

Approved
by the Decree of the President
of the Republic of Kazakhstan No, _____
dated " " 2014

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

Astana, 2014

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Passport of the Program

Name	State Program on industrial development of the Republic of Kazakhstan for 2015 - 2019
Foundation for development	<p>Decree of the President of the Republic of Kazakhstan No. 922 dated February 1, 2010 "On the Strategic Plan of the Republic of Kazakhstan Development till 2020"</p> <p>Address by the President of the Republic of Kazakhstan dated December 14, 2012 "Strategy Kazakhstan-2050": new political course of the established state"</p> <p>Address by the President of the Republic of Kazakhstan dated January 17, 2014 "Kazakhstan's way – 2050: common aim, common interests, common future"</p> <p>Order of the President, given at the XXVI-th plenary session of the Foreign Investors Council under the President of the Republic of Kazakhstan,</p>
Executive Officer	Ministry of Industry and New Technologies of the Republic of Kazakhstan
Goal	Promote diversification and competitiveness of the manufacturing industry.
Objecties	<ol style="list-style-type: none">1) Advanced development of the manufacturing industry;2) Improving the efficiency and added value in the priority sectors;3) Increase in non-oil exports;4) Preservation of productive employment;5) Giving a new level of adaptability to the priority sectors of the manufacturing industry and providing a basis for future sector development through the formation of innovation clusters;6) Promotion of entrepreneurship and development of small and medium-sized businesses in the manufacturing industry.
Implementation term	2015-2019
Benchmarks	<p>Increase from the level of 2012:</p> <ol style="list-style-type: none">1) Gross added value in manufacturing not less than 1.5 in real terms.2) labor productivity in the manufacturing 1.3 times in real terms.3) value of non-commodity (processed) export not less than 1.1 times.4) employment in manufacturing by 29.3 thousand people.5) reduction of energy consumption in manufacturing by at least 15% compared to 2012

**Sources and
amounts of funding**

Total expenditures envisaged in the Republican budget for implementation of the Program for 2015-2019 will be 1 717 billion tenge, including:

2015 - 309 billion tenge *

2016 - 291 billion tenge *

2017 - 400 billion tenge *

2018 - 371 billion tenge *

2019 - 346 billion tenge *

* - The sums will be adjusted in accordance with the state budget for the relevant financial year

INTRODUCTION

The State program on industrial-innovative development of Kazakhstan for 2015-2019 (hereinafter - the Program) is designed in accordance with the long-term priorities of the Strategy "Kazakhstan-2050" for the implementation of key direction "Accelerating economic diversification" of the Strategic plan for development of the Republic of Kazakhstan until 2020. It is pursuant to the instructions of the President given on the XXVI-th plenary session of the Foreign Investors Council under the President of the Republic of Kazakhstan, and as part of the Address of the President of the Republic of Kazakhstan to the People of Kazakhstan "Kazakhstan's way - 2050: common aim, common interests, common future" dated January 17, 2014.

The Program is a logical continuation of the State program on forced industrial-innovative development of Kazakhstan for 2010-2014 (SPFIID) and takes into account the experience of its implementation. The Program is part of an industrial policy of Kazakhstan and focuses on developing the manufacturing industry with concentration of efforts and resources on a limited number of sectors, regional specialization using the cluster approach and the effective regulation of the industry.

The Program is developed on the basic principles and approaches of the Concept of industrial-innovative development of Kazakhstan for 2015 - 2019, approved by the Resolution of the Government of the Republic of Kazakhstan No. 1497 dated December 31, 2013. It accounts for the principles and provisions of the Concept of Innovation Development of Kazakhstan till 2020, approved by the Decree of the President of the Republic of Kazakhstan No. 579 dated June 4, 2013, the Concept on formation of promising national clusters of Kazakhstan till 2020, approved by the Regulation of the Government of the Republic of Kazakhstan No. 1092 dated October 11, 2013 and other program documents in the field of industrialization.

Implementation of this Program depends on the success of attracting foreign direct investment in manufacturing, the share of budget funds in the total amount of funding required amounts 20%. The Program is sensitive to the public policy aspects affecting the business climate. Success of the Program will depend on the achievement of the Republic of Kazakhstan of tasks set to improve the business environment (Doingbusiness), increasing the country's competitiveness (Globalcompetitivenessindex), reduction of the state involvement in the economy through a planned privatization based on the principle of Yellowpages, Kazakhstan ranking by FDIConfidenceIndex. It is necessary to develop a Program on social and economic development of the country till 2020 to address these challenges and define the priorities of the state economic development. Furthermore, the Program's efficiency depends on the completeness and timeliness of budgetary allocations for its implementation.

1 ANALYSIS OF THE CURRENT SITUATION

1.1 Analysis of the current situation of industrial development in the Republic of Kazakhstan

During implementation of the Strategy "Kazakhstan-2030», dynamic economic development allowed the Republic of Kazakhstan increasing the average per capita income more than twice. All the goals of the Strategy "Kazakhstan-2030" have been achieved ahead of schedule. The aim of the new Strategy "Kazakhstan-2050" is entering the country among the 30 most developed countries in the world by 2050. Its achievement will require maintaining high rates of economic growth for a long time.

Success of the Republic of Kazakhstan in the social and economic development and attracting foreign investment is largely due to such key factors as availability of natural resources, favorable macroeconomic environment and political stability.

Since 2000, Kazakhstan has continued to grow the economy's dependence on income generated by oil exports. Oil revenues in 2012 amounted about 51% of the consolidated revenues of the state, and the budget deficit excluding these revenues reached 9.3% of GDP. Transfer of the National Fund of the Republic of Kazakhstan provides funding for almost a fifth of all government expenditures.

According to the country report of the International Monetary Fund for September 2013¹ the economy showed the signs of "Dutch disease", in particular the formation of unfavorable terms of trade, costs increase in the economy and institutional issues. This is also confirmed by the structure of foreign trade. According to the Statistics Agency of RK share of mineral products in the export structure in 2003-2013 increased from 64.5% to 80%. As the world prices for resources rise these symptoms will worsen.

Kazakhstan faces the challenge of "middle-income trap." Upon reaching a certain level of wealth in the range of 10-15 thousand U.S. dollars GDP per capita growth may slow down due to rising wages, increasing transaction costs and decrease in price competitiveness of the country. In this position, Kazakhstan will not be able to compete with both developed economies having high skills and innovation, and economies of low-income, low-wage and low-cost production of industrial goods. Countries (Taiwan, Finland, South Korea, etc.) that broke the barrier in the last century, was able to do this because of accelerated development of the manufacturing industry.

Currently, industry occupies almost a third part of the structure of Kazakhstan's industry. The mining sector accounts for more than 2.5% of employment and 18% of GVA in the economy. Investments in the fixed assets in the mining industry today represent more than 30% of the total volume, and in the manufacturing industry only 12%. Kazakhstan, the world's leading exporter of extractive industries (primarily due to oil), in terms of per capita exports is ahead of all CIS countries.

¹IMF Country Report No.13/291, September 2013.

However, per capita manufacturing exports of the Republic of Kazakhstan is twice lower than the same of Russia is.

To ensure the quality economic growth of the country it will be necessary to implement structural changes in the economy required for the transition to a new stage of development. Development and launch of SPFIID was a response of the country to the challenges arising from the global financial crisis of 2008-2009. This Program laid the foundation for further industrial growth and considered as one of the examples of the system state approaches to the industrial policy. The aim of SPFIID is to ensure sustainable and balanced growth in the economy through diversification and increase of its competitiveness.

By the end of 2012 in comparison with 2008, Kazakhstan has seen positive growth dynamics of the main indicators of SPFIID: GDP grew by 22.5%; GVA of non-oil sector - by 23.4%; GVA of manufacturing sector - by 22.3%; labor productivity in manufacturing sector - by 70%; volume of non-oil exports - by 6.5%; the level of innovation activity of enterprises - by 3.6%; volume of innovative products - by 240%, energy intensity of GDP decreased by 13.6% (Table 1.1.1).

Table 1.1.1. Dynamics of the main benchmarks of SPFIID 2008-2012

Indicator	2008	2009	2010	2011	2012	2012 to 2008, %
Gross domestic product, trillions of KZT	16.1	17.0	21,8	27.6	30.3	122.5
Gross value added of non-oil sector, trillions KZT	11,8	12.7	15.9	19.3	21.9	123.4
Gross value added of manufacturing industry, trillions KZT	1,84	1,79	2.5	3.1	3.4	122.3
Labor productivity in the manufacturing industry, thousands of U.S. dollars / person	37.3	29.4	41,0	52.7	61.8	166.8
The volume of non-commodity (processed) export, USD billions.	20.1	12.0	16,8	20.2	21.4	106.5
Share of innovation active enterprises by the number of operating, %	4.0	4.0	4.3	7.1	7.6	3.6
The volume of innovative products and services, KZT billions	111.5	82.6	142.2	235.9	379	339.9
Energy intensity of GDP, TOE/ USD thousand at prices of the year 2000	1.77	1.48	1.84	1.73	1.53	86.4

Source: Agency of the Republic of Kazakhstan on Statistics

In the process of industrialization, the focus in the industry is gradually shifting towards the manufacturing industry, although its level of development remains relatively low. Manufacturing sector generates less than 7% of employment and 12% of GVA in the country's economy. For comparison, the level of productivity in the manufacturing industry of Kazakhstan is 2 times lower than the average for member countries of the Organization for Economic Cooperation and Development (OECD), the share of employment in manufacturing industry of Kazakhstan is inferior to all the OECD countries.

State support for industrialization was carried out through the implementation of the economic policies system measures at the macro and sectoral levels, as well as selective measures to support specific sectors and projects, based on a combined package of financial and non-financial support, through the formation of a favorable macroeconomic environment, expansion of financial support instruments, infrastructure, resource and staffing, improving the business environment, technological modernization, innovation and science, creation of favorable conditions for attracting foreign direct investment, effective trade and tariff policy.

Industry regulation

Technical regulation has become an effective tool for renewal of production assets. Around 2.5 thous. standards were adopted during 2010 - 2013, allowing production of more than 150 new products in engineering, pharmaceuticals, chemical and food industries and other sectors.

However, technical regulation has not become an effective tool to protect the domestic market from deficient and unsafe imported products. This is due to the lack of adequate testing facilities and certification centers network in the industry. Besides, harmonization with internationally recognized standards has not been yet completed.

Internationalization

The basic incentives have been created for the investors operating in priority sectors: exemption from customs duties, government land grants, concessions on land tax and property tax, industrial benefits. The incentives apply to all residents of Kazakhstan, including residents with foreign participation. Since 2010 there have been attracted more than U.S. \$ 90 billion in foreign direct investment, accounting for over 50% of the total gross FDI inflows since 2005; Of this amount, about U.S. \$ 25 billion have been invested in non-primary industries.

Kazakhstan is ranked 186 in the field of "international trade" by Doingbusiness 2014. It suggests that the terms of the foreign trade operations do not meet international standards. This figure is unchanged since the beginning of ranking the country.

More than \$ 90 billion have been attracted since 2010. T.Kerney (FDI confidence index) calculated for 21 countries according to the polls of the global TNC leaders with total turnover more than U.S. \$ 2 trillion. As a result, Kazakhstan as an object for investment is beyond the global companies' vision.

Technology and Innovation

Improving the competitiveness of the manufacturing industry is inextricably linked with the development of science and innovation.

With adoption of SPFIID in 2010, Kazakhstan embarked on a course of large-scale industrialization, as the foundations of the transition to an innovation economy. Completely new laws "On Science", "On state support of industrial innovation" were adopted in this period. They include both previously in force and new tools to support innovation, covering the full innovation cycle, from supporting scientific ideas to introduction of innovations into production. New impetus was given to the development of innovation: the Intersectoral plan for scientific and technological development of the country until 2020 and the Concept of Innovation Development of Kazakhstan till 2020 were adopted. Scientific field was reformed.

As a result of the reforms since the implementation of SPFIID share of innovation active enterprises increased from 4% to 7.6%, more than 5 times increased expenses of enterprises for technological innovation (from 61 to 326 billion tenge), more than 4 times increased volume of innovative products and services (from 82 to 379 billion tenge). Science funding in 2012 was doubled (47 billion tenge) and reached 0.22% of GDP. New financing mechanisms have been implemented: basic, program-targeted and grant. National research councils in areas of science have been established in accordance with national priorities of social and economic development, they include scientists, business representatives and foreign experts.

The role of innovation infrastructure have been strengthened through improving the efficiency of industrial parks, industrial design offices, commercialization centers, technology transfer centers. 9 commercialization offices, 8 regional technology parks, 4 industrial design offices, 2 Technology Transfer Centers, innovation clusters "innovation park" Alatau "Nazarbayev University" were established as part of creation the core innovation system in the country during the last 5 years. In addition, to increase access to finance 4 domestic venture fund were established, in the period from 2010 to 2013 the budget allocated innovation grants totaling more than 12 billion tenge. Scientific and Technological Holding "Parasat" and JSC "KazAgroInnovation" were created. Small innovative enterprises received a new impetus (start-ups). If during the period from 2003 to 2009, 180 innovative projects were supported, in 2010-2012 over 400 projects received support.

Key figures of scientific and innovative development have changed: innovative activity increased from 4% in 2009 to 7.6% in 2012, expenditure on technological innovation increased 5.4 times (from 31 to 168.5 billion tenge).

By a factor "Innovation" of the Global Competitiveness Index of the World Economic Forum Kazakhstan improved its ranking by 18 positions and was the 84th, by a factor "Technological readiness" - by 25 positions (the 57th place). However, despite the growth of sub factors in innovation ranking the following indicators are still low in Kazakhstan: quality of research institutes (102nd place), availability of scientists and engineers (98th), the availability of the latest technology (88th), cooperation of industry and universities (79th) the development of technologies at the companies level (78th), costs of R & D for companies (77th).

However, the industry in Kazakhstan lags behind other countries in the development of innovative and high-tech manufacturing. According to the report of the Eurasian Institute of Competitiveness, innovation system of the country occupies the 45th place (among 50 countries) in terms of competitiveness among developed and developing countries.

Despite considerable measures taken in recent years to support innovative activity the relationship between science and production, the lack of technological and managerial skills, weak demand for innovation, the relative underdevelopment of the innovative environment remain key issues. Efficient use of existing infrastructure remains inadequate, primarily because of low demand for innovation from the companies and the lack of volume and quality of research and development. In general, the mechanisms of interdependence of the various components of the innovation system and the creation of "innovation climate" have not been yet well developed.

Domestic research are made in isolation from the production. Most scientific researches are not ready to enter the market, which reduces their attractiveness for the business. Following the results of the Global Competitiveness Report of the World Economic Forum 2013 Kazakhstan occupies the 84th place by the level of innovation.

Business sensitivity to technological innovations increases moderately, but remains low ...In 2012, the share of innovation active enterprises was 7.6% of the total number of industrial enterprises, which is significantly below the same indicator in Germany (73%), Ireland (61%), Belgium (58%), Czech Republic (41%).

Expenditure on research and development of Kazakhstani companies remain very low - 0.3% of GDP, after Russia's 1.4%, Ukraine's 0.9% and 0.7% in Belarus. Besides "quantify" backlog of Kazakhstani companies by the level of innovation activity, there are significant structural problems in the organization of innovation management at the companies level. On such indicators of the Global Competitiveness Index of the World Economic Forum as "availability of the advanced technologies" and "development of technologies at the level of companies," Kazakhstan is on the 88 and 78 places respectively.

The complex of these problems is expressed in the absence of critical mass of competitive innovations, underdevelopment of their quality selection and commercialization system. The problem is compounded by the lack of clear and user-friendly tax, financial and technical incentives. In this regard, it is necessary to strengthen the work on the introduction of new tools to support innovators and optimization of their allocation, the maximum information coverage.

It is required to improve the quality of basic science, development of relevant competence centers at Nazarbayev University, strengthening research component in the universities for the appearance of absolute innovations in Kazakhstan. This direction requires pivotal improvement of the Ministry of Education and Science activity.

Financial resources. Funding model.

Previously established system of development institutions has been supplemented and adjusted to the needs of industrial and innovative development. We tested various tools to support industrial development: interest rate subsidies, reimbursement grants for innovation and implementation of technology, promotion of export, credit guarantees and others.

During the implementation of SPFIID, funding covered a wide range of industries, which led to a shortage of funds in the financing of sectoral support measures and some projects. However, funding was insufficient largely due to the underdeveloped domestic financial market infrastructure where "long" money funds should be formed and attract long-term investment. In the absence of adequate funding from commercial financial institutions this niche in the Kazakh market had to be taken by the state through a system of national holdings and development institutions.

Infrastructure

By the end of 2013 in Kazakhstan, there are 10 free economic zones and 10 industrial zones that operate in various sectors such as chemicals and petrochemicals, iron and steel industry, ICT, textiles, logistics and tourism. The state support for industrialization subjects in terms of access to basic infrastructure is performed under the FEZ and IZ. Construction and reconstruction of industrial infrastructure is carried out for 535 companies, totaling in 96 billion tenge.

However, in the absence of proper infrastructure funding the infrastructure of FEZ and IZ is not complete. Problems also exist with the efficiency and management of FEZ and IZ.

Human Resources

Number of people employed in the industry in 2008-2013 increased by 13.2% and exceeded 1 million people. As part of the Industrialization Map there were created more than 67,000 new jobs in the manufacturing industry, that allowed compensating for the loss of employment in the industry. The transition to the dual education in technical disciplines has been commenced; a system of colleges is created for technical training and education.

However, domestic and foreign companies note shortage of human resources with sufficient qualifications as a key barrier to the development of the industry. Indicators of education and science of global competitiveness index, alongwith the general trend of improvement, preserve the following challenges: by the indicator "coverage of primary education" Kazakhstan occupies the 118th place, by the "quality of research organizations" - the 108th place, "availability of scientists and engineers" - the 104 place, "Cooperation of universities and business in R & D" - the 90th place, "quality of mathematics and science" - the 81st place.

According to the results of PISA (Program for International Student Assessment), Kazakh schools senior students are inferior to their foreign peers from developed countries by most indicators of knowledge - mathematics (49 of 65 countries), the skills of working with text (63 of 65 countries) and knowledge of Exact Sciences (52 of 65 countries).

Unlike a number of developed countries (USA), where the shortcomings of secondary education are "recovered" in the higher education system, in Kazakhstan there is a low quality of higher education. According to the international rankings (QS, THE, ARWU) Kazakhstani universities do not fall within the first two hundred.

Negative trends in the education system are exacerbated by structural problems, including outdated model of educational process, the lack of modern teaching and administrative staff. In general, the education system does not meet the expected learning outcomes from the economy part.

State procurements

The state procurement system and quasi-public sector procurement has not lowered the barriers for the products of manufacturing industry to enter it. Existing requirements for local content have not created an effective stimulus for suppliers of public, quasi-public sector and subsoil users to localize production and create demand for innovation in Kazakhstan.

The existing rules governing the procurement of subsoil users significantly restrict access of Kazakh suppliers to the requirements for the technical specifications of products.

Entrepreneurship and SMEs

Due to the government support measures the contribution of small and medium enterprises in the economy of Kazakhstan has significantly increased. By the end of 2012, the share of SMEs in GDP was 17.3%. As of January 1, 2014 the number of active entities exceeded 863,000, the number of employees - 1.9 million people.

From 2010 to 2012 133.6 billion tenge was allocated from the national budget for the implementation of the program "Business Road Map - 2020", support measures covered 87,430 entrepreneurs.

A unified business infrastructure has been created, which will increase access of the economically active population to information, tools and conditions of the state support. Today the country has 17 entrepreneurs' service centers. There are 14 mobile and 27 fixed entrepreneurs support centers in all regions.

At the same time, a high concentration of quasi-public sector and extractive TNCs in the economy creates barriers to entrepreneurship and SME development, development of suppliers system around large enterprises.

Promotion of competition

According to estimates by the World Bank in 2012, Kazakhstan improved its position by 7 points, taking 49th place by the business climate in 185 countries on 10 indicators of Doing Business rating. Besides, the republic joined the list of countries, which have demonstrated significant improvements in ease of doing business for the last year. In the category "Registration of companies» Kazakhstan rose by 30 positions (from 55th to 25th), which was a result of simplifying the creation of enterprises and reforms to optimize the legislation on insolvency procedures.

However, according to the index GCIWEF 2014 in terms of the competitiveness of companies Kazakhstan ranks 94th. The main problems are

concentrated in the quantity and quality of suppliers, weak development of clusters, insufficient coverage of value chains, and low control of international distribution channels. Undeveloped business environment negatively affects the level of competition in the manufacturing industry, its ability for clustering.

1.2 [Global trends in industrial development.](#)

While developing the Program, we have taken into account the impact of global trends in the global industry.

1. Increasing importance of resources.

Shrinking resources and fluctuations of their price form two divergent trends. The first one is increasing the cost of resources in the medium term and "resource nationalism", characterized by reduced availability, the second trend - the development of resource-saving and resource-efficient technologies.

2. Globalization and transformation of production chains.

TNCs being major participants of world trade, are constantly seeking more efficient production sites and partners, including local ones. Value added chains are under constant transformation. Geography and level of their globalization is changing.

3. Strengthening the role of markets in developing countries.

Formation of a middle class in developing countries leads to a shift in demand towards emerging markets.

4. International restrictions and narrowing of opportunities for government intervention.

In recent decades a number of countries participating in international organizations voluntarily assumed obligations to limit government intervention in the economy to benefit from participation in international organizations, from the reduction of tariffs and barriers is growing. Participation in regional economic unions may impose additional restrictions on the industrial policy of the country. However, in some cases, countries deliberately violate commitments in order to support domestic industries.

5. Competition of countries for the location and development of production.

Importance of production sites in developing countries in recent decades has grown steadily and competition between them has increased. Production moves to countries with lower costs and developed resource base.

6. Increase in the share and importance of services.

With the increasing technological complexity of the product and transition to modular designs, the services play an increasing role in modern manufacturing sectors. Economic activity shifted from manufacturing to services sector, capacious in terms of human capital. Such services as research and development, engineering and design, are developed successfully only if there is demand from the competitive manufacturing sector.

