing of prototypes and verifying their effectiveness.

In principle, the new measure will be opening of online competence centers, providing additional opportunities for acquisition and learning the basics of technical skills and specialties, as well as advanced training.

Reorganization and optimization of existing technological parks is required in order to organize joint work of innovators and promote projects, as well as competence centers.

It is necessary to extend the functions of existing industrial design offices with the establishment of pilot sites.

Examination system of innovative developments and new technologies will be improved in terms of providing evidence of their innovativeness, efficiency and transparency of procedures.

Two major innovative clusters – “Nazarbayev University” and “Park of innovative technologies” will have priority development with a clear separation of functions. “Nazarbayev University” cluster will deal with the development of fundamental and applied science. It is necessary to create design and engineering centers on the basis of intellectual and innovation cluster “Nazarbayev University”. Addressing the issues on a transfer of advanced technologies and industrial introduction of research results will be assigned to the cluster “Park of innovative technologies”.

In order to increase personnel competence mechanisms will be introduced to stimulate enterprises, in particular, in particular issue concerning allocation of grants on advanced training of engineering staff, and foreign language training of staff will be addressed. Work regarding undertaking the internship by engineering and technical personnel, training of employees in foreign institutions will also be strengthened, as well as training of technical and engineering employees.

However, we need to intensify work on participation in international programs of innovative development, innovative forums, promotion of innovative activity and conducting analytical studies.

Additional measures

There is a need to regularize a separate procedure for control of innovative projects implementation at the legislative level, which provides introduction of experience in independent inspection from the part of accredited non-governmental organizations. At the same time, inspections will be carried out by regulatory body in the presence of non-compliance report in innovators themselves or members of the implemented projects and will be focused on the final result rather than assessment of procedures performance in project implementation. This measure will allow innovators to actively participate in innovation support programs and project operators will be able to introduce more flexible and simple decision-making procedures.

Financial resources. Financing model

Balanced financing model is required for successful implementation of the Program. The state's role is critical in terms of providing incentives to attract private investments as well as providing long-term and cheap credit resources.

Financing model will be used to meet the demands for investments, built on the following principles:

It is necessary to consolidate financial resources of the state and private sector, and “NMH Baiterek” has to be an integrator;

Consideration is made into application of financial leverage approach on each tenge of state investment it is expected flow 4 tenge of private financial resources;

no less than 70% of state funds allocated to companies must be given to the enterprises of manufacturing industry.

For private investment flow it is necessary to apply stock market, whose instruments should be used to raise long-term funds of Single Pension Savings Fund. In particular, “NMH Baiterek” JSC will borrow money from Single Pension Savings Fund through the issuance and placement of coupon bonds. Low liquidity of the domestic stock market will be improved through the creation of new financial instruments circulated in the organised market, attraction of new emittents from the real sector of economy, as well as raising the level of financial literacy. Access to long-term finance will also be facilitated by means of investment subsidies when concluding investment agreements.

In order to provide affordable and long-term financing for priority projects “NMH Baiterek” JSC will borrow money from the National Fund by issuing bonds.

Investments required for 2015 - 2019 years from public sources will be realized following repayment financing (loans and direct investments) and non-refundable principle (subsidization, service support), including financing of the local infrastructure in the SEZ and IZ.

Non-refundable groups include budgetary funds allocated on the following instruments:

financing of SEZ and IZ infrastructure, including from the National Fund of the Republic of Kazakhstan;

subsidizing interest rates on loans of STB through “Entrepreneurship Development Fund “Damu” JSC (hereinafter – “Damu” Fund);

investment subsidies in the form of capital expenditures compensation to investors, including transport and energy expenses, on individual projects (compensation of up to 30% of investment expenditures from the state after commissioning) through “NMH Baiterek” JSC;

loan guarantee through “Damu” Fund;

increasing technological competence, development of innovation infrastructure, provision of innovation grants, state assignments;

development, management and promotion of SEZ.

The need on refundable groups from the National Fund and budget funds will be distributed through “NMH Baiterek” JSC on the following areas:

1) provision of financial resources to SME projects through “Damu” Fund on the available and long-term basis through STB determined credit financing;

2) medium and long-term financing of projects in the manufacturing sector through “Development Bank of Kazakhstan” JSC (hereinafter - DBK), including through interbank, lease financing and etc.

Financing needs, including budget funds and funds of National Fund will be specified in the course of program implementation and in accordance with the procedure established by the legislation in the formation of the national budget for the respective financial years.

The new role of development institutions

In order to increase the availability of financial resources for program implementation the work of “NMH Baiterek” JSC development institutions will be reviewed.

As part of the development strategy for 2014 - 2023 years DBK will act as a key financial institution on provision of financing in the local currency for Program on acceptable terms. This measure will lead to lending volume increase in tenge. In addition, DBK will simplify credit facilities, work on reduction of administrative barriers, automation and elimination of unnecessary business process, improvement of work approaches with borrowers and introduction of new lending instruments.

Due to the high level of loan debt of existing enterprises, the lack of sufficient collateral DBK plans to apply new funding instruments and more actively use existing ones, including mezzanine lending and project financing.

“Damu” fund will continue to provide support to entrepreneurs in small and medium-sized businesses as part of the instruments available under the “Business Road Map 2020” program and their own instruments to support manufacturing industry. Financial needs of SME will be met within the package “Support for small and medium businesses”.

“NMH “Baiterek” JSC development institutions will offer a wide range of debt and equity instruments to support Program financing. DBK and “Damu” Fund will significantly reduce lending cost for enterprises by granting of loans at reasonable interest rates. Additionally, new support instruments will be introduced, such as investment subsidies by means of capital costs compensation to investors.

“Kazakhstan Investment Fund” JSC (hereinafter - KIF) will continue work on the financial support of investment projects within the priorities of the Program for 2015 - 2019 by means of improvement and launch of problem (stressed) projects included in the Republican Industrialization Map for 2010 – 2014 which promotes the transfer of distressed assets to the category of current assets ensuring the change in the structure of the economy, increase in employment, tax revenues, and return of previous funds invested by the state. KIF activities will focus on the creation of assets in the manufacturing industry by using equity financing instruments and reducing the amount of distressed assets in the manufacturing industry through their improvement. Using existing expertise and previous work experience KIF will develop mechanisms on improvement and structuring of investment projects providing withdrawal of estimated fees, penalties, part of the primary loan, as well as providing guarantees for the recovery of idle projects. To implement this mechanism, relevant conditions will be created.

Management model of some funds with participation of “Kazyna Capital Management” JSC (hereinafter - KCM) has historically shown to be ineffective in terms of application of allocated

funds, and the adequacy of financing for such projects as the mandates of the majority of KCM portfolio funds have certain limitations in terms of financing projects in priority sectors of the economy of Republic of Kazakhstan. In this connection, the issue on the creation of infrastructure projects fund will be addressed (hereinafter - IPF) and start-up projects fund (hereinafter - SPF) with the planned raising funds of local and international institutional investors. These funds will have a more flexible management model and complement financing instruments being used, specializing in financing and attracting investments in priority sectors of the Program: projects at an early stage of development (SPF), as well as projects on infrastructure building and development, including those ones implemented with the use of public-private partnership mechanism (IPF).