7. Entrepreneurship role growth.

Industrial development in the world is based on the entrepreneurial potential. In many sectors integrated companies give way to multi-level providers systems, the role of small and medium-sized businesses grows. Countries having developed

small and medium businesses are most likely to develop successfully on their territory new segments of global industry chains.

8. Development of new production technologies (The Third Industrial Revolution).

New technologies change the global organization of production and determine the competitiveness of companies. Management of business process and supply chain with information and communication technologies, usage of new materials and new ways of production using robotics, smart modeling and additive technologies provides competitive advantages and opens up the opportunities for the development of high-tech industries in the developing countries. This leads to a reduction in production, increase in resource efficiency, rapid response to consumer demand and labor productivity growth, which affects the benefits of the developing countries in the cost of labor, helps to preserve jobs in manufacturing sector in the developed countries.

1.3 [Review of international experience in industrial development.](#)

Reducing dependence on natural resources, diversification of industry, growth of human capital, science and innovation requires the development of manufacturing industries, products of which are in demand in the world market.

Studying the experience of other developing countries: South Korea, Turkey, Malaysia, South Africa, India and the Philippines, as well as developed countries - Australia, the EU and the United States showed as follows.

Successful industrial development requires a coherent industrial policy implemented through government programs for 4-5 years. Implementation of the programs aimed at the development of a limited number of priorities. The presence of cluster policy allows for improving industry competitiveness through the creation of competitive regional industrial complexes and promotes the active creation and development of innovation.

Effective industrial policy should preserve a balance between the development of priority sectors and improving conditions for economic development. System-wide support measures in this case aimed at the general industry support in such areas as promoting competition, increasing the availability of financial resources supporting technological development and innovation.

While focusing on the development of priority industry sectors and clusters it is necessary to consider the limitations imposed by the participation of the countries in the agreements on the establishment of free trade and membership in WTO.

To implement the programs, a system of development institutions is created and the issue of interagency coordination is addressed with use of the specialized committees and councils. Application of a specialized agency for industrial development is widely used. This allows us to focus efforts and resources on a limited range of tasks. This is especially true for the Republic of Kazakhstan where the vast majority of the problems is associated with the introduction and implementation of the programs and plans.

For effective coordination, monitoring and control we use the key indicators management systems as well as agreements on performance. These modern

approaches to improving efficiency in the public sector become more widely available in developed: U.S., UK, France, South Korea; and developing: Malaysia, Turkey, India, China, etc. countries.

1.4 [Scenario of industrial development of Kazakhstan.](#)

Successful industrial development in Kazakhstan depends on many factors with varying degrees of uncertainty. It is appropriate to consider various scenarios that allow timely adjustments of the set priorities according to the changing trends. Industrial development in the Republic of Kazakhstan is largely dependent on two strategic conditions: global market conditions and the degree of integration of resources within the macro-region.

Global resources market environment is formed depending on the state of the global economy, strongly influences the activity of the backbone enterprises of the mineral sector in Kazakhstan. Consequently, it is reflected in the state budget revenues, domestic demand and welfare of the citizens.

Integration processes in the macro region specify the accessibility of markets and distribution channels of domestic industrial production, the development of inter-country cooperation, attractiveness to investors and opportunities for technology transfer and innovation. Degree of integration of the macro-region largely determines the opportunities and prospects for economic diversification.

There are four basic scenarios for the country's industrial development.

1) "Favorable Environment" - this is the most positive scenario possible in the presence of a favorable environment of global resources market and subject to close integration of the macro-region countries. While implementing this scenario government support for manufacturing in aggregate with demand formed by materials sectors and an increase in consumer demand in the macro-region countries, economy of which is also associated with prices for resources, will allow achieving significant growth in industrial production and increasing export potential.

2) "Raw Materials Sector Growth" - this is the scenario with the best resources market conditions, but in terms of a weak macro- region integration. In this case, the steady growth of industrial production will be provided by the materials sector. Relatively low growth can be expected in the manufacturing industries. Therefore, the government needs to focus on the development of sectors and clusters associated with the extraction and processing of natural resources;

3) "Growth Through Technology" will be implemented with the active integration of the macro-region countries, but under unfavorable resources market environment. However, production will grow at the expense of non-extractive industries, which implies a qualitative development of human capital. At this, the rate of industrial growth is expected to be lower than in the previous two scenarios;

4) "Slowdown in Economy" - worst-case scenario, the potential in conditions of commodity market depression and in the absence of integration of the macro-region countries. Consequently, economic isolation in the absence of access to new technologies can lead to a reduction in investment activity in the country. In such circumstances, in order to avoid the slowdown in industrial production, the state will

play a key role through the use of anti-crisis measures, coupled with an effective policy for allocation of resources.

Therefore, the alternative scenarios mentioned above give us a general description of options for the future development. In long view, it makes possible to shift the priorities according to their relevance. The most likely scenario is "Favorable Environment" and "Raw Materials Sector Growth". This Program is designed to meet the basic principles of the script "Favorable Environment".

1.5 SWOT-analysis

Strengths:

High availability of mineral resources;
Macroeconomic and political stability;
Improving business climate and reforms;
Availability of development institutions for implementation of industrial policy.

Weaknesses:

Low investment activity in the manufacturing sector;
Low availability of human resources of required competencies;
Presence of bottlenecks in infrastructure (transport and logistics, energy and water supply);
Low level of small and medium-sized businesses development with the dominance of state-owned companies;
Low level of competition in the manufacturing industry;
Low competitiveness of the innovation system;
Low resource efficiency and high energy intensity of the industry;
Undeveloped system of technical regulation;
Structural problems in the economy ("Dutch disease", middle income trap, the problem of employment);
The high levels of "bad" loans in the economy.

Opportunities:

Access to the market of the Customs Union, market opportunities in China, Central Asia and the Caspian states;
Demand of resource sectors for technical equipment, specialized services and innovation;
Introduction of modern production and management technologies in processing industry;
Improving the efficiency of public, quasi-public procurements and procurements of subsoil users.

Threats:

Negative impact of global and regional crisis on the economy and industry of Kazakhstan;
Changing conditions in world mineral commodity markets;
Increasing competition between companies from the Customs Union countries in the domestic market of Kazakhstan;
Accession to the WTO.

1.6 The selection of priority sectors.

According to the priorities of the Strategy "Kazakhstan-2050", we should support only those industries that perform socially important strategic functions and prove their efficiency. At the Eurasian emerging markets forum "Kazakhstan Entering the thirty most developed countries" the head of the state stressed the need for adjustment of industrial policy: "We need to limit the number of priority sectors for accelerated industrial policy. Otherwise it will lead to dispersion of resources and lack of concrete results".

Manufacturing development opportunities relate to the satisfaction of the mining industry demand for equipment, spare parts, components and materials, and demand of consumer sectors of the markets in the macro-region consisting of five levels: (1) the boundary regions of Russia; (2) other regions of Russia, Ukraine, Belarus; (3) the western regions of China; (4) Central Asia and other regions of China; (5) Azerbaijan, Iran and the Caucasus.

Selection of priority sectors is implemented according to the criteria:

"The attractiveness of the sector." The demand and growth prospects in the domestic market and macro-markets, as well as the contribution of the sector to employment, innovation and development of related sectors;

"Competitiveness of Kazakhstan." Availability of existing production or opportunities for production sector.

According to the analysis, there are made two groups of manufacturing sectors: basic and market-oriented, selected priority product groups. Basic sectors of the industry is the production of goods associated with high resource and energy consumption and production of large-tonnage products. Market-oriented sectors are driven by demand in the domestic market and the macro-region's market.

Priority sectors of the first and second groups sectors to support are:

- 1) iron and steel industry;
- 2) non-ferrous metallurgy;
- 3) refining;
- 4) oil and gas chemistry;
- 5) food production;
- 6) agricultural chemistry;
- 7) production of chemicals for industry;
- 8) production of motor vehicles, their parts, accessories and engines;
- 9) manufacture of electrical machinery and apparatus;
- 10) production of agricultural machinery;
- 11) production of railway equipment;
- 12) production of machinery and equipment for mining industry;
- 13) production of machinery and equipment for oil refining and oil extracting industry;
- 14) production of construction materials.

The third group, the innovative sectors, is defined according to the priorities identified in the conceptual and program documents, letters and speeches of the

Head of the State, in particular in the Address of the President of the Republic of Kazakhstan to the people of Kazakhstan on January 17, 2014 These sectors include: mobile and multimedia technologies industry, nano and space technologies, robotics, genetic engineering, search and discovery of future energy.

2. GOALS, OBJECTIVES, BENCHMARKS AND PERFORMANCE RESULTS OF THE PROGRAM

2.1 Goal, objectives and general benchmarks of industrial development of Kazakhstan till 2020.

Goal of the Program:

Promote diversification and competitiveness of the manufacturing industry.

Objectives:

- 1) Advanced development of the manufacturing industry;
- 2) Improving the efficiency and added value in the priority sectors;
- 3) Increase in non-oil exports;
- 4) Preservation of productive employment;
- 5) Giving a new level of adaptability to the priority sectors of the manufacturing industry and providing a basis for future sector development through the formation of innovation clusters;
- 6) Promotion of entrepreneurship and development of small and medium-sized businesses in the manufacturing industry.

General benchmarks.

Program implementation will allow achieving in 2019 the following economic indicators compared with the level of 2012 (Table 2.1.1):

- 1) growth of gross value added in the manufacturing sector not less than 1.6 times in real terms;
- 2) labor productivity growth in the manufacturing industry 1.4 times in real terms;
- 3) growth of the value of non-commodity (processed) export not less than 1.7 times;
- 4) reducing energy intensity of manufacturing industry at least by 15%;
- 5) employment growth in manufacturing by 29.3 thousand people.

Table 2.1.1. General benchmarks

o.	Ben chmarks	oM	2012 repo rt	2013 expect ed	Forecast compared with 2012,						2019 to 2012 , %
					014	015	016	017	018	019	
	Gros s value added growth	%	100	101.6	107.9	119.9	126.9	143.7	148.9	150.1	151
	Gro	t	3	3							b

	with in employ- ment	hours · people	59.8	59.2	67.9	79.0	92.5	97.5	99.7	106.1	by 29.3 thou- s. people
	GV A rise in labour productiv- ity	%	1	1 01.8	05.6	13.9	16.3	30.1	34.0	33.0	1 .3 times
	Gro- wth of the value of non- commodi- ty (processe- d) export	%	1 00	9 2.8	01.6	01.6	9.9	5.6	06.2	07.8	1 .1 times
.	Red- ucing energy intensity of GDP	%	1 00	1 03	01	7	3	0	7	5	b y 15%

2.2 Goals, objectives and benchmarks in the priority sectors

Implementation of the Program's projects in the priority sectors of the manufacturing industry depends on the availability of funding, solving of infrastructure problems and involves the following risks that may impede:

Macroeconomic risks associated with the possibility of slowing the economy and the level of investment activity, world prices for metal, energy and transportation;

Geopolitical risks, depending on the stable political situation in the countries of the macro-region and the depth of integration in the Eurasian Economic Community.

Regulatory and legal risks associated with a lack of technical and normative support of the Program, which creates favorable legal and economic climate;

Financial risks associated with the financing of investment projects.

2.2.1 Ferrous metal industry

Iron and steel industry has historically been a major manufacturing sector. The sector generates more than 10% of manufacturing employment. Products of the sector are the source of equipment and semis for oil and gas sector, engineering, construction industry.

As part of SPFIID in the period from 2010 to 2013, there were commissioned 27 investment projects worth 322.8 billion tenge, created more than 6.8 thousand jobs.

Examples of the projects completed under SPFIID for 2010-2013:

- 1) Reaching by the rolling shop of JSC "ArselorMitall Temirtau" the design capacity - 400 thousand tons of reinforcement and Kostanay rolling mill LLP "EvrazKaspian Steel" capacity of 450 thousand tons, reaching of the design capacity by LLP "Casting", JSC "ALZ", LLP «KSPSteel», LLP "Ferrum-Vtor" will allow fully meeting the domestic demand of Kazakhstan in the armature;
- 2) Construction of new ferroalloy plant in Aktobe (shop number 4) with a capacity of 440.0 thousand tons per year have been completed, JSC "TNK" Kazkhrom";
- 3) Kostanay rolling mill of LLP "EvrazKaspian Steel" has been launched with a production capacity of 450 thousand tons of bar steel rolled stock per year;
- 4) LLP «Kaz-metiz» organized production of steel wire with capacity of 8 thousand steel ropes, or 5 tons, which were not previously produced in Kazakhstan.

In the structure of manufacturing industry share of ferrous metal industry fell from 20% in 2008 to 13.3% in 2012. According to operational data for 2013 - 10.7%. (Table. 2.2.1.1).

Table 2.2.1.1. Share of ferrous metal industry in the volume of the manufacturing industry in RK, %.

Name	2008	2009	2010	2011	2012	2013
Share in the manufacturing industry	20.0	15.0	8.2	7.1	3.3	0.7

Source: Agency of the Republic of Kazakhstan on Statistics

Production volume increased 1.6 times from 2008 to 2012. According to operational data for 2013 production volume amounted to 631.9 billion tenge. This sector increased production from 2008 to 2011. The production has started to decline since 2012. (Table 2.2.1.2).

Table 2.2.1.2. Dynamics of production for 2008-2013, billion tenge

Name	2008	2009	2010	2011	2012	2013
Manufacturing industry	359.5	945.9	844.6	801.4	446.7	882.4
Quantity index number, % of the previous year	97.5	97.1	113.9	107.7	101.2	101.6
Ferrous metal industry	441.6	443.6	678.3	785.4	700.9	631.9
Quantity index number, % of	86.6	101.6	109.4	106.8	88.2	89.6

the previous year						
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Source: Agency of the Republic of Kazakhstan on Statistics

Gross value added increased from 395.2 billion tenge in 2008 to 450.6 billion tenge, or 1.14 times.

Number of people employed in the industry in the period from 2008 to 2012 decreased by 28 thousand people. In 2013, employment in the industry was 37 594 people. Labor capacity in 2012 amounted to 111 thousand of U.S. dollars and for the period from 2008 to 2012 increased 1.5 times. However, in 2012 the industry was still 37% behind the average index of the OECD countries (151.9 thousand of U.S. dollars).

Cost of basic fixed assets at the end of 2012 at book value amounted to 115.5 mln. tenge. Depreciation of fixed assets in 2012 was 35.27%, coefficient of renewal of fixed assets - 11.7%. It should be noted that the smallest coefficient of renewal of fixed assets was seen in 2009 and 2010.

Operating rate for 2008-2012 was in average 67.9% with the world average level 80%. The main reasons for the decline:

- 1) Decline in consumer demand in the steel consuming industries in the domestic and foreign markets, resulting in decreasing of operating rate of Kazakhstan pipe plants in 2012 to 24%. Which includes reducing of steel production in the LLP «KSP Steel», seamless pipes in the LLP "Casting";
- 2) Moral and physical deterioration of basic production assets at the JSC «« ArselorMittalTemirtau " which has led to significant equipment downtime at the enterprise. Therefore, the blast furnace number 1 from the last overhaul of the 1st grade has worked for 30 years though the standard rate is 16 years. Shutdowns of the converter No.2 and No.3 (welding of blowholes in the gas pipe), maintenance and repair of the BF No. 1 and BF No.4;
- 3) High level of the furnaces No1 and No.6 hot-idles in Aksu Ferroalloy Plant of the JSC "TNK" Kazkhrom" due to adverse furnace No.61 resulted in decline in the production of ferroalloys;
- 4) Low operating rate at LLP "Taraz Metallurgical Plant" is associated with deficiency of manganese ore for 400 thousand tons at launching six furnaces. It is projected that in 2016 deficit will amount to 900 thousand tons of manganese ore in 2017 - 1.4 million tons (it is required 324 tons of manganese ore for one furnace operation).

Metal industry companies operate in Kazakhstan in a special mode, in frames of that they are granted tariff and tax preferences. At the initial stage of the industry development, it allowed to attract both domestic and foreign investment for the diversification of the Kazakhstan's economy. Investments in the fixed assets in 2013 in the steel industry totaled 278.4 billion tenge, an increase compared to 2008 (138.1 billion tenge) was 2.8 times. The predominant sources of financing investments in fixed assets of metallurgical industries are own funds of investors -74.2% of the total investment, foreign and borrowings - 12.9%, respectively.

In 2013, exports of steel products compared to 2008 decreased by 47.3% and amounted to U.S. \$ 3.4 billion. Pipe products for export in 2013 amounted to 76.5

million tons, including 32.9 million tons exported to Russia (44.9%). The greatest decline in exports was seen in 2009 and 2010. Since 2012, the situation with export to Iran remains tense.

The activities of the metallurgical industry is heavily influenced by external factors, including the slowdown in the world economy, the protracted crisis in the Euro area, the decline in economic growth in China, the international sanctions against Iran, the state of the metallurgical industry of Russia, etc. Complexity of international markets affected the export of products and steel industry's plants capacity, such as JSC "ArselorMittalTemirtau", LLP "Casting", LLP "ALZ" and LLP «KSPSteel».

The volume of imports in the steel industry in 2013 compared to 2008 increased by 12.9%. Imports of pipe products and fittings for steel and cast iron pipes in 2013 amounted to 2 445.3 thousand tons, including 1 478.5 thousand tons from Russia (60.5%), 337.9 thousand tons from China (13.8%), 215.1 thousand from of Ukraine (8.8%), wire produced by cold extraction - 78.2 tons, hot-rolled bars and rods - 754.6 tons, profiles and welded constructions of sheet steel and ferrous metal products for railways - 244.9 tons, which are not produced in Kazakhstan.

In 2012, the country produced 275 tons of reinforcing bars, while imports amounted to about 227 thousand tons, of which 215 thousand tons from Russia. The main producers of rebar in Kazakhstan are JSC "ArselorMittalTemirtau", LLP "Casting", LLP "Aktau foundry", LLP "Ferrum Fluorine", total design capacity of which is 900 thousand tons.

Basic data on the sector for 2010 - 2013 years are given in the Table 2.2.1.3.

Table 2.2.1.3. Sector data for 2010 - 2013.

Parameters	2008	2009	2010	2011	2012	2013
GVA, billion tenge	395.2	294.9	388.9	487.9	450.6	399.7
Staff listing	65,627	62,345	60,649	58,504	38,307	37,594
Number of operating enterprises	22	22	30	26	28	33
Labor capacity, thous. tenge	8889	6928	9581	13,118	16,732	13,814
Labor capacity, thous. dollars	73.6	46.7	65.0	88.4	111	89.9
Average labour productivity in the OECD countries, thousand dollars	148.3	120.0	143.2	153.2	152.0	n/a
Usage of the annual average capacity in the reporting year, %	56.9	64.5	73.8jjj	79.0	65.5	n/a
Depreciation of fixed assets, %	33.92	30.23	38.21	32.30	35.27	n/a
Investments in fixed assets, bn tenge	138.1	160.3	195.5	246.5	265.5	278.4
Coefficient of renewal 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, bn tenge	126,242	84,303	97,279	89,630	115,468	n/a
Exports, USD million	6 530.8	3 069.1	3 765.0	4 875.6	4 030.8	3 444.2
Imports, USD million	5 570.9	5 192.6	2 225.7	2 990.8	4 742.9	5 641.3

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

33 enterprises worked in the steel industry in 2013. Production capacity of the steel industry is mainly concentrated in Aktobe, Karaganda, Kostanai and Pavlodar regions.

Major manufacturers and nomenclature of steel products is given in the Table 2.2.1.4. There is seen a high concentration, as the share of JSC "Arcelor Mittal Temirtau" is 38.3%.

Table 2.2.1.4. Major manufacturers and range of products

Enterprise	Location	Output product	Production volumes, thous. tons
JSC "ArcelorMittal Temirtau"	Temirtau, Karaganda region	cast iron	2622.7
		steel	2967
		rolled products	2275.9
JSC «ArcelorMittal Tubular Products Aktau»	Aktau Mangystau region	spiral-welded pipes	15.7
JSC "SSGP"	Rudny Kostanay region	iron-ore concentrate	9284
		steel pellets	6699
		steel pellets screenings	221
JSC "TNK" Kazkhrom "	Aktobe Aktobe region	ferroalloys	1677.4
LLP "Aktau foundry"	Aktau Mangystau region	stock materials	19.5
		rolled products	17.8
LLP «KSP Steel»	Pavlodar Pavlodar region	pipes	129.1
LLP "Casting"	Pavlodar Pavlodar region	Square blooms	75.262
		rolled steel balls	36.933
		rolled rebar	40,940
		cathode copper	15,760
LLP «Ferrum Vtor»	Shymkent, South	fittings and circles	12.2

	Kazakhstan region	rod	1.7
		angle	3.6

Source: JSC "KIDI"

The largest players in the global market of ferrous metal industry included in the list of transnational companies of the world by the magazine Forbes, - Global 2000 which are present in the domestic industry: Posco (South Korea - \$ 56.5 billion), ArcelorMittal (the USA - \$ 84.2 bn), EvrazGroup (Russia - \$ 16.4 billion). Transnational companies of the world of Global 2000 list, which are most interesting for cooperation in investing steel industry: JSC "Severstal" (\$ 14.1 billion) and OJSC "NLMK" (\$ 12.2 billion).

Strengths: availability of main raw material and willingness of the state to support the industry.

Weaknesses: a narrow range and low quality of metal and metal products in the sectors of mass demand; high degree of depreciation of fixed assets; underutilized production capacity; insufficient investment; low productivity and lack of resource efficiency; shortage of qualified personnel, poor development of research and development.