These instruments are used within the package “Capital for growth”, “Greenfield projects” and “Infrastructure projects”.

In order to support export activities of Kazakhstani companies there will be an opportunity to use “Support for exporters” support instruments package.

“KazExportGarant” “Export Credit Insurance Corporation” JSC (hereinafter - KEG) will continue to perform their functions of export-credit agency of the Republic of Kazakhstan. The issue on expanding the range of instruments regarding financial and insurance exporters support will be considered by introducing instruments of pre-export financial and insurance support through financing and hedging of second-tier banks risks in provision of lending to companies-exporters for working capital financing.

For effective implementation of new products of financial and insurance exporters’ support the issue on making amendments and additions to the regulations of the Republic of Kazakhstan will be considered, specifying the possibility of providing export products of pre-export financing for domestic producers through the second-tier banks by placing funds of KEG in provided bank deposits.

In order to support new, modern sectors of the economy, develop innovations and meet the financial needs of innovation-oriented entities of SME support instruments of the package “Support for innovative companies” will be offered.

“National Agency for Technological Development” JSC will continue to support innovation projects and promote transfer of technologies in priority sectors, including through the provision of innovation grants and innovation infrastructure development. At the same time in order to support strategic innovation projects innovation grants will be enlarged for purchase of technology and conducting industrial research. To enhance the interaction between business and science grant will be provided for targeted technology programs implementation. Also, the issue regarding provision of innovation grants for prototyping will be addressed to participate in state orders, support venture capital funds projects, create industrial competence centers, as well as test basis and for automation of production.

In order to implement the set tasks it is necessary to further improve regulatory and legal framework. Activity of “NMH “Baiterek” JSC, as an instrument of the Government in the field of industrial and innovative development and implementation of state programs needs to be

regulated, which will strengthen the control over the effective expenditure of state budget funds, improve corporate governance in the group of “NMH “Baiterek” and provide more optimal participation of “NMH “Baiterek” in the implementation of the program.

Infrastructure

Transport and logistics infrastructure support for the manufacturing industry sectors will be implemented following the provisions of the state program on development and integration of the transport system of the Republic of Kazakhstan till 2020, approved by the Decree of the President of the Republic of Kazakhstan dated January 13, 2014 № 725; energy infrastructure support - following provisions of the Concept of fuel and energy complex development till 2030.

The objectives for the formation and improvement of infrastructure support for Kazakhstan rapid industrialization are:

- 1) availability and quality in the field of transport, energy and industrial infrastructure;
- 2) meeting the economy's needs in supply of electricity and achieving energy independence of the country;
- 3) creation of high-efficient transport and logistics system of Kazakhstan and ensuring its integration into the international transport system;
- 4) provision of reasonable tariff levels, promoting industrial development.

State support measures for manufacturing industry will be focused on creating transparent conditions on management of infrastructure costs:

- 1) establishment of tariff formation mechanism for long-run period for services of natural monopoly entities;
- 2) simplification of procedures for connecting to an additional energy capacity;
- 3) expansion of carrying capacitance in some areas of rail routes;
- 4) bringing infrastructure to new projects in priority sectors of the manufacturing industry;
- 5) ensuring the availability of rolling stock;
- 6) development of regional logistics centers.

At present the Government in order to ensure the predictability of tariffs for services of natural monopolies is taking steps to transfer the subjects of natural monopolies to work on long-term rates - five years or more. In this connection, consideration is made into making amendments to existing legislation.

It is planned to implement a number of industrial central infrastructure projects that can fully meet the needs of domestic enterprises in the transport and logistics services, including construction projects will be elaborated:

railway siding from Korshunovo station to the places of group of enterprises with the station expansion to 3700 m and 3 additional dead lanes of 1 200 m, East Kazakhstan region;

connecting railway line of 1.5 km, providing timely shipment of finished products of enterprises in the region, Kostanayskaya oblast;

railway bed 115 km long Zhanatas-Turkestan, Zhambylskaya oblast;

expansion and development:

1) Tobolsk railway junction, Kostanayskaya oblast;

2) railway stations Aksu-1 and Aksu-2, Pavlodarskaya oblast;

3) capacity of Zhinishke station, Aktubinskaya oblast;

4) removal of road section “Rudniy - Kachar – Fedorovka” 9 km long from the area of the development of the South Sarbai Mine, Kostanay;

5) organization of substation construction 220/10 kV and expansion of the SS “Kostanayskaya 1150” Kostanayskaya oblast;

6) construction of electricity supplies SS 110/10-10 kV “Gornostayevskaya” expansion of SS 220/110/10 kV “№ 51”; construction of single high voltage line kV “Gornostayevskaya” – “Chagan” 32.5 km. long, East Kazakhstan oblast.

For industrial development we need to take focused and active steps on the improvement of SEZ activity efficiency. In order to further develop SEZ issues will be addressed concerning provision of stability and safety guarantees of preferences and tax incentives for the participants of SEZ for the duration of the SEZ, and establishment of stabilization mechanisms for SEZ participants in the event of SEZ liquidation, as well as introduction of institution a Single operator on SEZ management and development in the Republic of Kazakhstan.

In addition, it is necessary to improve SEZ functioning mechanisms, including issues of management, activities of management companies, financing of SEZ activities, Single operator and management companies at the expense of the state budget funds at the initial stages, as well as raising debt funds for the construction of infrastructure facilities, and provision of tax benefits to management companies, associated and related industries of priority activities.

In the future comprehensive measures will help to withdraw from budget financing state, which will reduce the burden on the budget.

Human resources

Advanced industrial development needs to be improved in the availability and supply of human resources quality, imposes requirements on the quality of education.

The main focus of industrialization is aimed at intensive growth of production, namely labor productivity growth (1.4 times). Therefore, system-wide measures on the provision of human resources are shifted not to the number of jobs created but to the quality of the training of highly qualified, innovative and scientific personnel.

To provide sectors of economy with highly qualified staff system of personnel training will be reformed.

For these purposes, taking into account specialization of regions, development of territorial and innovation clusters higher education institutions and colleges will be identified aimed at training of highly qualified specialists for priority sectors such as metallurgy, oil-gas, electric power, light and food industry, agriculture, engineering, information and communication technology, space industry.

Training of such personnel will be implemented following new educational programs developed by universities and colleges, together with leading local and foreign partners, taking into account new technological processes.

Considerable resources will be allocated to these colleges and universities and work on their modernization will be done as well. Separate strategic development programs of universities and colleges will be prepared, material and technical base will be reinforced, and specifically educational and laboratory equipment, new approaches in the management system and new result-oriented financing mechanisms will be introduced.

Investors who have concluded investment agreements with the Republic of Kazakhstan, as well as operators implementing projects on the production of basic products in the SEZ territory will be given the right to attract foreign labor for the duration of the investment project and one year after commissioning outside quota and without permits for foreign labor.