Opportunities:

growth in domestic demand for metal and metal products by resource and infrastructure sectors of the construction industry;

potential of exports to the CU countries and manufacturing high value added products that are not produced in Kazakhstan - ferromanganese, ferrosilicon, cold drawing wire, hot-rolled bars and rods, profiles and welded construction of steel sheet pile and ferrous metal for railway tracks, pipes of different diameter, seamless steel hollow fittings, non-cast steel fittings for pipes, large and small diameter pipes, hollow profiles of cast iron, pipes and cast fittings for cast iron pipes;

production of high quality raw materials to produce steel (granular iron and hot briquetted iron, ferroalloys with non-ferrous and rare metals), production of high quality steel (pipe and corrosion-resistant, heat-resistant, tool, ball bearing, rail and spring steel) and expanding of high-alloy steel range of products.

Threats:

growing competition from more advanced metallurgical industry of foreign countries;

limit of state support in connection with membership in the CFMZ and accession to the WTO;

change in tariff policy of transport and energy monopolies;

social policy to preserve jobs and investment in social infrastructure.

Goals, objectives and benchmarks

Goal: To stop downturn in production and provide transition to sustainable development.

Objectives:

1) Utilization of existing facilities.

- 2) Modernization of existing companies in the industry to improve production efficiency through increased productivity and resource efficiency.
- 3) Expanding the range and quality of steel and metal products in mass demand sectors.
- 4) Creation of new competitive industries in the high-margin segments.
- 5) Providing the necessary infrastructure for investment projects;
- 6) Stimulating domestic demand.
- 7) Export promotion and participation in global value chains.
- 8) Providing industry with skilled manpower, including secondary technical resources management;

Benchmarks:

Program implementation will allow achieving the following economic indicators in 2019 to the level of 2012 (Table 2.2.1.5):

- 1) not less than 1.3 times growth of the gross value added in real terms;
- 2) employment growth by 6.2 thousand people;
- 3) 1.2 times growth of labor productivity in real terms;
- 4) not less than 1.03 times growth of the value of non-commodity (processed) export.

Table 2.2.1.5. Benchmarks

No.	Benchmarks	UoM	2012 report	2013 expected	Forecast in relation to 2012						2019 to 2012 %
					2014	2015	2016	2017	2018	2019	
1	Gross value added growth	%	100	89	104	118	129	133	133	133	1.3 times
2	Growth in employment	thous. people	38.3	37.1	37.5	40.1	43.2	44.2	44.2	44.5	by 6.2 thousand people
3	GVA rise in labour productivity	%	100	92	106	113	114	115	115	115	1.2 times
4	Growth of the value of non-commodity (processed) export	%	100	69	78	89	99	103	103	103	1.03 times

Priorities for the sector's development

Priority activities

Priority activities in the steel industry is the production of iron, steel and ferroalloys, tubes, pipelines, hollow profiles and steel fittings, cold drawing wire (Table 2.2.1.6).

Table 2.2.1. 6. Priority activities

CCEA-4	Name
2410	Production of cast iron, steel and ferroalloys
2420	Production of steel tubes, pipelines, profiles and fittings
2431	Cold drawing (production of steel rod and one piece blank)
2432	Cold rolling of strands and narrow strips
2433	Cold forming or folding
2434	Production of wire by cold drawing
2451	Casting of iron
2452	Casting of steel

Source: Agency of the Republic of Kazakhstan on Statistics

Priority product groups

Table 2.2.1.7 shows selected according to the results of the analysis and evaluation of priority product groups of the sector.

Table 2.2.1. 7. Priority product groups

FEACN-6	Name of a product group	Import capacity of domestic market	Import capacity of macro-region markets
730,511	Pipes for oil or gas pipelines	909.5	1 418.2
730439-411	Seamless welded pipes of different diameters	1 535.8	4 739.1
732690	Other iron or steel products	321.0	4 013.6
721,070	Flat-rolled iron or non-alloy steel products, 600 mm or more wide, plated, galvanized or otherwise coated.	107.6	2 303.1
730,890	Metal structures made of ferrous metals (excluding prefabricated building structures of 9406item) and parts thereof	268.8	2 481.6
721049	Flat-rolled iron or non-alloy steel products, 600 mm or more wide, plated, galvanized or otherwise coated	79.2	2 889.7
721,420	Iron bars	86.4	1 052.5
730,210	Ferrous metals products used for railways or tramways	149.1	859.7
731815	Screws, bolts, nuts, etc.	46.3	2 161.2
721499	Iron or non-alloy steel rods not further	88.9	558.2

	worked.		
732020	Ferrous metals springs, bow springs and sheets for them	9,8	554.7
731816	Screws, bolts, nuts, coach screws, and similar products made of ferrous metals	9.6	814.6
720293	Ferroalloys. Ferroniobium	1.9	1 450.4

Source: Agency of the Republic of Kazakhstan on Statistics and Customs Control Committee of the Republic of Kazakhstan, "JSC KIDI" - a report on the Integrated Map of Priority Goods and Services.

Priority projects

In the period from 2015 to 2019 state policy in the development of ferrous metal industry will be aimed at the implementation of priority areas for the production of high quality raw materials to produce steel (granular iron and hot briquetted iron, and increase the production of new types of ferroalloys), the production of new types of steel (pipe and corrosion-resistant, heat-resistant, tool, ball bearing, rail and spring steel) and expanding assortment of high-alloy steel, shipbuilding steel. In the five-year period it is provided for the implementation of 11 projects within the Industrialization Map, planned for launch in the period 2015 - 2019, discussed with applicants. (Table 2.2.1.8).

Table 2.2.1.8. Projects within the Industrialization Map, planned to be launched in the period 2015 - 2019

No .	Name of the project	Region	Creating jobs, people	Volume of investments, bn tenge	Commissioning	Capacity, in size
1	Construction of a plant for the production of welded steel pipes, with capacity of 200 thousand tons per year.LLP «SERVICE PIPES HOLDING»	Almaty region	500	27.7	2015	200 thousands of welded pipes
2	Mining and processing of iron ore to obtain pig iron by	Almaty region	500	10.5	2015	400 tons of cast iron per year

	innovative technology, 400 tons of cast iron Tekeli. LLP «Bapy Mining»					
3	Diversification and expansion of ferroalloy production and its raw material base with bringing capacity to 300 thous. tons of ferroalloys per year. LLP "Taraz Metallurgical Plant"	Zhambyl region	1910	29.0	2016	300 thous. tons of ferroalloys per year
5.	Construction of the 1 stage of complex alloys plant in Karaganda with capacity of 75 thousand tons per year. LLP "Complex alloys plant of Karaganda"	Karaganda region	2800	32.6	2015	75 thous. tons of complex alloys
6	Construction of roasting machine with capacity 5 million tons per year of high quality steel pellets	Kostanay region	310	54.4	2019	5 million tons of steel pellets

	in Rudny.JSC "SSGPO"					
7	Construction of the plant in Rudny for the production of metallized product with capacity of 1.8 million tons of briquetted iron.JSC "SSGPO"	Kostanay region	550	99.1	2019	1.8 million tons of briquette d iron
8.	Organization of production of bar steel rolled stock of various profiles with capacity of 15 thousand tons of finished products per year.LLP "TransSphere -SP"	Kostanay region	25	0.4	2015	15 thousand tons of bar steel rolled stock
2	Construction of electric- furnace melting complex, 600 thousand ton s of steel blooms. LLP "Aktau foundry"	Mangysta u region	714	24.6	2015	600 thousand tons of steel bloom
10	Development of pipe rolling increasing capacity to	Pavlodar region	135	3.9	2015	270 thousand tons of pipes per year

	270 thousand tons of pipes per year. LLP «KSP Steel»					
	TOTAL		7444	282.2		

List of prospective projects announced by iron and steel enterprises and planned to be launched for 2015 - 2019 is shown in the Table 2.2.1.9.

Table 2.2.1.9. Promising projects announced by iron and steel enterprises and planned to be launched for 2015 - 2019.

No .	Name of the project	Region	Creating jobs, people	Volume of investments, bn tenge	Commissioning	Capacity, in size
1	Creating a medium-carbon ferrochrome production by innovative technologies in Aktobe Ferroalloy Plant. JSC "TNK" Kazkhrom "	Aktobe region	-	14.2	2015 - 2018	-
2	Design and construction of ferroalloy gas utilization power plant (50 MW) in Aktobe Ferroalloy Plant. JSC "TNK" Kazkhrom "	Aktobe region	-	16.2	2015 - 2018	-
3	Processing of refined ferrochrome stale slag in Aktob	Aktobe region	-	7.5	2015 - 2018	-

	e Ferroalloy Plant. JSC "TNK" Kazkhrom "					
4	Construction of the shop No. 4 mixing section for production of low-carbon ferrochrome - first stage in Aksu ferroalloy plant. JSC "TNK" Kazkhrom "	Pavlodar region	-	14.1 + 1.1 own resources	2015 - 2019	-
5.	Renovating the shop No. 6 to increase production of VUFH from 326,261 mln. tons to 444,000 mln. tons in Aksu ferroalloy plant. JSC "TNK" Kazkhrom "	Pavlodar region	-	12.8 + 1.1 own resources	2015 - 2019	444 thousand tons of ferroalloys
	TOTAL:			67		

2.2.2 Non-ferrous metal industry

Non-ferrous metal industry is the key sector of manufacturing industry of the Republic of Kazakhstan, forming export potential of manufacturing. Products of the sector are used in mechanical engineering, electrical engineering, construction, and electronics.

As part of SPFIID in the period from 2010 to 2013, there were implemented 23 investment projects worth 366.7 billion tenge, created 8.2 thousand jobs.

Examples of projects completed under SPFIID in the period of 2010-2014.:

- 1) Gold refinery plant with production capacity of 25 tons of refined gold was commissioned in Astana;
- 2) Gold processing plant of the LLP «AltyntauKokshetau» with a design capacity of 12.5 tons of gold per year was commissioned for processing at LLP

"Kazzinc", which allowed increasing production of refined gold in Kazakhstan to 24 tons in 2013;

3) With the launch of the plant for the production of titanium ingots and alloys in JSC "Ust-Kamenogorsk Titanium and Magnesium Plant" the production of not previously manufactured products started in Kazakhstan - titanium ingots and alloys. Production is 100% export-oriented, takes 50% share in the titanium sponge market of the USA and 20% of the world market;

4) The second stage of the electrolysis plant of JSC "Kazakhstan Electrolysis Plant" was commissioned in Pavlodar region, which allowed increasing the production of primary aluminum to 250 tons and reducing alumina export by 500 thousand tons per year;

5) LLP "Sary-Kazna" has implemented a project to build a plant to produce cathode copper with the capacity of 10 thousand tons of cathode copper per year. The uniqueness of the production lies in the complex extraction of useful components from man-made mineral wastes of the Kounrad mine. This method has been applied for the first time in Kazakhstan.

Share of non-ferrous metals in the structure of manufacturing increased from 19.5% in 2008 to 23.3% in 2012. %. According to operational data for 2013 - 19.2%. (Table 2.2.2.1).

Table 2.2.2.1. Share of non-ferrous metals in the bulk manufacturing of RK, %.

Name	2008	2009	2010	2011	2012	2013
Share in the metal industry	19.5	20.0	23.7	25.2	23.3	19.2

Source: Agency of the Republic of Kazakhstan on Statistics

Production volume increased 1.7 times since 2008 to 2012. For 2013, production reached 1131.4 billion tenge, or increased by 57.8% compared with 2008 (Table 2.2.2.2).

Table 2.2.2.2. Dynamics of volume for 2008-2013, bn tenge

Name	2008	2009	2010	2011	2012	2013
Manufacturing industry	3 359.5	2 945.9	3 844.6	4 801.4	5 446.7	5 882.4
Quantity index number, % of the previous year	97.5	97.1	113.9	107.7	101.2	101.6
Non-ferrous metallurgy	717.1	592.4	883.0	1 156.0	1 224.1	1 131.4
Quantity index number, % of the previous year	104.5	92.0	115.7	108.2	107.2	98.8

Source: Agency of the Republic of Kazakhstan on Statistics

Gross value added increased from 384.9 billion tenge in 2008 to 722.4 billion tenge in 2012.

Number of people employed in the industry in the period from 2008 to 2012 decreased by 16.3 thousand people. In 2013, employment in the industry was 47 276 people.

Labor productivity in the non-ferrous metal industry in 2012 amounted to 124 thousand U.S. dollars and for the period from 2008 to 2012 increased 1.8 times. This indicator of the OECD countries during the same period averaged 147.5 thousand U.S. dollars, which is 18.9% higher compared to the same period in Kazakhstan.

Capacity utilization for the period of 2008-2012 in nonferrous metallurgy averaged 87.4%. Depreciation of fixed assets in 2012 amounted to 47.47%, a renewal of fixed assets - 12.7%. The greatest rate of renewal of fixed assets was observed in 2009 - 25.6%. Cost of fixed assets in nonferrous metallurgy at the end of 2012 at book value amounted to 197.3 trillion tenge, or 5.6% of the value of all fixed productive assets in manufacturing.

The volume of nonferrous metallurgy exports increased from 2008 to 2012 by 1.6% and in 2013 amounted to U.S. \$ 4.2 billion. The industry is export-oriented, of the total production in 2008-2012 exports amounted to: raw aluminum - 70.5%, raw zinc - 88.2%, raw lead - 87.8%, refined copper - 89.3%, copper wire - 61.4%.

The volume of non-ferrous metallurgy imports in 2012 compared to 2008 decreased by 15.9%. In 2013, imports amounted to U.S. \$ 426.3 million. Imports of non-ferrous metallurgy products of higher processing not produced in Kazakhstan - copper and copper alloys unfinished products. (Table 2.2.2.3).

Table 2.2.2.3. Sector data for 2010 - 2013.

Parameters	2008	2009	2010	2011	2012	2013
GVA, billion tenge	384.9	393.8	506.3	718.2	794.3	722.4
Staff listing	69,528	64,910	65,649	62,850	53,271	47,276
Number of enterprises	47	39	36	36	36	34
Labor capacity, thous. tenge	8164	8827	10,495	15,033	18 692	16,565
Labor capacity, thousand \$	67.6	59.5	71.2	101,3	124.0	107.8
Labor productivity in the OECD countries, thousand \$	131.6	121.7	141.1	149.6	147.5	n/a
Usage of the annual average capacity in the reporting year, %	93.2	86.7	88.2	86.5	82.2	n/a
Depreciation of fixed assets, %	38.85	39.58	34.87	35.24	47.47	n/a
Investments in fixed assets, bn tenge	138.1	160.3	195.5	246.5	265.5	278.4
Coefficient of renewal 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, bn tenge	109,784	143,087	157,846	190,782	197,317	n/a
Exports, USD million	4 274.4	2 407.1	3 388.7	4 778.6	4 343.4	4 230.3
Imports, USD million	489.8	299.2	206.9	364.0	412.0	426.3

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

34 non-ferrous metallurgy enterprises functioned in 2013. Production is concentrated in the East Kazakhstan, Karaganda and Pavlodar regions (Table 2.2.2.4).

Table 2.2.2.4. Large manufacturers and range of products

Enterprise	Location	Output product	Production volumes
"Ust-Kamenogorsk Titanium and Magnesium Plant"	Ust-Kamenogorsk East-Kazakhstan region	titanium sponge	5.15 mln tenge
		titanium alloys and ingots	11 306 mln tenge
		tradeable magnesium	716 million tenge
LLC "Kazakhmys Corporation"	Zhezkazgan Balkhash, Ust-Kamenogorsk Karaganda region	refined copper	264.3 thousand tons
		refined gold	3.5 tons
		refined silver	402.7 tons
LLC "Kazzinc"	Ust-Kamenogorsk East-Kazakhstan region	refined zinc	300 thousand tons
		refined lead	90.5 thousand tons
		refined copper	60 thousand tons
		refined gold	19.9 tons
		refined silver	553.6 tons
JSC "Kazakhstan Aluminium"	Pavlodar Pavlodar region	alumina	1590 thousand tons
JSC "Kazakhstan Electrolysis Plant"	Pavlodar Pavlodar region	primary aluminum	250 thousand tons
JSC "Kazenergocable"	Pavlodar Pavlodar region	aluminum wire	15 tons

The largest players in the global market of nonferrous metallurgy, included in the list of transnational companies in the world by the magazine Forbes - Global 2000 are present in the domestic non-ferrous metallurgy: Eurasian Natural Resources

Corporation (6.3 \$ billion), Glencore International (214/4 \$ billion), Sumitomo Metal Mining (10.2 \$ billion).

World transnational companies of Global 2000 list, which are most interesting for cooperation in the domestic non-ferrous metal industry: RioTinto (51.0 \$ billion), Xstrata (32.3 \$ billion) and OAO "Norilsk Nickel" (\$ 12.8 billion).

Strengths:

availability of raw materials and production of major base metals;
the presence of large, vertically integrated industrial enterprises;
willingness of the State to support the industry.

Weaknesses:

high degree of depreciation of fixed assets;
insufficiency of investments; low productivity and resource efficiency compared to the world average level;
small capacity and dispersal of the domestic market;
shortage of qualified personnel.

Opportunities:

emerging markets of China, India and Southeast Asia growing demand in base metals;
increased access to foreign markets for base metal producers at accession to the WTO.

Threats:

change in tariff policy of transport and energy monopolies;
depletion of the resource base;
volatility of prices for base metals;
limitations of government support measures associated with membership in the CFMZ and accession to the WTO;
social policy to preserve jobs and investment in social infrastructure.

Analysis of the SPFIID implementation.

7 sectoral measures of state support have been defined in the mining and metallurgical complex of SPFIID.

1. Providing with infrastructure - not executed (capacity of railway stations has not been increased: Aksu-2 (Pavlodar region), Don (Khromtau, Aktobe region) Zhinishke (Aktobe region).

2. Providing qualified human resources - in progress (Staffing requirements in 15 specialties of steel industry in Aktobe, EK, Karaganda, Pavlodar region s has been covered by training in high schools and 10 institutions of VET within the state educational order, a system of vocational education issuing secondary level technical specialists for metallurgy and metalworking has been restores and practical training in manufacturing plants is implemented for a period of 3 months with fixing of individual leaders in the fields).

3. Removing administrative barriers - in progress (in metallurgy and mining the Resolution of the RK Government approved 5 technical regulations of RK. 193 state standards acts in metal and mining industry, of them 144 standards have

been aligned with international requirements.⁹⁷ state standards of RK were approved in 2010-2011).

4. Promotion of the development of innovation and technological modernization - in progress (Center of metallurgy is created in Ust-Kamenogorsk, East Kazakhstan. The old equipment has been dismantled. Reconstruction and strengthening of building structures has been started. A hydraulic press has been launched. There is conducted construction and installation work for thermal-oxidative facility. Furthermore, MINT RK developed 19 kinds of new technologies under the budget program 006 "Applied technological researches" according to the Industry Program for Development of MMC in Kazakhstan for 2010-2014).

5. Inducing direct investments - not executed. Because consumers enter the contracts directly with major manufacturers of raw materials, the major manufacturers of raw materials make it impractical to sell through the stock exchange to domestic refiners, as the demand for raw materials for the domestic enterprises of metallurgy and metal is low).

6. Development of systematic measures of large backbone enterprises of mining and metallurgical complex participation in diversification of Kazakhstan economy and creation of added value, including the development of local content, technology transfer, promote development of new types of products (protocol instructions of the Head of State of Kazakhstan at the 25th plenary meeting of the Council of Foreign Investors under the President of RK dated May 22, 2012 and the orders of the Head of the Presidential Administration No.283-10kbpu dated June 18, 2012) - in progress.

Goals, objectives and benchmarks

Goal: Increased production of base metals, development and creation of production of their products.

Objectives:

Expansion of existing businesses' capacity and creating new production of base metals.

Modernization of existing companies in the industry to improve production efficiency through increased productivity and resource efficiency.

Expansion of existing production and development of new base metals products output for related sectors.

Providing the necessary infrastructure for investment projects;

Promotion of demand in the domestic market;

Promotion of export and participation in global value chains.

Providing industry with skilled workers, including technologists.

Program implementation will allow achieving in 2019 the following economic indicators to the level in 2012:

Benchmarks:

Program implementation will allow achieving in 2019 the following economic indicators to the level of 2012 (Table 2.2.2.5):

1) growth of the gross value added not less than 1.2 times in real terms;

2) reduction in employment not more than 2.2 thousand people;

- 3) 1.3 times growth of labor productivity in real terms;
- 4) not less than 1.3 times growth of non-commodity (processed) export.

Table 2.2.2.5. Benchmarks

No.	Benchmarks	UoM	2012 report	2013 expected	Forecast in relation to 2012						201 to 201 %
					2014	2015	2016	2017	2018	2019	
1	Gross value added growth	%	100	91	92	113	114	119	123	123	1.2 times
2	Decrease in employment	thous. people	53.2	47.2	47.3	48.3	49.8	50.6	50.6	51.0	by 2 thous. people
3	GVA rise in labour productivity	%	1	102	<104	125	121	125	129	129	1.3 times
4	Growth of the value of non-commodity (processed) export	%	100	82	100	87	101	110	125	128	1.3 times

Priorities for the sector's development

Priority activities

Priority activities in the production of non-ferrous metals are production of: copper, lead, zinc and tin, aluminum, precious metals not included in other groups. (Table 2.2.2.6).

Table 2.2.2. 6.Priority activities

CCEA-4	Name
2441	Production of precious metals
2442	Production of aluminum
2443	Production of lead, zinc and tin
2444	Production of copper
2445	Production of other non-ferrous metals
2453	Casting of light metals
2454	Casting of other non-ferrous metals

Priority product groups

Table 2.2.2.7 shows priority product groups selected according to the analysis and evaluation.

Table 2.2.2. 7. Priority product groups

FEACN-6	Name of a product group	Import capacity of domestic market	Import capacity of macro-region markets
740710	Refined copper rods and profiles	2.9	120.5
740811	Refined copper wire with a maximum cross-sectional dimension exceeding 6 mm	2.0	1 073.3
740,819	Other copper wire with max. cross-sectional dimension exceeding 0.5 mm	1.6	679.1
741,110	Refined copper pipes and tubes	49.1	316.3
741220	Copper alloys fittings for tubes and pipes	6.1	288.6
760110	Raw aluminum. Unalloyed aluminum	4.3	275.9
760421	Hollow profiles made of aluminum alloys	11.6	195.3
760,429	Other bars and profiles made of aluminum alloys	14.2	493.6
760,611	Plates, sheets and strips or rectangular strips (including square) made of unalloyed aluminum, with a thickness exceeding 0.2 mm	9	217.8
760,612	Plates, sheets and strips, rectangular strips (including square), with a thickness of 0.2 mm, made of aluminum alloys	3.0	1 784.0
760719	Aluminum foil without foundations, other, with a thickness not exceeding 0.2 mm	1.9	771.4
760720	Aluminum foil with foundation, thickness (excluding any foundation) not exceeding 0.2 mm	5.4	502.0

Priority projects

In the period from 2015 to 2019 state policy in the development of non-ferrous metallurgy of the country will focus on the expansion of base metals production: copper, gold, titanium, with the exception of aluminum, and increasing in production volumes of products: rolled wire, wire, rolled profile and alloys, foil, jewelry products, products for related industries. The possibilities to use titanium in the oil and gas industry will be explored.

12 projects within the Industrialization Map are provided for the implementation in the five-year period. They are scheduled to be launched in the period 2015 - 2019 and were discussed with the applicants. (Table 2.2.2.8).

Table 2.2.2.8. Projects within the Industrialization Map, planned to be launched in the period 2015 - 2019

No .	Project	Region	Creating jobs, people	Volume of investments, bn tenge	Commissioning	Capacity, in size
1	Concentration plant for processing gold ores in the field "Jubileynoye" and construction of the mine, 5 million tons of ore (6000 kg. of cathode gold). LLP "Jubileynoye"	Aktobe region	800	29.4	2015	6000 kg of cathode gold
2	Construction of Aktogai mining and processing plant, producing 25 tons of cathode copper per year. LLP «Kazakhmys Aktogay»	East-Kazakhstan region	1500	225.0	2016	25 thousand tons of cathode copper
3	Industrial development of Karchigin field. Construction of mining and processing plant to produce copper concentrate and cathode copper in Kurumchum area of East-Kazakhstan region, 40000 tons of copper concentrate and 3 300 tons of cathode copper.	East-Kazakhstan region	440	17.4	2019	3.3 tons of cathode copper

	LLP "GRK MLD"					
4	Construction of a new plant to produce titanium slabs, 5778 tons per year. LLP "POSUK Titanium"	East-Kazakhstan region	70	7.4	2015	5778 tons of titanium slabs
5.	Construction of metallurgical complex and development of underground mine with capacity of 1.5 million tons of ore per year in the field Bakyrchik, 11.5 tons of cathode gold. LLP "Bakyrchik GDP"	East-Kazakhstan region	600	125.8	2015	11.5 tons of cathode gold
6	Construction of processing plant for processing copper-bearing slag and hydrometallurgical plant to produce cathode copper, 3.5 tons of copper in concentrate TOO «PROFILEX».	Karaganda region	80	3.3	2015	3.5 tons of cathode copper
7	Construction of the plant for gold extraction with capacity of 2.5 million tons of ore per year in the field Komarovskoye in Zhitikara region, 2000 kg of cathode gold.	Kostanay region	40	8.7	2015	2000 kg of cathode gold

	LLP «Oriel Minerals»					
8.	Processing of poor and rich copper scrap using Kaldo converter, 15 000 tons of blister copper. LLP "Altyn TAS"	South-Kazakhstan region	74	3.7	2015	15.0 thousand tons of blister copper
	TOTAL:		3564	420.7		

List of prospective projects stated by nonferrous metal industry enterprises and planned to be launched in the period of 2015 - 2019 are shown in the table. 2.2.2.9.

Table 2.2.2.9. Promising projects announced steelworks and planned for launch during the period 2015 - 2019 years

No.	Project	Region	Creating jobs, people	Volume of investments, bn tenge	Commissioning	Capacity, in size
1	Construction of the plant for production of aluminum profiles, 12.0 thousand tons. LLP «Aluminium of Kazakhstan»	Almaty region	-	4.1	2016	12.0 thousand tons of aluminum profiles
2	Construction of Metallurgical plant at "Gornostayev" cobalt-nickel deposit for the production of marketable ferronickel under Vanyukov melting technology (liquid bath melting). JSC «SAT & Nikel»	East-Kazakhstan region	-	46.3	2017	40 thous. tons of ferronickel
3	Construction of	East-	-	1,683	2016	-

	the second ore smelting furnace for the production of titanium slag. JSC "Ust-Kamenogorsk Titanium and Magnesium Plant"	Kazakhst an region				
4	Reconstruction of the forging press PA-1343 cutting layered titanium sponge. JSC "Ust-Kamenogorsk Titanium and Magnesium Plant"	East-Kazakhst an region	-	1,011	2015	-
5.	Construction of the second Concentrator plant "Satpaev Titanium Mines Ltd" for the production of titanium sponge. JSC "Ust-Kamenogorsk Titanium and Magnesium Plant"	East-Kazakhst an region	-	1,481	2015	-
6	Issue of titanium products for the oil and gas industry JSC "Ust-Kamenogorsk Titanium and Magnesium Plant"	East-Kazakhst an region	-	519.0	2019	
7	Purchase and installation of a	East-Kazakhst	-	0,646	2017	-

	new VAR furnace No.6 to produce titanium ingots and alloys. JSC "Ust-Kamenogorsk Titanium and Magnesium Plant".	an region				
8.	Reconstruction of Zhezkazgan copper-smelting plant, 60 thousand tons of cathode copper per year. LLP "Corporation" Kazakhmys "	Karaganda region	-	-	2018	60 thousand tons of cathode copper
9	Plant for the production of copper by solvent extraction and electrowinning (SX-EW) with heap leaching section, 3000 tons.LLP "KazGorRemStroy"	Pavlodar region	80	1,324	2015	3.0 tons of cathode copper
10	Production of aluminium wheels. LLP «Altech»	Pavlodar region	81	3.3.	2015	360 thous. of aluminium wheels
11	Construction of the third stage of the primary aluminum production plant with capacity of 100.0 thous. tons per year.	Pavlodar region	-	27.0	2019	100.0 thous. tons of primary aluminum

JSC "Kazakhstan Electrolysis Plant"					
TOTAL:	161	601.745			

2.2.3 Oil refining

Oil refining is one of the traditional industries rapidly developing in Kazakhstan. The industry occupies a significant share of the total processing industry of Kazakhstan - 10.8% in 2012, and because of operational data, it is expected that in 2013 the proportion will be 13.8% (Table 2.2.3.1).

Table 2.2.3.1. Oil refining share in manufacturing industry of RK, %

1

	2008	2009	2010	2011	2012	2013
Share in the manufacturing industry	5.7	64	7.5	7.6	10.1	13,8

Source: Agency of the Republic of Kazakhstan on Statistics

The physical volume of production grew by 13.9% from 2008 to 2012. According to operational data for 2013 production amounted to 810.2 billion tenge, an increase of the value was 4.2 times compared to 2008 (Table 2.2.3.2). The growth in the sector was due to the rise in prices for basic petrochemicals, as well as due to increasing of refineries utilization and, as a consequence, increasing the physical volume of production.

Table 2.2.3.2. Dynamics of production for 2008-2013, mln. KZT

	2008	2009	2010	2011	2012	2013*
Manufacturing industry	3359551	2945966	3844658	4801407	5446749	5882456
% of the previous year	97.5	97.1	113.9	107.7	101.2	101.6
Oil refining	191,086	188,144	287,960	362,768	549,137	810,222
% of the previous year	105.2	95.91	111.55	103.86	102.46	111.72

Source: Agency of the Republic of Kazakhstan on Statistics (excluding heavy oils)

Oil refining is represented in the Republic of Kazakhstan mainly by three major refineries (Atyrau refinery, Shymkent refinery and Pavlodar Petrochemical Plant) located in the west, south and north-east of the country, respectively (Table 2.2.3.3). Pavlodar Petrochemical Plant is focused on processing the West Siberian oil that comes from Russian.

Table 2.2.3.3. Oil processing in the oil refineries, thous. tons

	2008	2009	2010	2011	2012	2013*
PPP	4056.0	4123.9	4800.2	4649.3	5037.5	5010.0
ShR	4308.2	4007.2	4583.2	4604.9	4752.8	4857.0
Atyrau refinery	3924.5	4004.0	4300.1	4471.5	4422.8	4429.5
Mini-refineries	1237.6	1116.4	678.9	1324.4	880.9	883.7

Source: IAC of MOG

Share of mini-refinery in the total production in the sector (in terms of processing of raw materials) was 5.8% in 2012. It is expected that in 2013 this proportion will remain at the same level. Total number of enterprises engaged in the processing of oil at mini-refineries - 23. Their share in the total production in the refinery sector is steadily declining due to their industrial and technological characteristics that limit oil refining efficiency and quality of the product. The consequence of such characteristics is the low competitiveness of mini-refineries' products.

The main share of the production and supply of petroleum products to the markets accrue for the main three plants. Due to the established practice of raw materials supply to these plants based on a give-and-take basis it is impossible to trace the distribution of their products (domestic market or export). In this regard, the characteristics of the domestic market of oil products is illustrated on the basis of statistical data (Table 2.2.3.4).

Table 2.2.3.4. Range of products and the major players in the sector of construction materials production

Manufacturers	Market, mln USD		
	Production	Export	Import
Producing of oil products other than crude, obtained from bituminous rocks; containing 70 wt.% or more of petroleum oils or oils obtained from bituminous rocks	8 529.3	3 022.3	1 471.1
Main players: LLP "Atyrau Refinery" (Atyrau region), LLP "PPP" (Pavlodar region), LLP "PKOP" (SKP) and small enterprises	Manufacturers of gasoline, kerosene, diesel fuel and fuel oil		
Producing of coke, petroleum bitumen and other residues of petroleum oils or oils obtained from bituminous rocks	149.6	72.2	184.1
Main players: LLP "Atyrau Refinery" (Atyrau region), LLP "PPP" (Pavlodar region), LLP "PKOP" (SKP) and small enterprises	Producers of petroleum coke and bitumen		

Source: Agency of RK on statistics, CC of MF of RK and RK MOG for 2012

Main export is composed by diesel fuel, kerosene, jet fuel and fuel oil - 97.4%. The largest volume of imports compose light petroleum oils and preparations (<>), aviation gasoline - 48%; as well as FEACN code (271019) - 41%. Key indicators for this sector are shown in the Table 2.2.3.5.

Table 2.2.3.5. - Data on the sector for 2008-2013

Index	2008	2009	2010	2011	2012	2013*
GVA, million tenge ²	183288	225387	354523	448541	499,377	506368
Number of employed, persons	7860	8193	8686	9184	9130	9323
Labor productivity, thous. tenge / persons	23319	27510	40815	48839	54696	54314
Number of operating enterprises	26	26	26	26	26	26
Level of capacity utilization ³ , %	49.7	47.7	56.7	61.5	62.1	62.8
Depreciation of fixed assets, %	24.2	27.7	31.0	28,9	32.6	
Investments in fixed capital, million tenge	40,118	25,095	36,177	49,272	56,707	75,161
Coefficient of renewal of fixed assets, %	6.9	4.1	6.7	2.6	4.1	
Availability of fixed assets at the end of the year at the initial cost, million tenge	121,621.7	130,176.7	148,445.1	184,661.9	212,269.0	
Exports, USD million	2 071.9	1260, 2	2 016.0	2 354.6	3 094.5	3 213.3

²In 2013 - operational data of the Agency of RK on Statistics for 9 months

³Average operating rate for three main plants

Imports, USD million	1 736.2	890.8	1 094.7	1 468.1	1 655.2	1 744.5
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Source: Agency of RK on statistics, TradeMap.

The productivity of oil and gas sector in Kazakhstan remains relatively low - 14 times lower than in Germany (Table 2.2.3.6).

Table 2.2.3.6. Productivity in oil refining, USD mln. per a person

Country	Productivity	Ratio country / Kazakhstan
USA	7.05	15.3
Germany	6.36	13.8
Kazakhstan	0.46	1

Source: Agency of RK on statistics, SPG analysis

The main reason for this is the current technical condition of the major Kazakhstan's refineries. A relatively low refinery depth (Table 2.2.3.7) characterizes currently existing refineries

Table 2.2.3.7. Data on refinery depth of three main producers

Name	RK refinery 2013, actual	Russian refinery		West Europe refinery	USA refinery
		actual	plan		
Refinery depth, incl.:	70%	71%	85%	85%	95%
Atyrau refinery	59.8%				
PPP	74.2%				
PKOP	74.4%				

Source: KMG RM, SPG

Oil refining sector is seen in SPFIID as the source of providing the domestic market with quality petroleum products and manufacturer of basic petrochemicals. Actual production volumes do not provide domestic needs. In 2013, the share of imports in domestic consumption of gasoline was more than 30%, diesel fuel -14% (Table 2.2.3.8-2.2.3.9).

Table 2.2.3.8. The balance of production and consumption of gasoline in the Republic of Kazakhstan, 2003-2013.

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Gasoline consumption, th.tons	2149.7	2330.2	2435.6	2727.0	3150.0	3382.9	3412.0	3598.0	3724.2	4214.0	4183.0
Gasoline production,	1838.7	1923.7	2356.7	2341.7	2626.7	2491.7	2589.7	2893.7	2785.7	2880.7	2734.7

th. tons	5	4	1	7	9	1	1	8	5	2	5
Imports, th.tones	506. 6	728. 2	746. 1	707. 4	742. 7	1 055. 7	959. 1	755. 0	912. 0	1 398. 0	1 363. 0
The share of imports in consumption, %	24	3a	3a	26	24	3a	28	2a	24	33	33

Table 2.2.3.9. - Balance of production and consumption of diesel fuel in the Republic of Kazakhstan, 2003-2013.

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Diesel fuel consumption, th. tones	2 237.1	2 956.1	3 219.2	3 297.3	3 706.3	4 064.1	3 582.8	4 200.1	4 447.2	4 628.2
Diesel fuel production, th. tones	2 598.6	2 779.6	3 280.0	3 457.4	3 919.4	3 898.0	3 795.3	4 073.8	4 135.7	4 242.8
Exports, th. tones	723.0	349.0	298.0	553.0	725.0	444.0	613.0	273.0	95.0	-
Imports, th. tones	362.0	525.0	238.0	393.0	512.0	610.0	401.0	399.1	340.4	434.7
The share of imports in consumption, %	16	18	7	12	14	15	11	10	8.	9

Source: MOG RK, Agency of RK on statistics, analysis KMG RM

Along with the low current level of technological development of the existing refineries, another reason of the market deficit is underutilized production capacity (Table 2.2.3.10).

Table 2.2.3.10. Dynamics of diesel fuel export and import in the Republic of Kazakhstan

	2008	2009	2010	2011	2012	2013
PPP	67.6%	68.7%	80.0%	77.5%	84.0%	83.5%
PKOP	71.8%	66.8%	76.4%	76.7%	79.2%	81.0%
Atyrau refinery	78.5%	80.1%	86.0%	89.4%	88.5%	88.6%
Mini- refinery	82.5%	74.4%	45.3%	88.3%	58.7%	58.9%

The reason for underutilization of capacities is higher profitability of exports of raw materials (oil) regarding the supplies to the domestic market. Currently, capacity utilization is regulated, including administrative and legislative methods.

One of the strengths of the refining industry in Kazakhstan - own resource base. The Republic of Kazakhstan is the 12th in the world in terms of proved reserves, 21% of recoverable reserves account for the Kashagan field. By 2025, annual production is planned to be increased by 34% to 92.6 million tons (Table 2.2.3.11 - 2.2.3.12).

Table 2.2.3.11. Dynamics of oil production in Kazakhstan, 2002-2013

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Oil production in Kazakhstan, mln tons	47	5a	59	62	65	67	71	76.5	79.6	80	79.2	81.5

Sources: National Energy report of KAZENERGY

Table 2.2.3.12. - Forecast of oil production in Kazakhstan till 2050

	2014	2015	2016	2017	2018	2019	2020	2025	2030	2040	2050
On-shore oil production, mln tons	80.6	80.8	80.7	80.4	83.2	85.5	83.5	74.4	65.1	35.3	20.3
Oil production in the sea, mln tons	2.4	3.2	4.3	10.6	12.8	13.5	15.4	18.2	41.3	48.9	32.5
Oil production in Kazakhstan, mln tons	83	84	85	91	96	99	98.9	92.6	106.4	84.2	52.8

Source: MOG of RK

However, despite the significant volumes of produced crude oil in Kazakhstan, the share of processed crude oil in Kazakhstan is quite low (Table 2.2.3.13).

Table 2.2.3.13. - Dynamics of oil producing and refining in Kazakhstan

	2009	2010	2011	2012	2013
Oil production, mln tons	76.5	79.6	80	79.2	81.8
Oil refining, mln tons	13.3	14.4	15.1	15.1	15.3
Processing / production factor, %	17.4%	18.1%	18.8%	19.1%	18.7%

Sources: IACOG, analysis of KMG RM

The data in the table above are calculated based on the total refining volume at RK refineries (including mini-refineries) and crude oil production.

Thus, despite the positive trend of production, according to the share of processing of oil produced Kazakhstan takes one of the last places in the world in terms of the ratio of the total refining capacity and production volume (Table 2.2.3.14).

Table 2.2.3.14. Oil refining in the domestic market

Countries	Refining share in the domestic market
United Kingdom	1.8
Indonesia	1.3
Brazil	0.9
Canada	0.6
Venezuela	0.5
Iran	0.5
Russian Federation	0.5
Iraq	0.3
Kazakhstan	0.2

Sources: BP Statistical review of World Energy 2013, analysis of SPG

However, the growth of the national economy, which is expected due to the growth of industries in the framework of the Program, as well as the expected growth in population and living standards, entail an increase in domestic demand for the most important petroleum products.

Increasing the number of cars in Kazakhstan causes increased consumption of motor gasoline. Increase in commercial vehicles, growth in the agricultural sector, as well as in the sector of rail transport directly affects the growth of diesel consumption. Increase in passenger and cargo air transportation causes the growth of consumption of aviation fuel in the long term (Table 2.2.3.15).

Table 2.2.3.15. Forecast of petroleum refinery products consumption in Kazakhstan

	2014	2015	2016	2017	2018	2019	2020	2025	2030	2040	2050
Gasoline consumption, th. tones	4433	4661	4848	5018	5188	5358	5525	6160	6808	7900	8727
Diesel fuel consumption, th. tons	5016	5184	5349	5488	5627	5766	5904	6566	7183	8418	9299
Jet fuel consumption, th. tons	599	681	697	721	745	768	793	895	975	1131	1249

Despite the fact that the most important task of the petroleum sector is to meet the demands of the domestic market, in the long view export of oil products is possible providing saturation of the domestic market.

World Market by the code of FEACN 2710 - "Oil and petroleum products other than crude, obtained from bituminous rocks; products, not elsewhere specified or included, containing 70 wt.% or more of oils or petroleum products obtained from bituminous rocks" is ranked for the top five importers in terms of import volume. Their total imports in 2012 amounted to 229 million tons, which is 20% higher than the level of 2008. The main importing countries are the USA, China, EU countries. Total imports of the "most accessible" macro-region countries in 2012 amounted to 60.7 million tons (Table 2.2.3.18).

Table 21. - Import of macro-region countries, tons

	2008	2009	2010	2011	2012	The share of imports in 2012
Russia	114 2711	105 2765	221 5807	331 6177	128 8546	2.1 %
China	3906 2851	3696 0462	3688 3178	4059 9453	3981 7399	65.5 %
Turkmenistan	1 2,449	1 1 370	1 5,466	2 3,732	2 7,128	0.0 %
Afghanistan	-	102 5270	129 9644	240 9051	-	0.0 %
Tajikistan	49 5,294	60 6,665	57 6,333	33 4,569	29 7,838	0.5 %
Kyrgyzstan	3668	505	114 0066	113 2080	130 4662	2.1 %
Uzbekistan	33 0,845	48 2,697	67 0,152	19 5,076	36 2,000	0.6 %
India	1416 3412	921 0032	103 632 665	766 2577	533 2073	8.8 %
Pakistan	978 8391	1180 6598	1301 2700	1189 1714	1231 8931	20.3 %
Aggregate imports	64999621	61156364	159 446 011	67564429	60748577	100 %

Source: Database of ITC TradeMap

Changing the volume of total imports of the said countries for the period 2008 - 2012 illustrates a growing trend, despite the moderate dynamics. Upon that China takes the first place (84.6%) in the total imports of the "the most accessible countries of the macro-region".

The highest average import value is observed with respect to Russia and Turkmenistan. The volume of the "expensive" light oil imports to China in 2012 is also significant and is slightly less than 2.2 million tons (Table 2.2.3.19).

The largest players in the global market in the refining sector are companies⁴[\[4\]](#) ExxonMobilCorp (U.S. \$ 334 billion), ChevronCorp (U.S. \$ 233 billion), RoyalDutchShellplc (Britain, Holland, \$ 360 billion), Gazprom (Russia, \$ 375 billion), StatoilASA (Norway, \$ 135 billion) included in the list of the largest manufacturers in the petrochemical sector, according to data of the information agency Platts. All these companies are vertically integrated, carry out their activities in the segments of oil production and refining and petrochemical segments, as well as Kazakh mining and processing companies, integrated within the JSC "NC" KazMunaiGas ".

However, the development of the petroleum sector in Kazakhstan is constrained by a number of barriers. Primarily, it is a problem of raw material supply (Table 2.2.3.20).

As a result of the imbalance of oil contracts under the so-called "old" deposits (deposits of Atyrau, Mangistau, Aktobe and Kumkol groups) and contracts for the "new" fields (Tengiz, Kashagan, Karachaganak) that exist in the form of production sharing agreements (PSA), it is predicted that in the near future, the processing segment will face the challenge of providing raw materials due to the depletion of the "old" fields. By 2030, the expected total oil production at the "old" fields will be equal to the total volume of oil production at three RK refineries and bitumen plant at Aktau, and then falls below the total processing capacity of existing refineries.