In addition, it is planned to provide an opportunity for MNC conducting activities in manufacturing industry, agro-industrial complex and geological exploration to attract their employees from the branches of other countries without obtaining a permission to work in the Republic of Kazakhstan (subject to certain conditions, including proportion of local and foreign specialists, lack of wage discrimination, compliance of attracted specialists with a certain qualification level).

For companies operating on the priority projects quota for foreign labor attraction will be set for the entire period of priority projects implementation according to years.

It is planned to improve internal migration policy to ensure cross-flow of labor within the republic to regions with higher demand for labor.

It is necessary to use resources of the “Roadmap employment 2020” to ensure the needs of the priority sectors.

Internal migration policy must simplify the procedure for obtaining a permit to attract foreign labor. The procedure for obtaining work visas and residency permit in Kazakhstan will be simplified for highly qualified foreign specialists.

It is necessary to improve monitoring system of employees and the needs of the Program in the personnel.

To improve the level of occupational safety it is necessary to introduce OHSAS 18001 international standards in enterprises.

State procurements

It is necessary to introduce a separate order as related to defining criteria of innovativeness of goods to be procured, as well as works and services in the field of public procurement legislation. Mechanism of concluding long-term contracts for the supply of products will be developed introduced on the basis of technical memorandum.

In conducting state procurements it is necessary to set requirements in the technical specification regarding national or non-governmental standards for protection against substandard and unsafe products if available. To do this, you we have to make amendments and additions to the legislative acts regulating procurements of quasi-public sector and subsoil users, requirements concerning national or non-governmental standards need to be set in the technical specification, if available.

Introduction of the offset agreements institution in the legislation of the Republic of Kazakhstan will be considered to attract foreign investments in the manufacturing industry of Kazakhstan. State procurements should be used for production, developing value-added chain, in the release of the final products in Kazakhstan by using offset mechanisms.

In the meantime, in the agreements of state assignments and public procurement between the authorized body in the field of state support for industrial innovation activity and development institutions clear mechanism of payment for development institutions services must operate. Works and services of a permanent (ongoing) nature have to be carried out and paid accordingly within twelve months of the year, without being confined to the validity of the agreements.

It is necessary to take into account not only direct but also overhead expenses of development institutions associated with the execution of these liabilities, calculated in proportion to the volume of work performed or services rendered to the total revenues of development institutions from principal activities. It is also necessary to take into account the profitability of the planned works and services, the amount of which is determined on the basis of corporate procedures in development institutions (strategy and development plans of the companies and so on).

Entrepreneurship, small and medium businesses

On the basis of SME system of suppliers and service companies related to the manufacturing industry, including in the priority sectors will be developed. Consideration should be given to limitation of the influence of national holdings and companies on the suppliers' system development between SME among large enterprises at the legislative level.

Permissive, supervisory and control systems should be simplified in opening and running a business, observance of citizens' safety terms. All procedures for issuing permits as well as approval procedures in relation to entrepreneurs should be carried out at the local level on the principle of "single window".

Entities of SME need to continue to provide access to financial resources through “Business Road Map 2020” program. It is necessary to stimulate domestic demand with the use of end-users financing of products manufactured in Kazakhstan using credit and leasing mechanisms.

Stimulation of competition

As the experience of countries shows, which implemented successful programs of rapid industrialization, there are reserves for measures effectiveness increase on industrial development due to development of a competitive environment. Competition limits the concentration of economic power in certain hands and stimulates the satisfaction of customer needs, cheapening of products and quality improvement.

Antitrust regulation must solve the problem of competition protection and improvement of the business environment quality in the economy. This work should be carried out with the attraction of research and production enterprises as well as standing commissions, which include entrepreneurs, government officials and development institutions.

Quasi-public sector will wisely limit its intervention in competitive markets, if this has a negative impact on small and medium businesses.

Privatization should be carried out using the principle of Yellow pages, and further decision concerning activities of government-sponsored enterprises must be based on this principle.

Legal mechanism on the protection of the economy from market entities abuse of dominant or monopolistic positions will be improved.

In order to implement the tasks assigned demonopolisation of manufacturing industries, as well as taking measures on reduction of the state’s participation share in the markets of the Republic, improvement of antimonopoly legislation will be required.

For these purposes the following measures will be focused on:

- making suggestions on the development of petroleum products exchange trade;

- excluding unproductive intermediary structures in the coal sales market;

- simplification of licensing procedures for carrying out activities concerning liquefied petroleum gas wholesale and retail sale, including by abolition of the requirement for the presence of storage bases of 300 tons capacity, as well as on the presence of Declaration of industrial safety in gaz chain organizations with storage bases of less than 200 tons capacity;

- making suggestions on the development of electric energy exchange trade;

- gradual reduction of the list of regulated services (goods, works) of natural monopolies and regulated markets entities;

- making suggestions regarding establishment of a moratorium on the creation of new entities of quasi -public sector;

- including competition and de-monopolization of industries and economic sectors development goals, as well as specific measures for their implementation in strategic and policy documents of relevant sector-specific state bodies and local executive bodies;

taking inventory of regulatory and legal framework for identifying and eliminating regulations that restrict competition, barriers of entry into the commodity markets, significantly influencing the emergence of new players and development of a competitive environment; making amendments to the legislation on the issues of natural monopolies in terms of determining tariffs for long term period.

State competition policy should contribute to the reduction of barriers for “entering” the market in the form of regional, legal, tariff and other economic restrictions.

It is necessary to provide investors with legislation stability guarantees in accordance with the principle of contracts stability.

Institution of bankruptcy must work to the utmost, a key instrument of market relations provided to overcome the crisis, maintaining production, technology, equipment and workplaces.

3. Cluster approaches in the manufacturing industry development

Improving competitiveness through cluster approach is widespread in the development strategies of most countries. Clusters are recognized as an important instrument of industrial development, competitiveness and economic efficiency promotion.

Goal: to develop competitiveness of domestic manufacturing industry through creation and localization of technological chains, cooperation, integration development and acceleration of innovation development.

Objectives:

- 1) placement of productions of manufacturing industry priority sectors in the regions to ensure balanced development taking into account creation of zones of agglomerations advanced growth with centers in the cities of Astana, Almaty, Shymkent, Aktobe;
- 2) deepening of regions specialization in the manufacturing industry of the country and subsequent formation of competitive clusters;
- 3) creation of favorable conditions for the development of cluster initiatives.

Formation of clusters will be implemented according to the needs of all regions of the country, taking into account existing industrial and socio-economic potential of sectorial and regional specialization.

In view of insufficient degree of readiness of Kazakhstan’s economy to clustering, we must create a critical level of specialization of enterprises in specific regions. To do this within the framework of “Business Road Map – 2020” program more favorable conditions of business support will be created for manufacturing industry enterprises running business in the regions, according to regional specialization.

Cluster policy will be focused on transfer of the country’s economy to a new technology platform, formation of industries with a high level of productivity, added value and limit degree of goods and services.

During implementation of the program the state will focus on the development and balanced support of:

one national cluster from basic resource sectors associated with oil and gas production and processing, oil and gas chemistry, oil and gas chemical engineering and services for oil and gas industry;

three regional clusters in the market-oriented processing sectors, which will be determined by the results of tendering procedures;

two innovative clusters in the sectors of the “new economy” - in the city of Astana (“Nazarbayev University” cluster), Almaty (“Park of innovative technologies” cluster).

Decisions concerning new clusters formation and development, as well as improvement of support measures for cluster initiatives will be taken on the basis of the analysis and assessment of the socio-economic impact of cluster development provided by the Program.

National cluster development

Goals, objectives and directions for the development of promising national clusters of the Republic of Kazakhstan following “Kazakhstan – 2050” Strategy: a new policy of established state” have been defined by the Concept for formation of the prospective national clusters of Kazakhstan till 2020, approved by the Government of the Republic of Kazakhstan dated October 11, 2013 № 1092 (hereinafter - Concept of national clusters).

Within the Program state support will be provided on the development of national cluster on oil and gas production and processing, petrochemical industry, associated mechanic engineering and services for oil and gas industry in the territory of Atyrau, Mangistau and West Kazakhstan oblasts.

Development of national cluster will be coordinated at the level of central governmental bodies and related development institutions. To support it special control structure will be created (board of the cluster) as a platform for coordination and approval of vision, plans and programs of cluster members, as well as its development strategy.

National cluster board will be chaired by the Minister of Oil and Gas of the Republic of Kazakhstan. To provide balance between interests of state and private business two deputies will be determined by representatives of the National Chamber of Entrepreneurs of Kazakhstan and “National Welfare Fund” Samruk-Kazyna” JSC.

The functions of the Board include:

- 1) development and approval of the national cluster development strategy and detailed road map;
- 2) coordination of cluster members activities;
- 3) assistance of cluster members in obtaining government and other support;
- 4) monitoring of the effective use of funds allocated for implementation of programs and cluster projects

Cluster integrator functions ensuring operational organizational and functional support of its development, will be provided by “National Company” KazMunaiGas” joint stock company.

Partners of cluster integrator, ensuring coordination of business consolidation in the cluster, will be National Chamber of Entrepreneurs and «KAZENERGY» Kazakhstan Association of oil-gas and energy sector organizations.

To realize the potential of the cluster tax remissions, customs facilities and other preferences may be used, including provision of infrastructure facilities provided to the participants of the SEZ “National Industrial Petrochemical Technology Park” and “Aktau Seaport”. This will effectively optimize costs in the creation and development of new industries with high added value, reinforcing country’s competitive strengths in the global market, will give impetus to the development of related and relevant industries in the priority sectors of the economy.

State support measures will be presented for cluster development on co-financing of cluster initiatives in accordance with the cluster development road map as specified in Section 5.3.4.

“NMH “Baiterek” JSC will be presented as financial agent, providing financial measures of state support under the laws of the Republic of Kazakhstan.

Development of regional clusters

Regional clusters, that will be provided with state support, will be selected on a competitive basis. Within the Program competitive selection system will be tested. Of those formed in the regions of regional clusters 3 developed pilot clusters will be selected, which will be provided state support.

Currently, in the regions, the highest level of competition is observed in the production of food and building materials, which is one of the readiness factors for clustering.

Regional business associations and local executive bodies will play a key role in the development of regional clusters.

Akimats of Kazakhstan regions, as the main participants of Program planning and implementation must provide an enabling environment for industrial development, including on the following areas:

- 1) development and implementation of regional strategic documents in the field of socio-economic development, including industry (territorial development plans) in accordance with the provisions of the Program;
- 2) development and adoption of measures aimed at increasing the intensity of local competition;
- 3) Support of priority clusters and implementation of priority projects;
- 4) Providing a modern and competitive industrial infrastructure;
- 5) development of human resources and education system;
- 6) attraction of foreign investments and export promotion;
- 7) encouragement of entrepreneurship and development of small and medium-sized businesses.

Cluster associations will be the Centre for cluster initiatives development in the regions and participants can be both enterprises of manufacturing industries and service companies, research institutes, universities and secondary vocational educational establishments, consulting companies, engineering companies. Regional chambers of entrepreneurs, social-entrepreneurial corporations, management companies of SEZ can take a role of the initiator on the creation of clusters and submission of applications for the competition at the initial stage.

The basic principles in provision of state support on the development of regional clusters are:

1) taking into account sector-specific priorities - selected from among all manufacturing industries, primarily defined as a priority in the Program;

2) compliance with regional specialization, as defined in Section 3.2 of this Program and Forecast scheme for territorial and spatial development of the country until 2020, approved by the Decree of the President of the Republic of Kazakhstan dated July 21, 2011 № 118;

3) rational use of available resources, human and infrastructural capacity of regions taking into account the Scheme of production capacity rational distribution for the coming period;

4) minimizing expenses for development of regional clusters formed in order to achieve clearly defined results following maximum efficiency increase;

5) widespread use of public-private partnership.

The main criteria for competitive selection of regional clusters that will be provided with state support.

1) development level of the formed cluster - the presence of the business community in the form of formed group of interrelated and complementary companies and organizations in the sectors that are priority for the region, developed projects, business investments in cluster development;

2) conditions for further cluster development in the region - raw materials, natural and financial resources, production capacity, availability of human resources, development of transport, energy, innovation and education infrastructure;

3) importance of cluster development for the region in which it is located, and the industry to which it relates;

4) The prospects of cluster development - market prospects and economic effect from cluster development.

At the preparatory stage of competitive selection (2014) the following measures will be taken:

criteria and procedures for the competitive selection of regional clusters will be defined, as well as the procedure for state support provision to the winners of the competition;

changes and additions will be made in the Regulations for the Commission on Industrial Development, approved by the Decree of the Government of the Republic of Kazakhstan dated December 31, 2013 № 1522, in terms of vesting with authority on holding of competitive selection of regional clusters (hereinafter - Commission);

educational programs will be organized to train all members of the cluster process;
foundations for the creation of cluster associations will be laid as organizations uniting and protecting the interests of all cluster participants;
methodological and information support will be provided to all participants of the cluster process, including on the formulation of concept, strategies and roadmaps for regional clusters development;
a competition for territorial clusters selection will be announced, which will receive state support.

Competitive procedures will be carried out in two stages.

At the first stage of the competition (regional chambers of entrepreneurs, social-entrepreneurial corporations, management companies SEZ, business associations file applications) the following measures will be taken:

- 1) an examination of concepts will be carried out on regional clusters development following the above criteria of the competitive selection submitted by the participants for the competition;
- 2) submitted Concepts will be considered and winners of the first stage will be selected at a meeting of the Commission;
- 3) The winner of the first stage will receive financial support for development of strategy and cluster development road map and creation of cluster associations in the form of reimbursement.

At the second stage of the competition (cluster associations file applications) the following measures will be taken:

- 1) an analysis of the strategies and road maps will be carried out submitted by the cluster associations participating in the second stage of the competition that define economic effect from cluster development and specifying actions on achieving it, upon that cluster associations that did not participate in the first stage of the competition will be admitted for participation in the second stage in the presence of strategies, roadmaps development;
- 2) the final results and the winners of the competition will be announced.

Criteria and procedures for the competitive selection will be determined by the Government of the Republic of Kazakhstan.