Table 2.2.3.20. Balance of oil production in the "old" deposits and consumption of oil in Kazakhstan, mln t

	2014	2015	2016	2017	2018	2019	2020	2025	2030	2035	2040	2045	2050
Production at the "old" fields	42.5	42.8	42.1	41.9	40.3	38.9	37.5	29.6	22	14.6	10.3	7.3	5.1
Supply to the domestic market	15.2	16.1	18.3	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5

⁴ Data on market capitalization. Platts

Source: MOG RK, analysis of KMG RM

Currently oil to the operating refineries of RK comes from "old" deposits' resources, contracts for which contain provisions on the mandatory oil supplies to the domestic market. In accordance with these contracts oil-producing organizations developing the "old" field must supply to the RK refineries 2.67 million tons in 2014, 2.43 million tons in 2020 and 1.37 million tons - in 2030, 15.7%, 12.5% and 7% of the total existing and planned capacity of three main plants respectively.

Thus, the oil supplied from the "old" fields only on the basis of the commitments is not enough to cover the needs of the domestic market. Therefore, in order to provide the internal market with oil in full, the Ministry of Oil and Gas uses administrative measures not linked to contractual obligations as the existing mechanism of the sector regulation, namely the fiscal regime does not stimulate the supply of oil to the domestic market.

In general, all segments of the sector, from production to retail sales of petroleum products are profitable. However, the distribution of returns by separate segments is uneven and size of returns is limited (Table 2.2.3.22).

Table 2.2.3.22. Distribution of returns by segments

		selling price	operating income
Recovering	exports	71 758.0	30 286.5
	dom. market	49 145.5	2 408.4
Processing (refineries)	dom. market	8 436.8	1 506.6
Wholesale (processors)	dom. market	71 874.9	316.0
retailing (PFS)	dom. market	54 838.7	3 820.5

Source: MOG of RK, Agency of RK on statistics

The data were obtained on the basis of calculation of one ton of oil turnover. Figures for refineries were calculated based on the weighted average rate for the processing, calculated on the basis of tariffs approved by the Government of Kazakhstan for each refinery (the "selling price" means the rate for refinery processing). Price in the wholesale market - weighted average price across a range of oil products. Retail price - weighted average traded price on items (gasoline and diesel), calculated on the basis of maximum prices of refined products approved by the Government of Kazakhstan.

A key imbalance factor in the distribution of profitability - is the higher profitability from oil exports mentioned above, relatively to the supply of the domestic market, which stimulates the export of oil, and constrains its processing in the domestic market.

In addition, the relatively low raw material recovery rate (less than 30%), and the data on the volume of gas flaring illustrate the low efficiency of development of the

resource base, which is also a reserve to increase profitability in the mining sector (Table 2.2.3.24).

Table 2.2.3.24. Dynamics of flaring of associated gas for 2006-2012. (billion cub. m.)

2006	2007	2008	2009	2010	2011	2012
3.1	2.7	1.8	1.7	1.3	1.2	1.0

Source: MOG of RK

As a result, these profit reserves generate reserves to increase government revenue through taxes and other economic benefits. Failure to use these reserves entails economic loss to the Republic of Kazakhstan in the form of resource losses, loss of financial benefits and, given the high energy intensity of the economy, in the form of increasing the value of costs in other sectors.

Strengths:

Availability of own rich mineral resource base;

Sector is supported through government priorities;

Major enterprises in the sector have the potential to compete in the markets of the macro-region's countries;

Geographical proximity to large consumer markets (Russia, China, Asia-Pacific countries, the Republics of Central Asia).

Weaknesses:

The overwhelming proportion of the PSA in oil production does not allow ensuring sufficient supply to the domestic market by market methods of regulation;

Low recovery rate and depth of oil refining;

Insufficient pipelines throughput for increasing volume of oil and gas;

Ineffectiveness of individual companies;

Low innovation potential;

Administrative barriers hampering the development of SMEs (an ecosystem of suppliers).

Opportunities:

Growth in domestic and external demand for petroleum products;

Potential increase of competitive advantages of major Kazakhstani producers after technological modernization.

Threats:

Risks to ensure Kazakh oil refineries with fuel and energy resources due to priority of the oil companies to export crude oil as well as low quality of these resources;

Reducing resource base and inadequate exploration;

Growth of environmental and other costs in the industry;

Upgrading and increasing of refining capacity in the macro-region's countries.

Goal, objectives and benchmarks

Goal: Maximum realization of the resource potential of Kazakhstan to ensure domestic market with quality oil, gas processing and petrochemical industries products, as well as the development of exports to the countries of the macro-region.

Objectives:

- 1) Full provision of the internal market with quality petroleum products.
- 2) Ensuring a stable supply of oil refining industry with raw materials.
- 3) Improving the performance of the oil refining industry.
- 4) Kazakh products coming into the markets of the macro-region.

Solving the above problems will allow achieving the following benchmarks

Benchmarks
Program implementation will allow achieving in 2019 the following economic indicators to the level in 2012:

- 1) not less than 1.7 times growth of gross value added in real terms;
- 2) decrease of employment no more than by 2.6 thousand people;
- 3) 2.3 times productivity growth in real terms.

Table 2.2.3.25.Benchmarks

N o.	Benchma rks	UoM	2012 Report	2013 expected	Forecast in relation to 2012						2019 to 2012, %
					2014	2015	2016	2017	2018	2019	
1	Gross value added growth	%	100	101	103	104	105	165	165	165	1.7 times
2	Decrease in employm ent	thous. people	9.1	9.3	7.3	6.3	6.4	6.5	6.5	6.5	by 2, 6 thous. people
3	GVA rise in labour productiv ity	%	100	99	129	152	150	231	231	231	2.3 times
4	Growth of the value of non- commodi ty (processe d) export	%	1	<10 4	<10 4	<10 4	<10 4	0	0	0	-

Industry development priorities are shown in the Table 2.2.3.26.

Table 2.2.3.26. - Priority activities by CCEA-4

CCEA-4	CCEA item
1920	Oil and petroleum products other than crude, obtained from bituminous rocks; products, not elsewhere specified or included, containing 70 wt.% or more of oil or petroleum products obtained from bituminous rocks.

Priority product groups are defined on the basis of the need to improve product quality standards due to rising requirements to reduce environmental emissions (Table 2.2.3.27). This increase in standards is a key factor in the increase in world prices for petroleum products.

Table 2.2.3.27. Priority activities by CCEA-4

FEACN-6	Name of a product group	Home market import capacity, thousand U.S. dollars	Macro-region markets import capacity, thousand U.S. dollars
271011	Light distillates and products	0	2130233
271012	Light distillates and products	793,469	5258225
271019	Other distillates and products	677,680	43969431

Sources: ITC TradeMap database

* Countries of the macro-region: China, Kyrgyzstan, Russia, Turkmenistan, Uzbekistan, Pakistan, India (based on the results of 2011, 2012)

Because of these requirements, production of motor fuels Euro 4-5 and increase in production of light petroleum products to 76-82% was defined as a priority.

Priority projects are presented in the Table 2.2.3.28.

Table 2.2.3.28. Priority projects

No.	Project	Applicant	Region	Output product	The volume of production, tons / year	Employment, people	Volume of investments, billion KZT
1	"Modernization of the Pavlodar Petrochemical Plant"	JSC "KazMunaiGas - refining and marketing"	Pavlodar	gasolines - aviation fuel - diesel fuel -	2091000 313,000 2245000	183	164.0
2	"Reconstruction and modernization of the Shymkent Refinery"	JSC "KazMunaiGas - refining and marketing"	Shymkent	gasolines - aviation fuel - diesel fuel -	1745000 244,000 1640000	171	271.7
3	"Construction of advanced oil processing center at the Atyrau Refinery"	JSC "KazMunaiGas - refining and marketing"	Atyrau	gasolines - jet fuel - diesel fuel -	1745000 244,000 1640000	624	285.2
4	"Production of K5 ecoclass motor fuel"	JSC "Condensate"	West Kazakhstan region	gasoline 92 octane - straight-	214,000 198 000	28	29.5

				run gas oil (incl. LVKO) - vacuum gasoil - acid tar - fuel gas -	104,000 75,000 28,229 255.8		
5.	Plant for the production of environmentally friendly marine fuel and polymer synthesis	LLP "ECOTOP"	Mangistau region	marine fuel -	150,000	50	0.4
Total						1056	750.8

The project of refineries modernization will allow increasing processing of crude oil in Kazakhstan's refineries to 19.5 million tons per year, producing environmentally friendly motor fuels meeting the requirements of K4, K5 class. Key indicators of petroleum products production will change after modernization as follows (Table 2.2.3.32):

Table 2.2.3.32. Oil refining in Kazakhstan

Name	2013, actual	2017-2019, planned	Difference
Oil refining	14 297	18500	4203
Production of petroleum products, including	13 246	16,662	3416
Gasoline	2660	5998	3337
Diesel fuel	4070	5897	1827
Aviation kerosene	403	957	554
Mazut	3243	1527	-1716
Refining depth	70%	81%	11%

In addition to these projects, there are carried out the researches of prospects of the project for the construction of the 4th refinery (with a probable processing capacity to 10 million tons per year), as well as institutional project for the creation and development of engineering assets.

2.2.4 Petrochemicals

Basic petrochemicals (production of petrochemical products in primary forms) is a new branch of the economy of Kazakhstan, which occupies a small proportion of the total volume of chemical industry of Kazakhstan. The industry has the necessary conditions for development: availability of raw materials and related industries, market outlet.

In 2012, the share of industry in total production of the chemical industry was 10.8%, having increased by 3.9% compared to 2008. According to operational data for 2013, the share of basic petrochemicals in the chemical industry will be about 10% (3.6 times increase compared to 2008).

Share of basic petrochemicals in the volume of manufacturing industry increased from 0.2% in 2008 to 0.4% in 2012. According to operational data in 2013, the proportion was 0.3% (Table 2.2.4.1).

Table 2.2.4.1. Share of petrochemical bases in the volume of manufacturing and chemical industries in Kazakhstan, %

	2008	2009	2010	2011	2012	2013 [*]
Share in the chemical	6.9	8.3	11,2	11.6	10.8	10

industry						
Share in the manufacturing industry	0.2	0.2	0.3	0.4	0.4	0.3

Source: Agency of RK on statistics

Accordingly, the volume of production from 2008 to 2012 increased almost 2.7 times, the operational data for 2013 shows that production amounted to 18.5 billion tenge, which means 2.5 times increase compared with 2008 (Table 2.2.4.2).

Table 2.2.4.2. - Dynamics of production for 2008-2013, mln. KZT

	2008	2009	2010	2011	2012	2013 [*]
Manufacturing industry	3359551	2945966	3844658	4801407	5446749	5882456
% of the previous year	97.5	97.1	113.9	107.7	101.2	101.6
Chemical industry	106 157	85 542	104 107	147 929	178 971	184 919
% of the previous year	107.4	75.7	121.4	130.1	103,2	103.3
Primary petrochemical industry	7310	7089	11,647	17,189	19 378	18,517
% of the previous year		109.5	190.6	167.1	113.9	87.0

Source: Agency of the Republic of Kazakhstan on Statistics

The main part of the existing facilities for the production of polypropylene is located in Pavlodar city. Currently the leaders among operating companies are as follows - JSC "Pavlodar Petrochemical plant", LLP "Company Petrochem Ltd". They supply existing facilities with raw materials on the basis of production of oil refining at Pavlodar Petrochemical Plant.

Polystyrene and expanded polystyrene production facilities are dispersed in six regions, with the main share of them concentrated in Aktobe, Karaganda and East Kazakhstan regions.

Table 2.2.4.3. Range of products and the major players in the sector of primary petrochemicals

Manufacturers	Market, thous. of U.S. dollars		
	Production	Export	Import
Production of monobasic alcohols, glycols (diatomic: diols), polyatomic, cyclic alcohols and their derivatives	52720	17,243	18,674
Main players: LLP "PPP", LLP	Propylene glycol, ethylene glycol, other		

"Company PETROCHEM Ltd"	acyclic ethers		
Production of polymers, polyacrylates, polyacetals, polyetherols, nylon plastics, carbide resins and amino resins in the primary forms	77,235	33,735	562,193
Main players: LLP "PPP", LLP "Company PETROCHEM Ltd"	Polyethylene, polypropylene, polystyrene resin ...		

Source: Agency of RK on statistics, CC of MF of RK, ITC TradeMap

Volume of production and export of basic petrochemicals products manufactured in Kazakhstan is minor and unstable. Export of items FEACN (390120) - "Polyethylene with specific gravity 0.94 or more," and FEACN (390210) - "Polypropylene" was growing permanently and steadily during the period 2008 - 2012. Total exports for these items in 2012 amounted to 45.4 thousand tons, or 61.2 million of U.S. dollars. The greatest volume of exports in 2012 was seen for the item of FEACN (390210) - "Polypropylene" in the amount of 44 thousand tons or 58 million of U.S. dollars.

According to the ITC TradeMap database, exports of primary petrochemical products from Kazakhstan, during the period 2008 - 2012 increased 28.5 times, from 2.2 to 63.7 million of U.S. dollars.

In the absence of facilities that may meet domestic demand, fast-growing demand for primary petrochemical products is largely ensured by imports.

Gross value added in the sector increased from 3.5 bn tenge in 2008 to 14.6 bn tenge in 2012. Significant and sharp rise took place in 2010 - more than 2.5 times.

Number of people employed in the sector in the period 2008 - 2012 decreased by 478 people. Decline began in 2010, and in 2011 the number of people employed in the sector decreased - to 971 people, or by 42% compared to 2008. Employment growth in 2012 was substantial, despite the fact that the level of 2008 was not achieved - by 22.7% relatively to the previous year. According to operational data, an increase exceeding the figures of 2008 by 21.1% is expected in 2013.

Labor productivity increased 5.8 times from 2008 to 2012 (Table 2.2.4.5). However, the index of 2012 decreased by 14% relatively to the previous year. According to operative data, the performance is expected to decline by 55% in 2013 compared to 2012.

Depreciation of fixed assets in 2012 amounted to 51.9%, a renewal of fixed assets - 22.4%.

Investments in fixed assets in 2012 amounted to 48 676 mln tenge that is 33.1 times higher than in 2008. The largest volume of investments - 62 278 million tenge is expected in 2013.

Table 2.2.4.5. Sector data for 2008-2013.

Index	2008	2009	2010	2011	2012	2013 [*]
-------	------	------	------	------	------	-------------

GVA, million tenge	3536.5	3809.1	9687.9	13914.6	14616.5	11103.9
Number of employed, persons	1669	1980	1019	971	1191	2021
Labor productivity, thous. tenge / persons	2119	1924	9507	14330	12272	5494
Depreciation of fixed assets, %	39.2	48.5	55.7	50.5	51.9	39.2
Investments in fixed capital, million tenge	1469	1816	3726	9500	48,676	62,278
Coefficient of renewal of fixed assets, %	151.9	29.0	14,1	14.3	22.4	151.9
Availability of fixed assets at the end of the year at the initial cost, million tenge	45.5	26248.1	18863.5	16183.1	15740.4	45.5
Exports, \$ billion	0.002	0,004	0,021	0,036	0,051	0.002
Imports, \$ billion	0,349	0,273	0,332	0,544	0,574	0,349

Source: Agency of RK on statistics, ITC TradeMap.

Average volumes for 2012:

Polystyrene and expanded polystyrene in primary forms - 2100 tons;

Polypropylene in primary forms - 33000 tons.

The utilization of these volumes amounted to 41.7 and 97.4%, respectively.

Volumes are characterized by relatively low power performance indicators (Table 2.2.4.6).

Table 2.2.4.6. Production of plastics in primary forms, million \$ / person

Countries	Production	Ratio
Norway	1.42	17.3
Germany	0.67	8.17
Kazakhstan	0,082	1

Source: analytics of Strategy Partners Group, LLP "AIRI"

Basic petrochemicals segment is technologically interlinked with production and processing of hydrocarbons. These segments are most concentrated in the western regions, and to a lesser extent in southern Kazakhstan. The scope and performance of the existing production characterize the base petrochemicals sector as underdeveloped.

However, the sector plays a significant role in the local economy and the Program. This role lies in two main functions:

raw materials supply for high value added petrochemical industry and other sectors of the economy and the Program;

providing efficient use of hydrocarbons - APG and dry gas.

The first function is justified by dynamics and trends of development of the local economy and high value-added petrochemical industry, namely the growth of imports of basic petrochemicals, which indicates the growth of production in sectors that are customize basic petrochemicals.

Table 2.2.4.7. Exports and imports structure by the extent of product processing

.	2008	2009	2010	2011	2012	Growth 2012- 2011	Ratio, 2012
Exports, million dollars, including	2472.3	2274.4	3073.0	3443.8	3783.2	9.9%	100%
Raw materials	1.7	0.7	1.9	4.5	0.8	-81.3%	0.02%
Processed	2470.6	2273.7	3071.1	3439.3	3782.4	10%	100%
Imports, million dollars, including	3971.0	3446.3	4320.3	4950.7	5792.0	16.7%	100%
Raw materials	10	13.7	11.6	13.9	21,8	56.4%	0.4%
Processed	3961.0	3446.3	4308.7	4950.7	5770.1	16.6%	99.6%

Table 2.2.4.7 illustrates the growing dynamics of export and import of goods items at all levels of redistribution, except the export of primary products.

It is expected that the incentives for production and business activities, which according to the approved Concept will be planned and implemented under the Program will lead to increased production volumes and expand the range of domestic demand for petrochemical products as basic value added and high value added. These expectations are evidenced by a significant export potential of high value-added petrochemical products (Table 2.2.4.9).

Table 2.2.4.9. World imports dynamics, U.S. \$ bn

Item	FEACN codes	2008	2009	2010	2011	2012
Acyclic alcohols and their derivatives ...	2905	34.7	22.5	34,0	44.1	40.8
Polymers, polyacrylates, polyacetals, polyetherols, poliamyds, carbide resins and amino resins in the	3901, 02, 03, 04, 06, 07, 08, 09	226.1	172.8	231.3	274.1	260.0

primary forms						
Synthetic rubber and factice, derived from oils, in primary forms or in plates, sheets or strips, or tapes; mixtures of any product	4002	21.0	14,9	22,1	31.2	29.2

Source: ITC TradeMap

The largest players of the global market in the production of petrochemical products are ExxonMobil Corp (USD 334 billion), Chevron Corp (USD 233 billion), Royal Dutch Shell plc (Brunei-Holland, USD 360 billion), Gazprom (Russia, USD 375 billion), Statoil ASA (Norway, USD 135 billion), included in the list of the largest manufacturers in the petrochemical sector in accordance with the data of the information agency Platts. All the above-mentioned companies are vertically integrated, carrying out activities in the segments of oil production, oil refining and petrochemicals segments.

The second function is justified by the necessity of fast generation of domestic demand for APG to reduce the volume of its flaring, as well as the demand for colliery gas to improve the safety of coal mining processes (Table 2.2.4.10).

Table 2.2.4.10. Dynamics of flaring of associated gas for 2006-2012. (billion cub. m.)

2006	2007	2008	2009	2010	2011	2012
3.1	2.7	1.8	1.7	1.3	1.2	1.0

Source: MOG of RK

APG and colliery gas utilization problem arises in the presence of barriers to exports and increasing domestic consumption for energy-related limited transport and infrastructure capabilities. The methods employed to solve this problem (injection into formation, flaring) entail additional unproductive economic costs, including those of ecological character.

There is a risk of further growth of the problem, since in the future periods significant increase of gas production is expected (Table 2.2.4.11).

Table 2.2.4.11. Dynamics of gas production in Kazakhstan. (Billion cubic m.)

actual					forecast				
2008	2009	2010	2011	2012	2015	2020	2025	2030	

⁵Data on market capitalization. Platts

32.9	35.9	37.4	39.5	40.3	59.3	92.3	96,0	106.4
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Source: MOG of RK

With the development of gas transportation infrastructure and access to markets, given the high level of world prices and the tendency of further growth, it is necessary to regulate the export of raw materials to ensure an acceptable economic cost of gas in the domestic market and provide economic benefits for the sectors consuming gas as fuel and raw material.

Strengths:

existence of own rich mineral resource base;
sector is supported through government priorities;
geographical proximity to large consumer markets (Russia, China, Asia-Pacific countries, the Republics of Central Asia).

Weaknesses:

inadequacy of existing facilities for the processing of extracted and projected volumes of gas (APG, dry and colliery gas);
low throughput capacity of pipes for the growing volume of oil and gas;
serious lag of Kazakhstan petrochemical performance in comparison with developed countries (4-5 times);
ineffectiveness of individual companies;
shortage of qualified personnel;
low innovation potential;
administrative barriers to development of suppliers system;
financial sector's directions of development does not meet the requirements of the industry;
existing standards for basic petrochemical products do not meet EU standards, etc.

Opportunities:

potential growth of domestic demand;
considerable size and growth potential of the global market;
potential increase in production capacity and productivity;

Threats:

non-market regulatory mechanisms in related sectors and the economy as a whole;
reduction of the resource base;
growth of the environmental and other costs in the industry;
modernization and capacity expansion in the macro-region countries, delaying the timing of petrochemical projects.

Goal, objectives and priority activities

Goal: maximum realization of the resource potential of Kazakhstan for high-added value petrochemicals supply, as well as the development of exports to the macro-region countries.

Objectives:

- 1) Rational development of resources extracted (APG , colliery and dry gas);
- 2) Ensuring availability of quality raw materials for petrochemical of high-added value industry;
- 3) Increased export earnings from raw materials supply for petrochemical of high-added value industry
- 4) Entry of Kazakh products into the markets of the macro-region.

Solving the above said problems will allow achieving the following benchmarks (Table 2.2.4.12).

Benchmarks:

Program implementation will allow achieving in 2019 the following economic indicators to the level in 2012:

- 1) growth of gross value added not less than 12.7 times in real terms;
- 2) employment growth by 2.1 thousand persons;
- 3) 4.6 times labor productivity growth in real terms;
- 4) growth of the value of non-commodity (processed) export not less than 24.7 times.

Table 2.2.4.12.Benchmarks

No.	Benchmarks	UoM	2012 report	2013 expected	Forecast in relation to 2012						2019 to 2012, %
					2014	2015	2016	2017	2018	2019	
1	Gross value added growth	%	100	95	102	111	430	685	1271	1271	12.7 times
2	Growth in employment	thous. people	1.2	2.0	2.0	2.0	2.5	3.0	3.3	3.3	2.1 thousand people
3	GVA rise in labour productivity	%	100	56	60	65	203	269	459	459	4.6 times
4	Growth of the value of non-commodity (processed) export	%	100	87	118	152	815	1005	2480	2467	24.7 times

Development priorities

Priority activities of the sector are presented in the Table 2.2.4.13.

Table 2.2.4.13. - Priority activities by CCEA-4

CCEA-4	CCEA item
2014	Acyclic, cyclic hydrocarbons, glycols (alcohols)
2016	The ethylene polymers in primary forms, polymers of propylene or other olefins in primary forms, polymers of styrene in primary forms, polymers of vinyl chloride or other halogenated olefins in primary forms, other amino resins, phenolic resins and polyurethanes, polyamides in primary forms etc.
2017	Synthetic rubber in primary forms

Priority product groups are defined on the basis of the domestic market's requirements, as well as the size and growth potential of the international market (Table 2.2.4.14).

Table 2.2.4.14. Priority product groups

FEACN-6	Name of a product group	Domestic market capacity	Import-capacity of the macro-markets
2905	Acyclic alcohols and their derivatives ...		

Priority projects are presented in the table (Table 2.2.4.15)

Table 2.2.4. 15.Priority projects

No.	Project	Applicant	Region	Output product	The volume of production, tons / year	Employment, people	Volume of investments, billion KZT
1	Construction of integrated gas chemical facility in Atyrau region. (First stage)	LLP «Kazakhstan Petrochemical Industries Inc.» (LLP «KPI»). Participants of LLP «KPI»: 51% LLP "United Chemical Company", 49% JSC «SAT & Co»	Atyrau region	Polypropylene-	500 000	440	302.7
2	Construction of integrated gas chemical facility in Atyrau region. (Second stage)	JV LLP «KLPE».Participants of LLP «KLPE»: 50% LGChemLtd, 25% LLP "United Chemical Company", 25% JSC «SAT & Company».	Atyrau region	Polyethylene -	800,000	490	618.5
3	Construction of the complex for the production of aromatic	LLP "Atyrau Oil Refinery."	Atyrau region	benzol - paraxylol -	133,000 496 000	318	168.5

	hydrocarbons at the Atyrau Refinery						
4	Powder polypropylene granulation plant		Pavlodar region				
5.	Production of polymer products	Basic petrochemistry					
		Total				1248	1078.5

2.2.5 Food production

Food production is a significant portion of total production in the manufacturing industry 16.5% (2013). The sector has some export potential: According to the results of 2013, exports totaled \$ 2.7 billion. Strategic significance of the industry is justified also by objectives to provide food safety of the country.

Volume of food production from 2008 to 2012 increased by 38.8%, beverages by 57.8%, according to operational data for the 2013 production volume of food was - 973,030 tenge, which means an increase by 56% compared with 2008 (Table 2.2.5.1).

Table 2.2.5.1. Dynamics of production in 2008-2012, mln KZT

Production volumes	2008	2009	2010	2011	2012	2013*
Manufacturing industry	3359551	2945966	3844658	4801407	5446749	5882456
Growth in % of the previous year	97.5	97.1	113.9	107.7	101.2	101.6
Food production	623,488	629,756	695,244	828,005	865,570	973,030
Growth in % of the previous year	-	101	110.4	119.1	104.5	112.4
Production of beverages	115,271	120,707	149,693	153,243	181,950	190,295
Growth in % of the previous year	-	104.7	124.01	102.4	118.7	114.2

* According to operational data

Source: Agency of the Republic of Kazakhstan on Statistics

Feed processing industry (23.5%), milk (16.3%), bread and bakery (15.3%), meat processing (13.4%), fruits and vegetables (8.1%), fat and oil (7.8%) and other sectors (15.6%) occupy the main share in the structure of food production.

Companies in the sector in 2013 produced 16.5% of the manufacturing industry.

The share of food production in the volume of manufacturing industry fell from 18, 6% in 2008 to 16.5% in 2013 (Table 2.2.5.2).

Table 2.2.5.2. Share of food in the volume of manufacturing industry of RK, %

	2008	2009	2010	2011	2012	2013
Share in the manufacturing industry	18.6%	21.4%	18.1%	17.2%	15.9%	16.5%

Source: Agency of the Republic of Kazakhstan on Statistics

Totally, the level of food production in 2013 amounted to about 973 billion tenge or USD 5260 mln. Thus, the share of manufacturing in total consumption is about 77%. The remaining 23% are imported from abroad.

Key performance indicators of the sector are shown in the Table 2.2.5.3.

Table 2.2.5.3. Sector data for 2008-2013

Index	2008	2009	2010	2011	2012	2013 ⁶
GVA, million tenge	230 589.1	264 604.1	360 433.4	427 430.8	472 810.9	355 404.9
List number of workers (thous. people)	53.84	54.12	54.15	55.11	54.60	53.86
Labor productivity by GVA th. tenge / pers.	4283.1	4889.1	6656.6	7755.8	8659.4	6598.7
Depreciation of fixed assets, %	27.8	32.1	35.3	38.0	34.7	-
Exports, USD million	93.2	94.9	97.4	87	77	93.1
Imports, USD million	549.5	439.5	432.6	680.3	773.2	-
Investments in fixed capital, million tenge	22,959	31,107	39,772	34,046	37,172	32 605
Coefficient of renewal of fixed assets, %	9.2	13.2	9.9	12.0	9.5	
Availability of fixed assets at the end of the year at the initial cost, million tenge	174 489.9	236 200.2	289 893.2	392 229.3	336 416.6	-

Operational data

Source: Agency of the Republic of Kazakhstan on statistics, TradeMap.

Strengths

high proportion of Kazakh producers in the domestic food market;
geographical proximity to major markets for food products in China, South-East and Central Asia;
availability of sufficient resources for the creation of competitive food industry.

Weaknesses

high import content in the industry for certain categories of goods;
Kazakhstan's food products do not meet international standards;
low level of development of transport and logistics infrastructure;
lack of qualified professionals in the industry.
lack of concessional credit resources to upgrade production facilities and working capital financing

Opportunities

⁶According to the data for the first 9 months of 2013

steadily growing domestic demand for food products, as well as increase of the range of products consumed;
development of new segments in processing of agricultural products;
existence of sufficient prerequisites for creation a broad base for livestock sector;
existence of vacant niches in the production of high value-added processing of grain, meat, fat and oil products; growth in exports to the countries of TC and macro-region.

Threats

increased competition from the participating countries of the Customs Union and the WTO (after accession)
adverse changes in climatic conditions
lowing yields of key crops
growth of counterfeit goods from China and Central Asia.

2. Goal, objectives and priority activities

The goal is to increase the competitiveness of food industry in Kazakhstan.

Objectives:

Increasing the competitiveness of Kazakhstan food products by implementing measures to support raw material supply, marketing and quality control

Growth of competitiveness of domestic enterprises in the industry, including by means of cluster initiatives

Reducing infrastructure costs of production in the industry, including through PPPs

Solving the above mentioned problems is correlated with the decisions set out in the Master Plan in priority areas of agricultural sector of Kazakhstan, developed in the framework of the Program Agrobusiness-2020 (hereinafter - the Master plans). This is because actually agricultural industry supported in the framework of the Master Plan, provide raw materials for the production of all the products in the food industry, being an essential step in the value chains.

Because of this factor, the activities set out in the current Program and activities put in the framework of the Master Plan are complementary. Moreover, the successful implementation of the Master plan's activities is a prerequisite for achieving the objectives of the Program.

At the same time, the measures developed under the Program, are designed to support not only high raw material processing stages, but also for the early stages of processing relating to agriculture.

Thus, under the current Program a series of measures is established that do not have financial support from the program Agribusiness-2020 and support the early stages of processing, however, actually aimed at the successful functioning of the higher stages of processing. First of all such measures relate to infrastructure solutions that contribute to the development of both agricultural and food industry.

Benchmarks:

The Program implementation will allow achieving in 2019 the following economic indicators to the level of 2012 (Table 2.2.5.4):

- 1) not less than 1.2 times growth of gross value added in real terms;
- 2) employment growth by 3.6 thousand people;
- 3) 1.1 times labor productivity growth in real terms;
- 4) growth of the value of non-commodity (processed) export not less than 1.2 times.

Table 2.2.5.4 Benchmarks

No.	Benchmarks	UoM	2012 report	2013 expected	Forecast in relation to 2012						2019 to 2012, %
					2014	2015	2016	2017	2018	2019	
1	Gross value added growth	%	100	105	108	111	113	114	115	116	1.2 times
2	Growth in employment	thous. people	40.4	40.9	41.0	41.8	43.2	43.3	43.6	44.3	3.6 thous. people
3	GVA rise in labour productivity	%	1	10 5	10 7	10 8	109	110	111	112	1.1 times
4	Growth of the value of non-commodity (processed) export	%	100	96	86	93	100	106	111	117	1.2 times

Priorities for the sector's development

Priority activities are presented in the Table 2.2.5.5.

Table 5. - Priority activities

CCEA-4	CCEA item
1011	Processing and preservation of meat
1012	Processing and preservation of poultry

1013	Production of meat and poultry products
1031	Processing and preservation of potatoes
1032	Production of fruit and vegetable juices
1039	Other types of processing and storage of fruits and vegetables
1041	Production of oils and fats
1042	Production of margarine and similar animal fats
1051	Processing of dairies and production of cheese
1052	Ice cream production
1061	Production of grain mill products
1062	Production of starch and starch products
1071	Bread production; production of fresh pastry, cakes and shortcakes
1072	Production of toasts and crackers; production of pastry, cakes, shortcakes, pies and biscuits intended for long-term storage
1073	Production of pasta
1085	Production of finished food products and semi-finished products
1086	Baby foods and dietic foods production
1089	Other food products, not included in the other categories, production
1091	Production of finished feeds for animals kept on farms
1092	Production of finished pet foods

Table 2.2.5.6 presents the priority product groups focused on key markets.

Table 2.2.5.6. - Priority product groups

FEACN	Name of a product group	Domestic market capacity 2012 (million tenge)	Macro-region markets capacity 2012 (million tenge)
160250	Finished or preserved cattle meat products	62 030.27	8127
160231	Finished or preserved turkey products	40 728.92	273
160232	Finished or preserved dunghill hen products	411.53	13 178
160239	Other finished or preserved byproducts	534.46	724
200410	Finished or preserved potatoes without vinegar or acetic acid, frozen, other than products of the item 2006	638.04	38,025
200520	Finished or preserved potatoes without vinegar or acetic acid, unfrozen, other than products of the item 2006	3 872.08	14,988
2009	Fruit (including grape must) and vegetable juices, unfermented and containing no added spirit, with or without added sugar or other sweetening agents	67 178.05	137,557
200190	Other vegetables and fruits. Other vegetables, fruits. Nuts and other edible parts of plants, finished or preserved with vinegar or acetic acid	350.15	14,483
2002	Tomatoes finished or preserved otherwise than by vinegar or acetic acid	3 951.65	38,333
2003	Mushrooms and truffles, prepared or preserved otherwise than by vinegar or acetic acid	0.00	8636
200490	Other vegetables and mixtures of vegetables, prepared or preserved otherwise than by vinegar or acetic acid, frozen, other than products of the item 2006	82.86	1021
200600	Vegetables, fruits, nuts, fruit-peel and other parts of plants, preserved by sugar (soaked with sugar syrup, glazed or sugared)	144.56	2331
2007	Jams, fruit jellies, marmalades, fruit or nut puree, fruit or nut paste, obtained by cooking, including with added sugar or	4 452.45	30,171

	other sweetening agents		
2008	Fruits, nuts and other edible parts of plants, prepared or preserved otherwise, containing or not added sugar or other sweetening agents or alcohol, not elsewhere specified or included	9 338.11	96,446
1507	Soybean oil and its fractions, whether or not refined, but not chemically modified	4 687.78	4069
1512	Sunflower, safflower or cottonseed oil and their fractions, whether or not refined, but not chemically modified	59 646.37	301,797
1514	Rapeseed (rapeseed or colza), or mustard oil and fractions thereof, whether or not refined, but not chemically modified	926.90	237,648
1515	Other non-volatile vegetable fats and oils (including jojoba oil) and their fractions, whether or not refined, but not chemically modified	276.33	12,872
1516	Animal or vegetable fats and oils and their fractions, partly or wholly hydrogenated, over esterified, re esterified or elidized, whether or not refined. But not further processed	5 957.37	31,457
1517	Margarine; suitable for use in food mixtures or finished animal or vegetable fats or oils or their fractions or different fats or oils of this group products, other than edible fats or oils or their fractions of the item 1516	17 738.51	144,685
0401	Milk and cream, not concentrated or not containing added sugar or other sweetening agents	83 537.18	31,266
0406	Cheese and farmer cheese	92 779.56	360,478
0407	Birds' eggs, in shell, fresh, preserved or cooked	1 951.87	98,551
0408	Birds' eggs, not in shell and egg yolks, fresh, dried, cooked by steaming or boiling in water, molded, frozen or otherwise preserved, with or without added sugar or other sweetening agents	32.16	978
210500	Ice cream and other edible ice, whether or not containing cocoa	7 751.51	9458
1101	Wheat or wheat-rye flour	129 347.76	136 810
1102	Other than of wheat or wheat-rye flour	134.90	135 889

1103	Cereal, coarse flour and corn granules	1 224.87	5 796.34
1104	Cereal grains otherwise processed (for example, hulled, rolled, flaked, pearled, sliced or kibbled), except rice of the item 1006; germ of cereals, whole, rolled, flaked or ground	1 084.32	23 613
1106	Low-ground and coarse flour, powder of the dried leguminous vegetables of the item 0713, sago flour, roots or tubers of the item 0714 or the products of the group 08	1 683.67	2201
1107	Malt, whether or not roasted	4 524.48	21 292
1108	Starch; inulin	471.43	89 866
1905	Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa; communion wafers, empty capsules suitable for pharmaceutical use, sealing wafers, rice paper and similar products	11 885.12	206,448
1902	Pasta, whether or not cooked or stuffed (with meat or other substances) or without filling, or otherwise prepared, such as spaghetti, macaroni, noodles, lasagne, gnocchi, ravioli, cannelloni; couscous, whether or not ready-to-eat	22 284.60	46,693
2302	Bran, sharps and other residues from the sifting, milling or other processing of cereals or legumes, not granular or pelleted	3 883.71	29,158
230400	Oil-cake and other solid residues, resulting from the extraction of soybean oil, whether or not ground, not granular or pelleted	4 320.59	171,440
2306	Oil-cake and other solid residues, resulting from the extraction of vegetable fats or oils, other than those of the item 2304 or 2305, whether or not ground, not granular or pelleted	107.31	102,124
230800	Vegetable products and vegetable waste, vegetable residues and by-products, not granular or granular used for animal feeding, not elsewhere specified or included	15.29	1198
2309	Products used for animal feed	7 562.60	258,331

* Countries of the macro-region: Armenia, Azerbaijan, Belarus, China, Georgia, Iran, Kyrgyzstan, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.

Priority projects

76 projects of the Industrialization Map (IM) were considered during the development of the Program among them 56 are in progress, and 20 are planned for implementation (Table 2.2.5.7).

Table 2.2.5.7. - Priority projects

N o.	Name of the project	The project applicant	Location of the facility	Planned production capacity	Planned commissioning date, year	Total volume of investments, mln tenge	New jobs, people.
1	Construction of poultry plant	LLP "Healthy foods"	Karaganda region	2 300.0	2015	2154	180
2	Construction of sausage making shop	LLP "Volynka"	Karaganda region	10.1	2014	601	40
3	Organization of deep grain processing	LLP "Nomad"	Karaganda region	20 330.2	2015	5900	110
4	Construction of a farm to produce bottled kumys, fine meat food	Farm "Sagyp"	Pavlodar region	108.0	2014	224	30
5.	Plant for the production of iodized dietary salt	LLP "Darkhan-As"	South-Kazakhstan region	1 056.0	2014	150	30

6	Poultry plant for the production of commercial eggs	LLP "Almaty Poultry Plant Sunkar"	Almaty region	957.0	2014	877	38
7	Construction of juices plant	LLP «SP EURO SALDA»	Atyrau region	994.0	2014	2302	300
8.	Reconstruction of a poultry plant	LLP "Kyzylzhair-Kus"	Pavlodar region	9 406.7	2016	3200	150
9	Construction of the plant for deep wheat processing with resulting glucose-fructose syrup, gluten, starch, bran.	LLP "Bio Grain"	South-Kazakhstan region	1 428.0	2014	318	48
10	Organization of milk processing facility	LLP "Agro5"	South-Kazakhstan region	239.3	2015	207	25
aa	Camel milk processing	LLP "Agro Nur Asia"	South-Kazakhstan region	250.0	2014	630	4a
1. 2	Creation of high-quality production of halal standard meat products	LLP "Ontustyk Halal Tagamdar y"	Zhambyl region	100.0	2014	2286	153

1	Reconstruction of poultry plant to produce commercial eggs	LLP "Karagandy-Kus"	Karaganda region	26.0	2015	423	0
a4	Confectionery plant	IE "Druzhinina E.P."	Kostanay region	1 334.0	2014	2,000	January 1920
15	Modernization of the poultry plant	LLP "Jas-Kanat 2006"	Kostanay region	1 332.0	2014	900	6
16	Growing and processing of liquorice	LLP "BIS Group"	Kyzylorda region	336.0	2015	1887	156
17	Production of dietary, industrial salt	JSC "Araltuz"	Kyzylorda region	1 200.0	2014	1,400	343
18	Poultry complex	Farm "Kudayberdy"	South-Kazakhstan region	1 500.0	2015	700	80
19	Fruit and vegetable processing	LLP «Fantik lider»	South-Kazakhstan region	207.7	2014	131	35
20	Manufacturing base for processing and preservation of vegetables	LLP "Baiterek 4"	South-Kazakhstan region	150.0	2014	115	36

Major projects for the modernization of existing facilities that are included in the IM:

Modernization of the plant for processing natural aseptic milk with capacity 15.6 million liters per year LLP "Milkproject";

Modernization of production facilities for the production of social bread TOO "HBK " Aksai-nan";

Capacity extension of the poultry plant up to 20 thousand tons of meat per year JSC "Ust-Kamenogorsk Poultry Plant";

Modernization and development of the poultry plant LLP "Poultry plant named aft. Karl Marx ";

Modernization and expansion of the mill complex LLP "Karaganda Flour Mill";

Expansion and modernization of confectionery plant through purchasing and commissioning of a process line for the production of extruded and laminated solid wrapped caramel JSC "Bayan Sulu";

Reconstruction of Novoishimsk fat processing plant LLP "MasloDel."
Major new projects that are planned to run within the IM from 2014 to 2020.

Construction of the poultry plant LLP "Healthy foods";

Construction of the sausage making shop LLP "Volynka";

Construction of the farm to produce bottled kumys, fine meat products the farm "Sagyp";

Poultry Plant for the production of commercial eggs
LLP "Almaty Poultry Plant Sunkar";

Construction of the plant for the production of juices LLP
«SPEUROSALDA»;

Reconstruction of the poultry plant LLP "Kyzylzhar-Kus";

Construction of the plant for deep processing of wheat resulting in glucose-fructose syrup, gluten, starch, bran LLP "BioGrain";

Poultry farm, farm "Kudayberdy."

The above projects are listed by their state at the beginning of 2014, their list will greatly expand following the implementation of the Program. The main driving force behind the industry is small and medium businesses, the most sensitive to the support of the state and reacting rapidly by the increasing of investments to improving of profitability, the unit costs of production and increase in capitalization. Because of this factor, this list may not be definitive and should be supplemented repeatedly during program implementation.

2.2.6 Agrochemicals

Agrochemical products manufacturing sector is a priority, since the use of fertilizers and plant protection products in the Republic of Kazakhstan may increase productivity in agribusiness by 30-50%, which is a priority according to the strategic plan of the country development until 2020.

A modernization of existing facilities and construction of new enterprises was started as part of SPFIID . In 2012 was finished the first stage of modernization LLP "KazAzot" which allowed to increase labor productivity 1.5 times, modernization of

LLP "Kazfosofat" is continuing towards the production of fertilizers and a project is launched for the production of mineral fertilizers by LLP "Evrohim-Fertilizers." Sector's share in manufacturing in 2012 remained unchanged compared to 2008 and amounted to 0.6%. Sector's share in the chemical industry in 2012 increased by 0.3% compared to 2008 and amounted to 20.1% (Table 2.2.6.1.).

Table 2.2.6.1. - Share of agrochemical sector production in the manufacturing industry and chemical industry of Kazakhstan, %

	2008	2009	2010	2011	2012	2013 [*]
The share in the manufacturing industry, %	0.6%	0,5%	0.4%	0.6%	0.6%	0.7%
The share in the chemical industry, %	19.8%	18.8%	15.6%	18.7%	20.1%	22.2%

Source: Agency of the Republic of Kazakhstan on Statistics

The volume of production in the agrochemical sector from 2008 to 2012. increased 1.7 times and amounted to 34,664 mln tenge (Table 2.2.6.2) The potential volume of fertilizers consumption for 2013 amounted to 1012.7 thousand tons of active action among them phosphorus - 58.4%, nitrogen - 40% and potassium - 1.6%. It was consumed 84.5 thousand tons of a.f., which is 12 times lower than the required application rate. Agricultural area fertilized with mineral fertilizers in 2013 amounted to 1 397 457 hectares. By 2019, the projected level of demand for fertilizers will increase by 5%, and amounted to 1062.1 thousand tons of a.f., among them phosphorus - 57.5%, nitrogen - 40.4% and potassium - 2.1%⁷.