The winners will be provided with state support measures on co-financing of cluster initiatives in accordance with the road map of each cluster specified in section 5.3.4.

Innovative clusters development

Within the Program two innovative clusters will be created – “Nazarbayev University”, which will carry out development of fundamental and applied science, and “Park of innovative technologies” to solve problems on a transfer of advanced technologies and industrial introduction of research results. Creation and formation mechanism of these innovative clusters are defined by the Concept of national clusters.

The purpose of innovative clusters will be formation of new competitive advantages of the country in the world market (cluster of knowledge, global technology outsourcing) on the basis of establishment of knowledge-intensive industries and sectors of the economy, new technological competencies, provision of innovative breakthrough that has not previously existed in the country.

Within the framework of innovative clusters research centers will be established in the field of medicine, «3D-Printing», geology, metallurgy, composite materials, energy-saving and building technologies. The basic principle of research centers creation - development of cooperation between educational organizations, science and industry (the principle of cluster policy triple helix).

It is planned to create Scientific Center of Geological Research of the Republic of Kazakhstan under the Memorandum of strategic cooperation between “Nazarbayev Research and Innovation System (hereinafter - NURIS) private institution and “Kazgeologiya” JSC.

Center for Energy Research and Interdisciplinary Instrumental Center are already operating in NURIS, which conduct research on the development and implementation of renewable energy technologies.

Cooperation with other research centers of regional clusters will be built along with that.

Intellectual and innovation cluster “Nazarbayev University” in Astana will focus efforts on the development of basic research in the field of life sciences, medicine, genetic engineering, materials science with a specialization in the production of new materials, energy-saving technologies, biotechnologies.

NURIS will act as a cluster integrator. The rules for selection of “Nazarbayev University” cluster members are approved by the Board of Trustees of the University.

“Nazarbayev University” cluster is intended to ensure development of range of knowledge-intensive and high-tech companies around the university, creation of favorable conditions for scientists to attract investment in new technology research at the university, development of engineering capacities in Kazakhstan, transfer and commercialization of new technologies, creation of new jobs for “Nazarbayev University” AEO graduates. To do this new centers of competence, design and engineering centers will be created, as well as the world’s best scientists from abroad will be invited, the best research projects will be selected, start-ups and spin-offs will be promoted.

Commercialization office of “Nazarbayev University” cluster will be the most important element of the cluster, as it will regularly work with scientists-innovators, perform functions of the “first stop point” for scientist and will provide a full range of necessary information for him/her concerning capacity and resources available for commercialization in “Nazarbayev University” cluster.

Commercialization office is actively engaged in the search and evaluation of projects with high patentability and high potential of market success and will provide appropriate grant financing for commercialization.

In the business incubator services will be delivered to companies on technology business incubation, during which formalization of the idea takes place, business plan of the project is detailed, necessary stages of research and development works are conducted. Then, the project moves to the next stage and is transferred for placement in technological park to implement an experienced and pilot production of industrial designs, testing of new technologies applied.

Science park must play an important role in the formation and development of “Nazarbayev University” cluster. Mission of the science park is to implement the concept of integration of science, business and government, and to achieve synergetic effect aimed at activation of innovation activity, improvement of competitiveness and diversification of the national economy.

Science park of “Nazarbayev University” cluster is created for the placement and development of applied R&D centers and high-tech SME, aimed at the development of the real sector of the economy of Kazakhstan.

Along with the research and educational activities engineering, pilot production and investment activities will be actively carried out in the Science Park.

Taking into account the priorities of innovative development of the Republic of Kazakhstan it is planned to create the following Science Park clusters at the first stage: Geological cluster, information and communication technologies cluster, engineering cluster (renewable energy, space technologies), biomedical cluster.

Rules for selection of “Nazarbayev University” intellectual-innovation cluster participants are approved by the Board of Trustees of the University. The University will provide support measures for participants of the cluster in the manner determined by the Board of Trustees of the University. NURIS will act as a cluster integrator.

“Park of innovative technologies” innovation cluster is established in Almaty by combining the companies participating in the SEZ “Park of innovative technologies”, major scientific and educational institutions of the city and other entities approved by the Board of Trustees of the cluster.

At scientific and educational institutions “ideas” have to be created and developed, as well training and tests must take place, and then they must be transferred for the implementation into production within SEZ “Park of innovative technologies”. Priority areas of the cluster development will be, in particular aerospace, information and communication technologies, including mobile and multimedia technologies.

The Board of Trustees manages “Park of innovative technologies” cluster, chaired by the President of the Republic of Kazakhstan. The functions of the Board of Trustees include approval of cluster development strategy, consolidation of business representatives, business associations and unions, determination of projects participants which are financed using resources of the fund, and search for potential investors for their implementation, and others.

Autonomous cluster fund will be created to support initiatives undertaken within the framework of the cluster and implementation of its strategy. The fund must establish a mechanism of close and productive cooperation of private entrepreneurship entities with the

entities of research activities and innovators, assist participants in obtaining cluster support instruments.

Fund Steering Committee chaired by the Prime Minister of the Republic of Kazakhstan is created for regulation of inter-agency cooperation, and approval of fiscal policy.

The Board of Trustees of the cluster, Steering committee of autonomous cluster fund will be formed from representatives of public organizations, national companies, national management holdings, universities, industrial research institutes.

Cluster development strategy should be based on three areas defined taking into account regional specialization of Almaty and innovation policy of the Republic of Kazakhstan, information and communication technologies, research and educational activities and the economy “of the future”.

Measures of state support for clusters

State support measures will be elaborated for the implementation of strategies and roadmaps of each cluster development on:

1) support and development of cluster members cooperation and collaboration. The main goal – is to improve integration of the participants and identify ways to improve its competitiveness. For example: formation of a unified database of suppliers and information platform for collective purchase of raw materials and components by the companies of the cluster, research organizations and partners;

2) development of human resources of the cluster. The main goal – is to develop set of skills and specialists available to participants of the cluster.

For example:

organization of training of all members of the cluster process at all levels (state and local executive bodies, research and production enterprises, business communities);

development of training programs for managers and specialists of companies with the joint participation of higher and secondary vocational institutions included in the cluster;

organization of retraining courses and advanced training courses according cluster companies needs;

establishment of centers of personnel training and retraining for companies of the cluster;

creation of new schools and modernization of existing ones taking into account the needs of the cluster;

organization of job fairs of cluster companies for university students and students of other educational institutions;

3) expansion of the cluster. The main goal – is to increase the number of cluster members. For example:

creation of business incubator for projects;

attraction of foreign investors;

holding of information-advertising campaign in an international forum to attract new members in the cluster;

4) development of innovations and technologies. The main goal – is to develop product, process innovations and innovations in the sphere of services. For example:

- creation of specialized design offices;

- creation of technological platforms for the development of new products (prototypes and lots), improvement of existing cluster of technologies in enterprises and adaptation of the world's best technologies to the conditions of existing enterprises;

- ensuring development of cluster participants' joint R&D projects (with the involvement of scientific-research institutes, educational institutions and enterprises);

- provision of innovation grants, including for industrial research (including implementation of targeted technology programs);

- delivering services of regional industrial parks, industrial design offices;

- delivering services on patenting of inventions;

- organization of meetings between representatives of development department of the companies and research organizations;

5) creation of business climate and infrastructure. The main goal – is to improve conditions for running a business within the cluster. For example:

- Provision of access to existing in regions energy, telecommunications, utilities and transport infrastructure, including special economic and industrial zones, technological parks, design offices, business incubators and other objects of entrepreneurship;

- joint construction of shared facilities, such as logistics loading complex of collective use, specialized equipment;

- arrangement of measures on the improvement of the quality of products manufactured by the enterprises of the cluster (test bases and/or laboratories), including for meeting the requirements of technical regulations of the CU;

- creation of laboratories on cluster product certification;

- construction of data center to store information

- implementation of infrastructure projects;

- 6) other specific concrete measures for the development of the cluster as a whole.