Table 2.2.6.2. Dynamics of production for 2008-2013, mln. KZT

Production volumes	2008	2009	2010	2011	2012	2013
Manufacturing industry	3359551	2945966	3844658	4801407	5446749	5882456
Quantum index, % of the previous year	97.5	97.1	113.9	107.7	101.2	101.6
Chemical industry	106 157	85 542	104 107	147 929	178 971	184 919
Quantum index, % of the previous year	107.4	75.7	121.4	130.1	103,2	103.3
Production of Agricultural	20,089	15,331	15,509	26,584	34,664	39,480

⁷ Data of SI "RNMTSAS" of the Ministry of Agriculture of the Republic of Kazakhstan

Chemistry						
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Source: Agency of the Republic of Kazakhstan on Statistics

GVA in the agrochemical industry in the period 2008-2012 increased 2.7 times. Number of people employed in the sector of agricultural chemistry for the period 2008-2012 decreased by 38 people.

Labour productivity in the Republic of Kazakhstan in 2012 increased 2.7 times compared to 2008 and amounted to 13 618 thousand tenge. Labor productivity of agrochemical sector in Kazakhstan in 2012 was 2.7 times lower than the average labor productivity in the OECD countries.

Number of active enterprises in the agrochemical sector from 2008 to 2012 increased by 4 and amounts to 28 enterprises, while capacity utilization decreased by 5.6%. Depreciation of equipment for the period increased by 10% at a rate of renewal of fixed assets 8.9% in 2012.

Investments in fixed assets in 2012 amounted to 3 484 mln tenge, which is 10 times higher than investments in 2008. Growth of investment in the sector is associated with the adoption of the Program for the development of chemical industry in Kazakhstan for 2010-2014.

The volume of exports of fertilizers and pesticides in 2012 decreased by 13.6% compared to 2008 and amounted to U.S. \$ 63.5 million (9.8 bn tenge), while the volume of imports for the period increased by 36.1 % and amounted to 116.9 million of U.S. dollars (18.1 billion tenge). Decline in exports and increase of imports of agrochemical sector products is equally associated with an increase in domestic consumption of fertilizers and pesticides by manufacturers of agricultural products.

Key indicators of the agrochemical sector for the period 2008-2012 are presented in the Table 3.

Table 2.2.6.3. Agricultural chemistry sector data for 2008-2013

	2008	2009	2010	2011	2012	2013 [*]
GVA, million tenge	9719	8238	12 900	21 520	26,147	31 565
Labor productivity in Kazakhstan ** th. tenge / pers.	4964	3999	6939	11,772	13,618	15,557
Labor productivity in Kazakhstan ** USD / pers.	41,168	26 895	47,073	79,594	90,533	100,993
Average labor productivity in OECD**, USD / pers.	204,402	194,394	236,331	247917	248843	
Number of employed, persons	1958	2060	1859	1828	1920	2029

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, %	44.4	38.8	42.8	39.6	38.8	
Depreciation of equipment, %	28.7	52.7	37.7	37.6	38.7	
Investments, mln tenge	338	484	424	1851	3484	782
Coefficient of renewal of fixed assets, %	5.6	3.9	39.2	55.2	8.9	
Availability of fixed assets at the end of the year at the initial cost, million tenge	4254	4090	6358	10,213	16,954	
Exports, USD million	73.5	16,8	25.6	70.8	63.5	56.1
Imports, USD million	85.9	53.6	51.4	97.2	116.9	163.7

Source: Agency of the Republic of Kazakhstan on Statistics

In Kazakhstan, the production of mineral fertilizers is represented by the producers of phosphate and nitrogen fertilizers: LLP "Kazphosphate" (phosphatic: superphosphate, ammonium phosphate) and LLP "KazAzot" (nitrogen: ammonium nitrate). Potash fertilizers production is currently lacking, however, there is conducted exploration in the western region of Kazakhstan. In 2012, the share of domestic production in total fertilizer consumption was less than 10%, which creates risks for food security of the country. Nitrogen fertilizers consumption in 2012 amounted to 403 thousand tons, of which 165 thousand tons were produced and 319 thousand tons were imported. Consumption of phosphate fertilizers in 2012 amounted to 60.7 thousand tons, of which 69.5 million tons were produced and 783 tons were imported. Potash fertilizers consumption in 2012 amounted to 22 thousand tons, which accounted for the entire volume of imports. Complex fertilizers market in Kazakhstan is also entirely composed of imported products and is about 6 th. tons per year.

Pesticides - plant protection and pest control chemicals. Pesticide production segment is represented by small businesses that are mainly engaged in formulation of plant protection agents: LLP "Agrochemistry", LLP "KazTrastKem", LLP "Bai Zher", LLP «Astana-NanChemicals», JSC «Herbicides." Annual consumption of pesticides in the country in 2012 amounted to 28.5 thousand tons, of which 10.5 million tons were produced and 18 thousand tons were imported.

Volume and range of the main producers of agrochemical sector products are listed in the Table 4.

Table 2.2.6.4. Major manufacturers of agrochemical products in the Republic of Kazakhstan and the range of products.

Enterprise	Location	Output product	Volumes of production (2013), tons
LLP "KazAzot"	Mangystau region	Anhydrous ammonia	109 948
		Nitric acid	149 134
		Ammonia nitrate	170 828
LLP "Kazphosphate"	Zhambyl region	Yellow phosphorus	89,642
		Sodium tripolyphosphate	50 153
		Thermal phosphoric acid	48 468
		Ammofos	131 401
		Feed tricalcium phosphate	16 235
		Sulfuric acid	45 494
		Phosphoric flour	594 350
LLP "Astana-Nan Chemicals"	Akmola region	Plant protection chemicals	6648
LLP "Temir Service"	Aktobe region	Phosphoric flour	16 100

Source: Companies' data

Currently KAZNEXINVEST work at the issue of attracting international chemical companies in the sector of agricultural chemistry. Therefore, DuPont company plans to create a production of chemical products for agriculture in Kazakhstan. One of the largest fertilizer producers in Russia JSC "EuroChem" is already planning the production of complex fertilizers in Kazakhstan. In addition, it is possible to attract to the agrochemical industry Russian TNC (JSC "Uralkali", JSC "Fosagro") and international multinational companies (Mosaic, PotashCorp, Agrium, YaraInternational, Monsanto, Syngenta).

Analysis of the SPFIID implementation

In the chemical industry SPFIID identified eight sectoral measures of state support.

- 1) Providing infrastructure - in progress (the issue is worked out on energy infrastructure supply of 2the project to build a plant for the production of complex fertilizers in Zhambyl; the issue of providing with transport infrastructure the projects of complex mineral fertilizers plant construction in Zhambyl region, plant for the production of nitrogen-phosphorus fertilizer in the South Kazakhstan region is not addressed)
- 2) Providing qualified human resources - failed (Staffing requirements of the chemical industry by specialities ensured by education in universities and VET institutions of Kazakhstan, will be implemented in the next five years; the system of

practical training in manufacturing plants for a period of 3 months with fixing individual managers in the field has not been implemented due to lack of funds allocated from the Republican Budget)

3) Removing administrative barriers - not executed (To simplify regulatory procedures in the sphere of trading chemical products in the territory of the Republic of Kazakhstan partial automation of public services for the registration of chemicals has not been implemented)

4) Technical regulation in the chemical industry - executed (To date under the Plan for the development of national technical regulations in the chemical industry 10 technical regulations were adopted and implemented. In accordance with the plans of primary EurAsEC and the Customs Union technical regulations development a work is carried out to develop, approve and implement 8 technical regulations in the field of chemical industry; 106 state standards were developed under the budget program 013 "Services in the field of technical regulation and metrology" in 2012, 74 of them were harmonized with international requirements, which is 70% of the developed standards. 56 state standards were developed in the chemical industry in 2013)

5) Promotion the development of innovation and technological upgrading - executed (National Agency for Technological Development supported 81 innovative projects of the companies in the industry for the period 2010-2013; and LLP "UCC Engineering", joint venture of LLP "OXK" and foreign engineering companies Tecnimont (Italy) and Officium (Belgium) were created in August 2012)

6) Creation of favorable conditions to attract direct investments - executed (LLP "United Chemical Company" of the JSC "National Welfare Fund" Samruk-Kazyna "(hereinafter - " NWF "Samruk-Kazyna") is the main operator of SPFIID implementation in the chemical industry, and provides the state's interests regarding acquisition of alienable rights for subsoil use, participates in exploration and development of mineral deposits, is engaged in attracting the necessary debt capital in the international financial market and search for strategic investors; concessional lending to investment projects of small and medium-sized businesses for the production of chemical products was not organized, as the measure does not meet the criteria for the selection of projects under the program "Business-2020"; amounts of subsidies for agricultural producers increase annually under the program for subsidizing agricultural goods producers to promote domestic fertilizer consumption)

7) Trade policy - executed (in order to support exports there is provided financial and service support for chemical exporters to promote their products; a procedure for obtaining a license for the export of chemical products is simplified, time frames for approvals in each ministry are reduced; a problem was resolved to obtain special permit for transportation of yellow phosphorus in tanks across the European Union countries (hereinafter - EU) for the period 2011 - 2018 (in connection with their ban in the EU since 2011).

8) Resourcing - in progress (Efforts are underway as part of potash fertilizers production project)

Strengths:

presence of the mineral resource base, the presence of which is one of the competitiveness factors of enterprises. There are deposits of phosphate and potash ores, natural gas in Kazakhstan.

Weaknesses:

low productivity in the sector, compared with developed countries;
underdevelopment of high value added production (complex fertilizers, pesticides) and the absence of full-cycle production of pesticides;
low level of the sector enterprises' capacity utilization primarily due to the high level of wear and tear;
lack of financing enterprises of the sector for modernization and development of production;
high energy intensity of production;
low level of development of the necessary transport and logistics infrastructure;
unpreparedness and absence of test base to study agrochemical products.

Opportunities:

meeting potential domestic demand of the producers in the agricultural sector. From 300 to 400 thousand tons of mineral fertilizers are used annually while the needs are 1.8 million tons. Domestic market of pesticides is more than 20 th. tons⁸. A Program for the Development of AIC was adopted to stimulate domestic consumption in the Republic of Kazakhstan, according to this Program the State subsidies for the purchase of domestic (50% of the cost) and foreign (30% of the cost) fertilizers and herbicides. Volumes of agrochemical products subsidized does not exceed 200 th. tons per year.

Export opportunities are related to demand from China.

Threats:

competition from producers in Russia and Belarus;
limitation of state support after accession to WTO;
changes in the tariff policy of transport and energy monopolists;
shortage of qualified personnel with industry training with low inflow of young people into the industry.

Goals, benchmarks and objectives

Goal: Development of the agrochemical sector by stimulating domestic demand and increase export potential.

Objectives:

- 1) Modernization of existing enterprises to improve production efficiency and product diversification
- 2) Stimulating domestic demand;

⁸According to the Program "Agrobusiness - 2020"

- 3) Export promotion;
- 4) Creation of new enterprises;
- 5) Providing sector with qualified human resources;
- 6) Creating a test and certification infrastructure.

Solving the above-mentioned problems will allow achieving the following benchmarks.

Benchmarks:

Program implementation will allow achieving to 2019 the following economic indicators to the level of 2012 (Table 2.2.6.5):

- 1) not less than 3.3 times growth of gross value added in real terms;
- 2) employment growth by 1.5 thousand people;
- 3) 1.8 times productivity growth in real terms;
- 4) growth of the value of non-commodity (processed) export not less than 2.8 times.

Table 2.2.6. 5.Benchmarks

No.	Benchmarks	UoM	2012 report	2013 expected	Forecast in relation to 2012						2019 to 2012, %
					2014	2015	2016	2017	2018	2019	
1	Gross value added growth	%	1	108	152	171	214	245	296	331	3.3 times
2	Growth in employment	thous. people	1.9	2.0	2.0	2.3	2.3	2.4	2.4	3.5	by 1.5 th. people
3	GVA rise in labour productivity	%	100	102	143	143	176	200	236	184	1.8 times
4	Growth of the value of non-commodity (processed) export	%	100	87	94	147	195	223	267	276	2.8 times

Priority activities

Priority sectors were selected in the framework of the Concept of industrial-innovative development of Kazakhstan for 2015-2019. Priority activities are identified in each sector. Table 2.2.6.6 presents priority activities in agrochemical sector.

Table 2.2.2.6. - Priority activities in agrochemical industry

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

Priority product groups

Priority product groups are focused not only on the domestic market, but also on the macro-market: CIS countries, Iran, China and Turkey. Creation of new or expansion of existing capacities of the enterprises producing priority goods / product groups will help to reduce imports and increase exports of agrochemical manufacturing sector.

Table 2.2.6.7 lists the product groups with the highest value of imports.

Table 2.2.6.7. Priority product groups of agrochemical industry

FEACN-6	Name of a product group	Import capacity of domestic market, mln USD	Imported capacity of the macro-region markets, mln USD
310210	Urea	5.7	205.8
310221	Ammonium sulfate	2.8	13.3
310420	Potassium chloride	5.1	3032.3
310430	Potassium sulfate	0.11	95.2
310490	Other potash fertilizers	17.3	33.5
310520	Polynutrient fertilizers	6	1187.4
310540	MAP / DAP	0.3	153.7
380891	Insecticides	18,6	439.5
380892	Fungicides	12.9	637.2
380893	Herbicides	71.5	980.6

Priority projects

Promising areas of development of the sector in Kazakhstan are the projects to develop production of polynutrient fertilizers (NPK-fertilizers), potash fertilizers, plant protection products, as these projects determine changes in the chemical and related industries.

In the five-year period there are provided for the implementation four projects within the Industrialization Map, planned to be launched in the period 2015 - 2019, discussed with applicants. (Table 2.2.6.8).

Table 2.2.6.8. - Projects within the Industrialization Map, planned to be launched in the period 2015 - 2019

#	Project	Region	Goods	Design capacity, tons	Launch year	Investments, mln tenge	Number of staff
1	Production of polynutrient fertilizers on the basis of Chilisai ore deposit	Aktobe region	MAP / DAP	830 000	2017	45 000	2000
2	Production of glyphosate in SEZ "Chemical Park" Taraz "	Zhambyl region	Herbicides	10 000	2015	39540	300
3	Manufacturing of mineral fertilizers	Zhambyl region	Polynutrient fertilizers	1000000	2019	357 000	2000
4	Production of potassium sulfate	Zhambyl region	Potassium sulfate	300 000	2018	12.085	287
TOTAL:						453 625	4587

Promising projects

LLP "United Chemical Company" works jointly on the following projects: production of phosphoric acid, creation of agrochemical service centers for the provision of one stop principal services. Also LLP "Batys kaly" develops a project "Production of mineral fertilizers on the basis of Zhylyan field." List of promising projects declared by agrochemical enterprises and planned for launch during the period 2015 - 2019 is given in the Table 2.2.6.9.

Table 2.2.6.9. - Promising projects announced by agrochemical companies and planned to launch in the period 2015 - 2019

#	Project	Region	Goods	Design capacity, tons	Launch year	Investments, mln tenge	Number of staff
1	Expansion of ammophos production	Zhambyl region	Phosphate fertilizers	950 000	2018	4410	-
2	Diversification of LLP "Kazphosphate" range of products (production of polynutrient fertilizers)	Zhambyl region	Polynutrient fertilizers	180 000	2018	1200	-
3	Production of wet-process phosphoric acid for further production of feed phosphates	Zhambyl region , FEZ "HimPark Taraz"	Feed phosphates	200 000	2019 (preliminary)	65000	-
4	Production of methanol-ammonia and products based thereon	Zhambyl region	formaldehyde	120 000	2022	810.5	
			acetic and peracetic acid	30 000			
			carbamide formaldehyde and melamine formaldehyde resins	200 000			
5.	Production of mineral fertilizers in the field Zhylyansk	Aktobe region	Potash fertilizers	1000000	-	-	-
6	Construction of a new chemical complex for the production of deep gas processing products	Mangystau region	Nitrogen fertilizers	-	-	-	-
7	Production of chemical products for agriculture	Not defined	Plant protection agents	-	2017	-	-

8.	Creating agrochemical service centers providing a range of services on the basis of one stop principal.	South-Kazakhstan and North-Kazakhstan regions	Services in the agrochemical sector	-	-	-	-
TOTAL:						65,810	

2.7 Manufacturing of chemicals for the industry

Sector of production of chemical products for industry is a supplier of raw materials, semi-finished products, products for both classical industries: oil and gas industry and MMC, and high-tech sectors: electronics, battery production, energy efficient and innovative building materials, machinery. Development of the industry as a whole leads to increased demand for the sector's products.

Currently, the production of chemicals for industry in Kazakhstan consists mainly of basic chemicals products: inorganic acids and alkalies used in mining, production of mineral fertilizers, as well as paints and varnishes, explosives and surfactants.

14 investment projects worth 63.6 billion tenge were commissioned while implementing SPFIID between 2010 and 2014. There we created more than 1.7 thousand jobs.

Examples of the projects completed under SPFIID for 2010-2014:

- Recovery of chlor-alkali production at the Pavlodar chemical plant with a capacity of 30 thousand tons of caustic soda by membrane method JSC "Caustic";
- Construction of a plant to produce chemicals for the oil industry LLP "Rauan Nalco";
- Construction of a sulfuric acid plant in Kyzylorda with capacity of 500 thousand tons of sulfuric acid;
- The modernization of LLP "Kazphosphate" resulted in mastering production of hexametaphosphate of sodium used in the food industry, as well as sulfuric acid shop was put into operation with capacity of 600 thousand tons of sulfuric acid;
- Construction of a plant for the production of sodium cyanide used for gold mining with capacity of 15 thousand tons.

Sector's share in the average manufacturing industry is 2%, in the chemical industry - 70% (Table 2.2.7.1).

Table 2.2.7.1 The sector's share of the chemicals production for the manufacturing and chemical industry of Kazakhstan, %

	2008	2009	2010	2011	2012	2013 [*]
Sector's share in manufacturing, %	2.2	2.0	1.9	2.1	2.2	2.0
Sector's share in chemical industry, %	73.0	72.5	72.7	69.2	68.7	67.3

Source: Agency of the Republic of Kazakhstan on Statistics

The volume of production in the sector in 2012 amounted to 118.5 billion tenge, which is 59% more than in 2008 (Table 2.2.7.2). Production volumes have not increased significantly since major enterprises in the sector operate at the highest possible level of capacity utilization - up to 80%.

Table 2.2.7.2 - Dynamics of production for 2008-2013, mln KZT

Production volumes	2008	2009	2010	2011	2012	2013 [*]
Manufacturing industry	3359551	2945966	3844658	4801407	5446749	5882456
Quantity index number, %	97.5	97.1	113.9	107.7	101.2	101.6
Chemical industry	106 157	85 542	104 107	147 929	178 971	184 919
Quantity index number, %	107.4	75.7	121.4	130.1	103,2	103.3
Manufacturing of chemicals for industry	74 275	59 055	72 474	98 527	118 555	119 685

Source: Agency of the Republic of Kazakhstan on Statistics

In 2012 compared with 2008 GVA of the sector increased 2.5 times. The number of employed increased by 910 people, which is associated with the modernization of large enterprises and their transition to more productive technologies. As a result, labor productivity in the sector increased 2.3 times. Nevertheless, it is more than 2 times lower than in OECD countries. The number of new enterprises have increased.

Investments in fixed assets of the sector's companies in 2012 amounted to 40.4 billion tenge, which is 6 times higher than in 2008.

Depreciation of equipment in enterprises of the sector reaches 40%, capacity utilization is more than 60%. High capacity utilization is typical for exporting companies: JSC "Aktobe chrome compounds plant" and LLP "Kazphosphate". Increasing the coefficient of renewal by 8.5% in 2012 impacted decline in the equipment deterioration from 44.8% in 2011 to 30.1% in 2012.

Exports in the sector of chemical products increased by 16.5% compared to 2008 and amounted to 599.2 million U.S. dollars (92.9 billion tenge). Imports increased by 27% compared to 2008 and amounted to 1 332.5 million dollars (206.5 billion tenge). Low added value products are mainly exported, while higher added value products are imported.

Key development indicators of the chemicals manufacturing sector during 2008-2012 are presented in the Table 3.

Table 2.2.7.3 Data on the sector of chemicals production for the industry

	2008	2009	2010	2011	2012	2013 [*]
GVA million tenge ⁹	37,677	33,670	63,571	83,964	93,740	75,762
Average labour	104167	104304	111909	117373	117105	

⁹In 2013 - operational data of the Agency of RK on statistics for 9 months

productivity in the OECD countries**, USD / person						
Labor productivity, USD / person	24308	18912	33899	32508	45273	
Labor productivity, th. tenge / person	2931	2812	4997	4808	6810	
Number of employed, persons	12,856	11,972	12 723	17,465	13,766	11,548
Number of operating enterprises	138	154	156	155	153	
Including:						
Large	6	7	9	9	8.	
Medium	12	16	19	17	20	
Small	January 1920	131	128	129	125	
Investments, mln tenge	6645	29,295	17 381	19,870	40,391	25,990
Depreciation 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	
Availability of fixed assets at the end of the year at the initial cost, million tenge	10,884	4218	10,377	18 276	26,097	
Exports, USD million	514.1	266.9	367.6	509.4	599.2	
Imports, USD million	1 046.4	899.4	1 065.0	1 221.0	1 332.5	

Source: Agency of RK on statistics, TradeMap, Euromonitor database.

Enterprises-producers of sulfuric acid, yellow phosphorus, chromium compounds, hydrofluoric acid, and chlor-alkali segment represent the sector. There is no production of soda ash - the raw material for the glass industry and soap making, production of sodium cyanide used for gold mining, production of hydrogen peroxide used as an oxidizing agent in many chemical reactions in the Republic of Kazakhstan .

Major players in the sector are TOO "Kazphosphate", whose share in the total production of the chemical industry is 28%, JSC "Aktobe chrome compounds plant" - 12.5%, JSC "Caustic" - 2.4%. Sector of chemical products works mainly for domestic consumption, as most of the production is difficult to transport, and is dangerous to human health.

The product range of major players is presented in the Table 2.2.7.4.