In addition, the winners of the first stage of the competitive procedures on the selection of regional clusters will receive financial support for strategy development and cluster development road map and creation of cluster associations in the form of reimbursement.

In order to develop venture capital financing in the “Park of innovative technologies” innovation cluster it is necessary to address the issue concerning improvement of the mechanism of using 1% of the total subsoil users' annual income within Autonomous cluster fund.

“Nazarbayev University” cluster members will be provided with grants and external financing will be attracted with the view of commercialization, phased transmission of ideas from the laboratory research form into practical form of patents and products/prototypes. Support measures provided by the University for cluster members include: financing, including co-

financing, lease financing of cluster members projects, implementation of investments in the authorized capital of cluster members, provision of grant cluster for participants, provision of qualified staff resources for cluster members, placement of order clusters for scientific projects among cluster members, provision of necessary facilities for cluster members, provision of access to a cluster of laboratory equipment and library stock of “Nazarbayev University” AEO and its organizations for participants.

All participants of the cluster process will receive methodological and information support through preparation of methodical documents and publication of newsletters, consultation of participants through entrepreneurs service centers. As part of this support centers for specialized training of members of the cluster process will be organized, website on the coverage of cluster initiatives will be created. Issues concerning study of international experience on clusters development will be addressed, including on a grant basis.

For implementation of state measures on clusters development necessary budget funds will be identified and provided, including on a grant basis or on separate budget requests.

Companies-participants of the clusters will be given the opportunity to receive state support instruments provided for the entities of industrial innovation activity within various programs at all stages on a common basis.

“NMH “Baiterek” JSC and NMH “KazAgro” will be the main financial agents on the development of clusters.

4. Support for enterprises of the priority and the rest industry sectors.

State support measures will be aimed at reducing barriers to develop enterprises in the following areas.

Industrial regulation

Work related to the reimbursement of expenses on product certification and quality management system will be continued in accordance with international standards (API, ASTM, GMP, EN) in the amount of 50% of the amount to be presented for reimbursement, but no more than three thousand monthly calculation index.

Internationalization

Mechanisms of financial support for exports will be elaborated: pre-export financing and insurance; use of export leasing for lending Kazakh engineering products for foreign consumers; trade financing of export operations through insurance or coverage of documentary operations.

Expenses of entities of industrial innovation activity on the promotion of domestic processed goods will be reimbursed: expenses for advertising domestic processed products abroad; participation in international exhibitions; discovery, content of representative establishment or body, warehouse, retail location abroad; performing procedures relating to the registration of trademarks and products abroad; as well as the expenses for the procedures associated with the certification of products abroad.

Mechanisms on the reduction of transport expenses for the transportation of domestic processed products will be elaborated through creation of economic benefits for carriers by ensuring volumes of transportation.

Technologies and innovations

Mechanisms of provision of innovation grants for industry research will be explored and grant financing of target technological programs will be studied.

Innovation grants will be further provided:

for technology acquisition;

for technology commercialization;

for productivity enhancement (involvement of consulting, engineering and design organizations; implementation of administrative and production technologies).

Work will be resumed on co-financing of SME and large-scale enterprises performing technical diagnostics, and on reimbursement of expenses of large-scale enterprises and SME associated with implementation of system for work standardizing.

Mechanisms for reimbursement of expenses associated with adaptation of new (imported) technologies implemented will be explored.

Financial resources

The following mechanisms will be studied:

subsidy of loan fee rate or financial leasing agreements for investment objectives and for replenishing working capital in priority sectors and with due account for regional profile;

issues of loan guarantees by Second-tier banks in priority sectors and with due account for regional profile.

Infrastructure

Issue concerning connecting infrastructure to facilities under construction or modernization.

Human resources

Management (top managers) of enterprises will be trained on improvement of performance and energy efficiency.

Work will be resumed on provision of grants for involvement of highly skilled foreign specialists, professional development of engineering personnel abroad.

State purchases

Mechanisms will be explored regarding conclusion of long-term state purchases contracts. Mechanisms will be explored regarding statutory regulation of maximum payment terms.

Entrepreneurship and SME

Work will be resumed on reimbursement of expenses associated with development of enterprise comprehensive development plan.

Work will be resumed on conclusion of contract between a customer and producer to establish derivative plants near large-scale enterprises.

Measures of State support will be provided as a part of ongoing programs «Business Road map 2020», «Efficiency 2020», «Agrobusiness 2020», and of state support provided for stimulation and promotion of domestic processed goods, services and attraction of foreign investments. These programs will need to be amended to clarify terms and mechanisms for provision of existing instruments and determination of mechanisms and terms for provision of new instruments.

Enterprises and its projects will be supported in compliance with the following approaches:

1. Standard approach is a provision of standard instrument package. Facilities to be supported - small, medium and large business entities implementing projects in manufacturing industry will be supported on system basis with the help of standard financial and service instruments applied as a part of programs «Business Road map 2020», «Efficiency 2020», «Agrobusiness 2020» and of state support stimulating and promoting domestic processed goods, services and attraction of foreign investments.

All enterprises irrespective of sizes and forms of ownership can claim for service measures such as certification, support and involvement of investors, export promotion and export marketing activities, innovation development, efficiency improvement, technological advancement, development of human capital.

Financial supportive measures will be ranked according to project costs and priorities.

Loan fee rates or financial leasing agreements and issue of loan guarantees by Second-tier banks for projects with the cost up to 750 mln. tenge will be subsidized as a part of priority sectors and/or in accordance with regional profile.

Subsidy of loan fee rates or financial leasing agreements and issue of loan guarantees by Second-tier banks to entrepreneurs conducting business in rural settlements, monotowns and little towns, and young individual entrepreneurs-beginners will be provided without sectoral

restrictions.

Additional criteria will be applied for projects with investment amount of up to 4,5 bln. tenge: (a) activity in 14 priority sectors and/or compliance with regional profile; (b) compliance of product with internationally recognized standards; (c) labor productivity, energy efficiency; (d) market development to ensure sale of non-primary goods; (e) industries developing value chain when releasing finished product.

For this category of projects subsidy of loan fee rate/financial leasing agreements and issue of loan guarantees by Second-tier banks will be provided upon special conditions.

2. Individual approach will be taken towards large-scale enterprises implementing scale projects in priority sectors of manufacturing industry that require coordination and support at the republican level and extra measures of state support beyond standard approach. These projects must constitute a basis of the Industrialization map. Decision regarding the application of this approach is taken by the Government of the Republic of Kazakhstan.

Criteria: (a) activity in 14 priority sectors; (b) amount of investments from 4,5 bln. tenge; (c) compliance of product with internationally recognized standards; (d) productivity, energy efficiency; (e) market development to ensure sale of non-primary goods; (f) industries developing value chain when releasing finished product; (g) contribution to achievement of Program strategic goals.

The Industrialization map will be a tool for implementing individual approach.

Industrialization map of Kazakhstan for a forthcoming period is a list of large investment projects primarily in 14 priority sectors forming new industries, developing clusters which are provided with help of measures of state support.

Complexity and scale of the Industrialization map require measures of state support to be provided individually by making an agreement.

Process of selecting projects into Industrialization map is integration, the list of projects included into the Industrialization map can be supplemented by new projects at least once a year upon receipt and consideration of applications.

Criteria for selecting projects into the Industrialization map are as follows:

- 1) sectoral priorities – projects of the Industrialization map must comply with sectoral priorities of the Program as per the list of 14 priority sectors;
- 2) scale of project – Industrialization map includes only scale projects that require coordination and support at the republican level, with total amount of investments of more than 4,5 bln. tenge;
- 3) contribution to achievement of strategic targets of the Program – implementation of projects must directly influence outcomes of the Program through achievement of Program target indicators;
- 4) requirement in measures of state support.

Process for selecting projects into Industrialization map will be defined by the Government of the Republic of Kazakhstan.

Decision on inclusion of projects into Industrialization map and on conclusion of an

agreement with project applicant is taken by the Commission of industrial development. Commission of industrial development defines a state authority responsible for project implementation and for elaboration of draft agreement in cooperation with the applicant of the project.

By the decision of the Commission of industrial development the Industrialization map can include projects implemented in manufacturing industry sectors but not being of the priority, however they are compliant with other criteria of the Industrialization map. Measures of state support will be provided as a part of distribution of 20 % financial resources allocated within the Program for supporting projects in manufacturing industry sectors not being of priority.

Projects are included into Industrialization map by the decree of the Government of the Republic of Kazakhstan where the Government authorizes the state authority responsible for its implementation to sign the agreement with project applicant.

The agreement will specify responsibility of the applicant and state authorities associated with project implementation.

Monitoring of Industrialization map projects will be performed in Program management office based on National institute of industry development.

Moreover, projects of Industrialization map will be supported by the National institute of industry development:

- 1) identification and provision of recommendations for administrative burden elimination in the course of project implementation;
- 2) identification of problems in the course of project implementation and elaboration of problem-solving proposals through mechanisms of interdepartmental coordination;
- 3) assistance of industry experts in planning and implementing projects.

Throughout 2015 year activities related to switching the Industrialization map to new approaches will be carried out.

Projects included into Republican industrialization map in 2010-2014 approved by the decree № 303 of the Government of the Republic of Kazakhstan dated April 14, 2010 to be commissioned from 2015 will be implemented as a part of Industrialization map for coming years except for projects implemented in sectors not being of priority.

Industrialization map for years ahead will also contain projects included into regional industrialization maps in 2010-2014 to be commissioned in 2015 and compliant with criteria of industrialization map for years ahead.

Other projects included into regional industrialization maps in 2010 - 2014 to be commissioned from 2015 and projects requiring measures of state support will constitute the basis of maps for supporting entrepreneurship in regions, selection and monitoring to be used by regional chambers of entrepreneurs in cooperation with local authorized bodies.

Maps of region entrepreneurship support include projects implemented in manufacturing industry. However, advantage will be given to projects in 14 priority sectors on which 80 % target budgetary financial resources allocated by the Program will be assigned. The rest 20 % will be spent on supporting successful projects and enterprises of other manufacturing industry

sectors.

Overall coordination of projects of entrepreneurship support maps will be secured by regional development authorized body in cooperation with National chamber of entrepreneurship and local authorized bodies. On quarterly basis local authorized body shall provide information on projects of the Map of entrepreneurship support to regional development authorized body with copies also to be forwarded to sectoral state authority.

5. Mechanism, management and monitoring of Program implementation

Mechanisms for Program implementation

To improve efficiency of Program implementation it is necessary to subsequently adopt a number of program and other documents approved internally according to outcomes anticipated:

1) Action plan for Program implementation (hereafter – Action plan) with detailed specification of particular actions aimed to achieve goals and objectives of the Program, timing, executors, completion form, expenditure required for implementation;

2) strategic plans of central executive authorities of the Republic subject to approval by decrees of the Government of the Republic of Kazakhstan;

3) programs for territories development and implementation action plan subject to approval by decisions of Maslikhats and Akims of regions;

4) strategies and plans for development of national holdings and national companies, other joint-stock companies and associations controlled by the government participating in Program implementation;

5) strategies and plans for development of national development institutes, other joint-stock companies and associations controlled by the government participating in policy implementation.

Documents listed will be amended when necessary with due account for actual realias of relevant period.

Such method of elaboration and adoption of above-mentioned documents will improve efficiency and transparency of Program implementation at vertical and horizontal levels, provide sequence and timing of actions performed.

Absence of special sectoral programs elaborated for development of the Program is essential. Adherence to distinct interrelation between the Program and above-mentioned regulations and other documents associated with anticipated activities is important in the course of their development and amendments.

Program implementation management

For Program implementation management purpose responsibilities and institutional mechanisms are clearly distributed among key participants in charge of implementation, monitoring and funding.

In parallel with the Government of the Republic of Kazakhstan, central and local authorities, national holdings and development institutes, National chamber of entrepreneurs will take an active part in discussion and elaboration of strategic documents for Program implementation including development of national and territorial clusters.

Significant role is given to the Commission of industrial development of the Republic of Kazakhstan founded to generate proposals concerning industrial development of the Republic of Kazakhstan.

To coordinate work on development of industries, regulate support system through development institutes based on National institute of industry development, it is expected to continue, according to the established procedure, forming centers of competence applicable to industrial policy with the main activities: information analysis supporting of industrial development of the country; monitoring of Program implementation; development of productivity improvement program; development of suppliers' system and integration into global sectoral chains; coordination of state policy as pertaining to clusters support; development of road maps to reduce administrative burdens; maintenance of Industrialization map; operations support and analytical support by the Commission; establishment and development of Program management office.

Monitoring of Program implementation

System of monitoring and implementation evaluation will be improved to ensure effective coordination, monitoring and improvement of accessibility and quality of real-time (annual) data on the progress of Program implementation, as well as of action plans of ministries and development institutes involved into implementation.

Key mechanisms in Program implementation monitoring system must be evidence-based evaluation and funding of executors depending on their performance. Implementation of this approach will require further improvement of national planning system of the Republic of Kazakhstan which must first of all be reflected in new types of analysis and evaluation such as preliminary evaluation of programs and projects, evaluation of implementation efficiency versus resources spent by the state.

According to the best international practices of programs management it is planned, for the purpose of effective interdepartmental coordination of implementation, to establish a program management office to be located in National institute of industry development. It will evaluate fulfillment of target indicators, degree of particular activities implemented. Monitoring of Program implementation will enable identifying deviations and proposing action plans to eliminate such upon which the Program will be adjusted.

6. Stages of Program implementation

Goals and objectives set will be reached step by step.

First stage includes startup activities aimed to develop national cluster consisting of base resource sectors of economy, 3 clusters consisting of market-oriented sectors of economy and two innovation clusters consisting of sectors of «new economy». Pilot instruments for supporting industrial development will be employed to support industrial development in priority sectors.

At the second stage of implementation the entire set of instruments for supporting industrial development in priority sectors will be involved. Activities aimed to develop priority clusters consisting of basic resource sectors, market-oriented sectors and innovation clusters will be carried out. Updating of development institute system will be completed. Also if necessary, policy will be updated and the third five-year program for industrial and innovative development of the Republic of Kazakhstan will be elaborated at closing phase of this stage. Moreover, it is required to ensure achievement of international competitiveness in macroregion including countries of CIS and Central Asia on clusters consisting of base and market-oriented industries, as well as on innovation clusters consisting of sectors of «new economy».

To ensure compliance of the policy with changed external conditions, the policy will be revised and strategic plans, five-year and three-year (with account of budget cycle) action plans of ministries, development strategies, five-year and three-year (with account of budget cycle) action plans of development institutes involved into implementation will be revised as well.

At the third completion stage of implementation integrated evaluation of policy implementation outcomes will be performed. At the same time, the third five-year program of industrial and innovation development of the Republic of Kazakhstan will be elaborated for the period from 2020 to 2024.

7. Resources required

To successfully implement the Program financial resources of the state and private sector will be consolidated, however, the state will focus on financial assurance of supportive measures creating conditions for private investment receipt.

To achieve the goals and indicators set, forecasting requirement in investments for manufacturing industry will amount to approx. 6,6 tln. tenge of which approx. 600 bln. tenge to be taken from the state budget.

Table 62. Total investment requirement for manufacturing industry, bln. tenge

Indicators	2015	2016	2017	2018	2019.	for 2015-2019
Ferrous metallurgy	89	53	84	72	93	390
Non-ferrous metallurgy	361	400	216	59	66	1 102
Oil refining	48	50	514	68	70	750

Petrochemistry	14	284	264	582	144	1289
Food production	59	61	66	73	82	341
Agrochemistry	30	12	18	361	96	517
Production of chemicals for industry	16	18	23	29	36	121
Automobile manufacture	17	31	44	24	49	164
Electrical equipment	23	34	42	34	36	169
Agricultural equipment manufacture	19	13	14	16	18	80
Railway equipment manufacture	53	64	76	86	107	385
Mining equipment	17	17	18	21	18	90
Oil producing and oil refining equipment	8	9	9	11	14	51
Constructional materials production	124	77	77	77	83	436
Total for priority sectors	876	1 121	1 464	1 512	912	5 885
Other sectors	144	152	165	124	130	715
Manufacturing industry	1 020	1 273	1 629	1 636	1 042	6 600

80 % targeted budgetary financial resources allocated for the Program will be spent on supporting priority sectors. The remaining 20 % will be spent on supporting successful projects and enterprises of other sectors of manufacturing industry.

Amounts of public funding of activities provided by the Program will be further defined for relevant financial years in accordance with the legislation of the Republic of Kazakhstan.

Terms used

Additive technology is a form of technology where a detail is formed by growing of material but not by removing of it from fabricated parts as it is normally done in conventional technology.

Dutch disease is a state of economy with two relevant symptoms. The first is an increase in production and export of raw material. The second is reduction in volumes of domestic industrial production. However, occurrence of the second symptom is intimately connected with the first one. In other words, «Dutch disease» is a state of economy where export of raw material throws back the national economy development.

Business climate is a big set of political, economic, legal and material factors that define foreign investments benefits of the country, and a tendency of national companies of different

sizes and sectors to invest into development.

Diversification is distribution of capital among different investing entities to reduce economic risks.

National development institutes are legal entities whose fifty percent of voting shares (equity share) or more directly or indirectly belong to the government, that are authorized to implement measures of state supporting of industrial and innovation activity.

Internationalization is techniques for the development easing product adaptation to language and cultural characteristics of region different from the one where the product has been made.

FDI Confidence Index by A.T.Kearney is an index developed by A.T. Kearney company based on data of regular polls of big international investors. Companies with annual turnover of more than 2 tln. USD take part when rating of countries is made.

Cluster is a geographically concentrated group of interrelated and complementary companies and organizations that includes producers of finished or intermediate goods and services, suppliers of accessories, specialized services, industrial and other equipment manufacturers, suppliers of specialized infrastructure, scientific and research organizations, higher education organizations, technical and vocational education organizations and other organizations that possessing specific sectoral profile.

Commodities are actively imported mass production goods that have quality homogeneity, compatibility of qualitative characteristics over a protracted period of time and interchangeability of separate lots enabling carrying on trade based on description and samples.

Middle income trap are situations in economic development where a country, after reaching particular income, «gets trapped» at that level.

Localization is a placing of primary foreign-born products at the territory of country of origin.

Macroregion is a region consisting of five levels depending on level of integration with the Republic of Kazakhstan.

The first level includes cross-border regions of Russian Federation: Astrakhan, Volgograd, Saratov, Samara, Orenburg oblasts, the Republic of Bashkortostan, Chelyabinsk, Kurgan, Tyumen, Omsk, Novosibirsk oblasts, the Altai Territory, the Republic of Altai.

The second level includes all regions of Russian Federation, Ukraine and Belarus.

The third level includes western regions of China that share borders with the Republic of Kazakhstan.

The fourth level includes all regions of China, Uzbekistan, Tajikistan, Turkmenistan, Kyrgyzstan.

The fifth level includes Turkey, Iran, Iraq, Azerbaijan.

OECD countries are Japan, USA, Australia, Germany, Italy, Canada, Great Britain, France, South Korea, Mexico, Spain, Turkey.

Lean manufacturing method is a concept of manufacturing venture management based on constant drive to eliminate all kinds of losses.

Yellow pages principle – state should not be a business player in sectors with sufficient

number of private business.

Industry is a set of enterprises (plants, factories, mines, underground mines, electrical stations) making instruments of labor for industry itself and for other sectors of national economy, extracting raw materials, materials, fuel, producing energy, harvesting forest and subsequently processing goods obtained in the industry or agriculture (Big encyclopedic dictionary).

Transnational company is a company that has production departments in two or more countries, and a company with external assets of approx. 30 % of total volume.

R&D (Research & Development) center is a center of research and development works focused on acquisition of new knowledge and practical application of this knowledge when creating a new product or technology.

Value chain (also known as business system) is a descriptive model used for describing process of product movement from supplier to customer through stages that add cost or value to this product. Value chain analysis gives an insight of operating process structure in order to define areas where efficiency can be improved, performance of the sector is improved and its competitiveness is strengthened.

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