Table 2.2.7.4 The main RK producers' range of products

Enterprise	Location	Output product	Volumes of production * (2013), tons
LLP "KazTsKUB Nitrohim"	Aktobe region	Explosives	309.3
JSC "Aktobe chrome compounds plant"	Aktobe region	Sodium dichromate	61 427
		Chrome tanning agent	12 200
		Chromium oxide	30 915
		Chromium trioxide	23 215
LLP "Rauan Nalco"	Atyrau region	Reagents for the oil industry	9 332.6
JSC "Orica-Kazakhstan"	East Kazakhstan region	Explosives	19 614
LLP "Ulbaftor-Complex"	East Kazakhstan region	Ffluoric (hydrofluoric acid)	8961
LLP "Kazphosphate"	Zhambyl region	Yellow phosphorus	89 642
		Sodium tripolyphosphate	50 153
		Thermal phosphoric acid	48 468
		Ammofos	131 401
		Feed tricalcium phosphate	16 235
		Sulfuric acid	45 494
		Phosphoric flour	594 350
LLP "SKZ-U»	Kyzylorda region	Sulfuric acid	326 100
LLP "KazAzot"	Mangystau region	Anhydrous ammonia	109 948
		Nitric acid	149 134
		Ammonia nitrate	170 828
JSC "Caustic"	Pavlodar region	Caustic soda	23 800
		Liquid chlorine	12 500
		Hydrochloric acid	15 900
		Hypochlorite of sodium	2 500

Source: Data of the enterprises

Currently «KaznexInvest» addresses the issue of attracting international chemical companies to implement investment projects in Kazakhstan. Negotiated:

- China Kingho Energy Group Co., Ltd. (China) - LLP "Razrez Kuznetsky" of the project for integrated processing of coal;
- IndussGroup (Belgium) on the project of treatment of industrial wastewater and providing centralized treatment plant for the SEZ "Chemical Park" Taraz ";
- DowChemicalsCompany (USA) on the project to create chemicals mixing shop;
- Lanxess (Germany) on the project of production phosphorus trichloride and products on its base;
- GreenDay (Germany) on the project of oil absorbing agents;

– LanzaTech (USA) on the project of ethanol production based on the processing of industrial gases in Zhambyl and Pavlodar regions.

During the implementation of SPFIID-1 the German concern «LindeGroup», a member of Global 2000, and the Kazakh company "ArselorMittalTemirtau" jointly implemented the project of industrial gas production in Karaganda region with capacity of 63 thousand tons of oxygen per hour.

As part of the SPFIID-1, the following activities were planned and carried out in the chemical industry:

- restoring of chlor-alkali production in Pavlodar;
- creation of new enterprises producing special chemicals;
- developing TC technical regulations in the chemical industry, as well as standards that can be taken as evidence of the technical regulations;
- simplifying procedures for the regulation of production and turnover of precursors;
- establishing a Target chemical laboratory based on «National Center for complex processing of mineral raw materials»;
- establishing a specialized engineering company in the field of chemical industry - LLP "OHK Engineering", a joint venture of LLP "OHK" and foreign engineering companies Technimont (Italy) and Officium (Belgium);
- developing a cost-recovery mechanism for enterprises exporting chemical products;
- developing a mechanism for the allocation of innovation grants to the subjects of industrial innovation.

Strengths:

availability of own mineral resource base. Proximity and access to sources of raw materials accounted for 60% of the cost of chemical products;
the presence of large enterprises.

Weaknesses:

low labor productivity compared to similar indicators of the developed countries;
narrow range of products;
deficit of own funds of the companies in the sector for modernization and development of production;
low resource efficiency;
low level of transport and logistics infrastructure;
underdevelopment of the test and certification infrastructure.

Opportunities:

increasing demand from resource sectors;
access to the markets of the CU.

Threats:

change in tariff policy of transport and energy monopolies;
reduction opportunities for public sector support at WTO accession;
increasing shortage of skilled personnel with industry training with low inflow of young people into the industry.

Goals, benchmarks and objectives

Goal: To increase the volume of production and modernization of existing businesses, creation of new products production focused on macro-region.

Objectives:

- 1) Capacity expansion of existing enterprises.
- 2) Modernization of existing enterprises to improve production efficiency.
- 3) Existing enterprises' product diversification;
- 4) Promotion of domestic demand;
- 5) Export promotion;
- 6) Creation of new enterprises;
- 7) Promotion inter-sectoral and inter-country cooperation;
- 8) Providing new enterprises with infrastructure and replacing the dilapidated infrastructure of existing enterprises;
- 9) Providing the sector with qualified staff.

Benchmarks:

The Program implementation will allow achieving in 2019 the following economic indicators to the level of 2012 (Table 2.2.7.5):

- 1) growth of gross value added of not less than 1.5 times in real terms;
- 2) the decline in employment not more than 0.9 thousand people;
- 3) 1.6 times growth of labor productivity in real terms;
- 4) not less than 1.3 times growth of non-commodity (processed) export.

Table 2.2.7.5. Benchmarks

No.	Benchmarks	UoM	2012 Report	2013 expected	Forecast in relation to 2012						2019 to 2012., times
					2014	2015	2016	2017	2018	2019	
1	Gross value added growth	%	100	101	109	118	122	132	144	154	1.5 times
2	Decrease in employment	thous. people	13.8	11.5	12.1	12.1	12.1	12.2	12.3	12.8	- 0.9 thous. people
3	GVA rise in labour productivity	%	100	120	124	134	139	149	160	165	1.6 times
4	Growth of the value of non-commodity (processed) export	%	1	92	97	102	106	111	116	p. 130	1.3 times

Priority activities

Priority sectors were selected in the framework of the Concept of industrial-innovative development of Kazakhstan for 2015-2019. Priority activities are identified in each sector. Priority sector activities are described in the Table 2.2.7.6.

Table 2.2.7.6. Priority activities in the sector of chemicals production for the industry

CCEA-4	Item
2011	Industrial gas production
2012	Colouring agents and pigments production
2013	Basic inorganic compounds production
2030	Paints, varnishes and similar colouring agents production
2041	Soap and detergents, cleaning and polishing agents production
2051	Explosive agents production
2059	Other chemicals production

Priority product groups

The needs of hydrofluoric and phosphoric acids domestic market is covered through domestic production. With the launch of two sulfuric acid plants import of sulfuric acid in 2013 decreased by 76 times compared to 2012. Chrome compounds are almost completely exported, as well as yellow phosphorus and phosphorus compounds.

Creation of new or expansion of existing capacities of the enterprises producing priority goods / commodity groups will help to reduce imports and increase exports of the trade chemicals sector products.

Table 2.2.7.7 lists the product groups with the highest value imports.

Table 2.2.7.7. Priority product groups, tons

FEACN-6	Name of a product group		2008	2009	2010	2011	2012
280610	Hydrogen chloride (chlorohydric acid)	production					3800
		imports	31945	28995	29434	29318	27700
		exports	20	0	40	aa	872
283620	Disodium carbonate	imports	390 557	311564	342661	376832	434795
		exports	4	38	5.	487	191
281511	Solid sodium hydroxide (caustic soda)	production				1300	17900
		imports	16198	15571	21475	32048	22642
		exports	7	6	161	246	26
281512	Aqueous	imports	77535	94674	62020	26071	32652

	sodium hydroxide (caustic soda)	exports	1	0	0	0	1239
284700	Hydrogen peroxide	imports	4059	8685	12648	10960	14410
		exports	0	1	0	1	1
282720	Calcium chloride	imports	8019	5897	11434	9028	9519
		exports	6	238	19	26	405
283711	Cyanides and sodium cyanide oxides	imports	6212	8011	10568	10018	9427
		exports	0	0	0	0	0
320810	Polyester paints and varnishes	imports	20878	21174	23064	19214	17068
		exports	3	2	37	42	6
360200	Prepared explosives, other than gun powder	production			772	1137	8655
		imports	18688	19583	13078	12986	16732
		exports	25	48	24	0	0
381190	Antiknock compounds, antioxidants, gum inhibitors, stiffening agents, anti-corrosive agents and other prepared additives for mineral oils or other liquids	imports	17624	18510	10759	10459	9662
		exports	9230	60	103	4	24
381400	Composite organic solvents and diluters, not included in other categories; compositions ready for paint or varnish removing	production	163	560	1152	913	1857
		imports	5148	5035	4657	6178	7808
		exports	6	42	26	46	86
381519	Catalysts	imports	1362	1055	1088	7696	9174
		exports	8.	24	123	4	83

382000	Antifreezes and other finished anti- freezing liquids	production	334	389	600	5114	5900
		imports	25245	25549	30576	30464	37194
		exports	28	389	52	6	11

Priority projects

4 promising projects related to the development plans of the FEZ "Pavlodar" are provided for the implementation in the five-year period. They will be included in the Industrialization Map and will be implemented in the period from 2015 to 2019 (Table 2.2.7.8).

Table 2.2.7.8. Projects within the Industrialization Map, planned to be launched in the period 2015 - 2019

No.	Project	Region	Creating jobs, people.	Volume of investments, bn tenge	Commissioning	Capacity, tons
1	Expansion of the existing production of chlorine and caustic soda, JSC "Caustic"	FEZ "Pavlodar"	100	18.8	2016	Caustic soda - 90 000 Chlorine - 52 000
2	Production of zirconium oxychloride, LLP "Chloren"	FEZ "Pavlodar"	24	3.0	2017	22,000
3	Production of aluminum oxychloride, LLP "Stroyhimmontazh-PV"	FEZ "Pavlodar"	20	2.0	2017	10 000
4	Production of hydrogen peroxide, LLP "Tehnohimprom-PV"	FEZ "Pavlodar"	55	11.3	2017	15 000
Total:			199	36.1		

List of promising projects stated by enterprises of the sector and planned to launch in the period 2015 - 2019 is given in the Table 2.2.7.9.

Table 2.2.7.9. Promising projects stated by enterprises and planned to launch for the period 2015 - 2019

No.	Project	Region	Creating jobs, people.	Volume of investments, bn tenge	Commissioning	Capacity, tons
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1	Modernization, expansion of industrial explosives and initiating devices production, LLP "KazTsKUB Nitrohim"	Aktobe region	60	1.3	2016	
2	Complex for the production of 6GV stick powder ammonite, LLP "KazTsKUB Nitrohim"	Aktobe region	80	0.3	2016	5000
3	Construction of a plant for the production of emulsion explosives, LLP "Samruk-Service 2011"	Aktobe region	25	0.4	2015	5000
4	"Poremit" emulsion explosives production, LLP "KazTsKUB Nitrohim"	Aktobe region	400	0.2	2017	2 500
5.	Production of ZHVG grade ammonium nitrate, LLP "Parisa-AB"	Aktobe region	105	5.0	2017	10 000
6	Phosphorus trichloride production, LLP "Kazphosphate"	Zhambyl region	26	1.0	2016	10 000
	Total:		696	8.2		

2.2.8 Motor vehicles, their parts, accessories and engines production

Motor vehicles, their parts, accessories and engines production is a new industry of the economy, which has a significant share of the total machinery-producing industry of Kazakhstan. In the structure of engineering share of production of motor vehicles, their parts, accessories and engines in 2012 was 11.4%, an increase compared to 2008 by 2.5 times (Table 1). According to operational data for 2013 share of car engineering in the machinery-producing industry is 18.3% (4 times increase in comparison with 2008).

Development of the national car industry has a multiplier effect on other sectors of the economy. So, new job created in the car industry allows you to create 3 to 11 more jobs in related industries such as metallurgy, chemical and electronics industry, metalworking, spare parts production, transport and services.

7 investment projects worth 7.6 billion tenge were commissioned while implementing SPFIID within the Industrialization Map commissioned. 327 jobs have been created.

Examples of projects completed under SPFIID:

- Project of LLP HyundaiCommercialVehicleManufacturing on auto trucks and Hyundai buses SKD. Capacity of the project is 140 units (trucks and buses);
- Construction of a plant for the production of filters for motor vehicles, LLP "KAZFILTR." Project capacity is 240 thousand pieces;
- Organization of special vehicles joint production on the basis of MAZ vehicles of JSC "Uralskagrommash." The project is focused on fire tankers, watering machines, garbage trucks production up to 500 units per year;
- Organization of SsangYong cars assembling by JSC "Agromashholding", capacity in 2011 - more than 1 000 vehicles, in 2015 - 7500 units;
- Organization of vehicles serial production in Kostanay by LLP "SaryarkaAvtoProm."

According to the Table 2.2.7.1 sector's share in the volume of manufacturing in 2013 was 2.7%, an increase was 6.7 times compared to 2008.

Table 2.2.8.1. The share of motor vehicles, their parts, accessories and engines production in the manufacturing and engineering industries of RK, %

	2008	2009	2010	2011	2012	2013 *
Share in the engineering industry	4.5	2.3	4.2	6.6	11,4	18.3
Share in the manufacturing industry	0.4	0.2	0.4	0.7	1.4	2.7

Source: Agency of RK on statistics

Table 2.2.8.1 shows the data on the volume of production of motor vehicles, their parts, accessories and engines, which increased 5.8 times from 2008 to 2012. The growth in the sector was due to 5.9 times increase in production of motor vehicles (76.4 bn tenge in 2012 compared to 12.9 bn tenge in 2008). Parts and accessories for

motor vehicles production increased 3.5 times (1.9 billion tenge in 2012 against 563 million tenge in 2008).

Table 2.2.8.2. Dynamics of production for 2008-2013, mln. KZT

	2008	2009	2010	2011	2012	2013 *
Manufacturing industry	3359551	2945966	3844658	4801407	5446749	5882456
Quantum index compared with the previous year	97.5	97.1	113.9	107.7	101.2	101.6
Machinery-producing industry	301 386	281 310	376 184	536 876	687 235	853 923
Quantum index compared with the previous year	89.7	82.5	133.6	119.0	116.5	114.6
Motor vehicles, their parts, accessories, engines	13 565	6347	15 768	35 404	78 423	156 563
Quantum index compared with the previous year	54.0	36.8	210.6	210.7	198.3	178.9

Source: Agency of the Republic of Kazakhstan on Statistics

According to the Table 3, the gross value added from 2008 to 2012 increased 5.8 times. Number of people employed in the sector in 2008 - 2010 decreased by 630 persons. Since 2011 employment has been increasing gradually. Labor productivity from 2008 to 2012 increased 7.5 times and now complies with the level of the OECD countries. Depreciation of fixed assets in 2012 was 30.9%, a renewal of fixed assets - 14.4%.

Investments in fixed assets in 2012 amounted to 2.2 billion tenge, which is 14.3 times higher than investments in 2008. At the same time the largest volume of investments - 12.5 billion tenge was seen in 2011 (Table 2.2.8.3).

Imports dominates in the production of motor vehicles, their parts, accessories and engines. It amounted to 86.8% of Kazakhstan's market share in 2012 (Table 2.2.8.3).

Table 2.2.8.3. Data on the sector for 2008-2013

Index	2008	2009	2010	2011	2012	2013*
GVA, million tenge ¹⁰	5990	3515	8004	16 709	34 616	33 984
Number of employed, persons	1763	1283	1133	1252	1351	1731
Labour productivity in the	3398	2740	7064	13 346	25	-

¹⁰GVA for 2013 - operational data of the Agency of RK on statistics for 9 months.

Republic of Kazakhstan, th. tenge / pers. \$11					623	
	28 101	18 463	47 922	90 145	170 484	-
Labor productivity in OECD countries ¹² \$.	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	-
Depreciation of fixed assets, %	21.9	29.1	32.4	33.7	30.9	-
Investments in fixed capital, million tenge	156	828	537	12 550	2234	9468
Coefficient of renewal of fixed assets, %	4.3	1.7	4.2	12.7	14.4	-
Availability of fixed assets at the end of the year at the initial cost, million tenge	1813	1647	1660	1923	2861	-
Exports, USD mln	43.8	35.6	33.1	41,0	35.1	89.3
Imports, USD mln	2378	1408	1236	1816	3202	4285

Source: Agency of the Republic of Kazakhstan on statistics, TradeMap.

Car production is concentrated in the East - Kazakhstan (16 522 pcs.) and Kostanay (2664 pcs.) regions, trucks - in Akmola (918 pcs.) and Almaty (755 units) regions¹³. Special and specialized cars are produced in Western Kazakhstan (85 pcs.), North Kazakhstan (83 pcs.) and Akmola (16 pcs.) regions. Fire machines are produced in Western Kazakhstan (51 pcs.) and Akmola (11 pcs.) regions. Trailers and semitrailers are mainly produced in Zhambyl region (118 pcs.) and Almaty (27 pcs.).

The following manufacturers (Table 2.2.8.4) represent production of motor vehicles.

Table 2.2.8.4. The main producers in RK and the range of products

Company name	Location of the facility	Output product
JSC "Asia Auto"	Ust-Kamenogorsk	Car models Škoda, Chevrolet, KIA, Lada 4x4
JSC "Holding Agromach"	Kostanay	Car models SsangYong, Chance

¹¹The dollar exchange rate at the end of period, data of the Agency of RK on statistics

¹²OECD countries: Japan, USA, Australia, Germany, Italy, Canada, United Kingdom, France, South Korea, Mexico, Spain, Turkey.

¹³Source: Agency of RK on statistics (data for 2012)

LLP "Saryarka AutoProm"	Kostanay	Car models SsangYong Nomad, Toyota Fortuner, UAZ, special machinery - Iveco PD + 682
JSC "Kamaz Engineering"	Kokshetau	KAMAZ trucks and KAMAZ chassis special vehicles
LLP «DaewooBusKazakhstan»	Semey	Buses DaewooBS090; «BS106»; «BS 106A"; «BC 212MA»
LLP "SemAz"	Semey	Trucks and special vehicles
LLP «HyundaiAuto Trans»	Almaty, Talgar region	HyundaiCounty buses and special vehicles

* According to the enterprises' data

The largest players in the global car production market are¹⁴ ToyotaMotor (Japan, \$ 224 billion), NissanMotor (Japan, \$ 114 billion), Peugeot (France, \$ 73 billion), Renault (France, \$ 54 billion), KiaMotors (South Korea, \$ 42 billion), listing in the list of the largest public companies in the world by the magazine Forbes - Global 2000.

The leaders in the production of accessories for motor vehicles in the global market are the companies Denso (Japan, \$ 38 billion), MagnaInternational (Canada, \$ 31 billion), AisinSeiki (Japan, \$ 28 billion), DelphiAutomotive (United Kingdom, \$ 15 billion), TRWAutomotiveHoldings (U.S. \$ 16 billion), Valeo (France, \$ 15 billion). The following activities were planned as part of SPFIID: Organization of assembling of cars and components with bringing localization level to 30%, the organization of large assembly plants with increasing levels of localization through mastering the production of parts and components, co-financing program to improve management skills in advanced engineering plants in the developed countries, purchasing of domestically produced vehicles for the state executive bodies and their territorial bodies and subordinate institutions, creation of the designing office, providing engineering services for the construction of a car plant on the left bank of Ust-Kamenogorsk and technology park for production of automotive components. To date, the localization level of 30% is almost reached, purchase of domestic vehicles for government agencies is provided, technical regulations "On safety of wheeled vehicles" is developed and approved, transport engineering designing office is created, construction of full cycle car plant and industrial park or the production of automotive components is started in Ust-Kamenogorsk (Asia Auto Kazakhstan). There are problems in advanced training and professional development of senior executives in engineering plants, which involve the lack of available financial resources of the enterprises. Formation the car industry ecosystem, creation of scrappage of motor vehicles system, creation of programs for consumer lending .have not been explored enough.

¹⁴Data on the volume of sales for 2013Global 2000

Strengths:

availability of competences in a car assembling;
relatively high labor productivity;
low level of wear and tear;
availability of public support programs.

Weaknesses:

absence of high-volume [\[1\]](#) output;
low level of localization and value added;
lack of infrastructure in the field of technical regulations;
lack of comprehensive utilization system;
lack of available financial resources;
weak development of research and development.

Opportunities:

growing domestic demand;
technology transfer by attracting foreign companies;
increase in duties against imported cars;
increasing exports of automotive products to the markets of the TC and macro-region countries [\[2\]](#);
creation domestic automotive component base;
integration into the global distribution channels.

Threats:

Kazakhstan's accession to the WTO, which may limit the ability of state support to domestic motor manufacturers;
increased competition from car assembly plants in China and Russia, not reaching the level of localization 50% by 2017;
decline of people's purchasing power;
increasing transportation tariffs for carriage of vehicles across the territory of Kazakhstan;
availability of technical and other non-tariff barriers on export of Kazakh products to the market of the Customs Union (hereinafter - CU), dependence on the Russia's technical test base in the field of technical regulation.

Goal, objectives and benchmarks

Goal: Creation of a competitive high-volume production of vehicles and increasing the level of localization.

Objectives:

- 1) Support projects aimed at cars mass production;
- 2) Creation domestic automotive component base;
- 3) Stimulating domestic demand;
- 4) Promotion of exports to markets and countries of the CU and macro-region;
- 5) Creation infrastructure of technical regulation;
- 6) Providing qualified personnel for vehicle manufacturing industry;
- 7) Support technology transfer and R & D in the industry.

Solving the above mentioned problems will allow achieving the following benchmarks.

Benchmarks:

Program implementation will allow to achieve in 2019 following economic indicators to the level of 2012 (Table 2.2.8.5):

- 1) growth of gross value added of not less than 4.9 times in real terms;
- 2) employment growth by 4.1 thousand persons;
- 3) labor productivity growth 1.2 times in real terms;
- 3) growth of the value of non-commodity (processed) export not less than 1.7 times;

Table 2.2.8. 5.Benchmarks

No.	Benchmarks	UoM	2012 report	2013 expected	Forecast in relation to 2012						2019 to 2012, %
					2014	2015	2016	2017	2018	2019	
1	Gross value added growth	%	100	204	235	259	313	390	415	492	4.9 times
2	Growth in employment	thous. people	1.4	1.4	1.5	1.6	3.2	3.4	3.8	5.5	by 4.1 thousand people
3	GVA rise in labour productivity	%	100	199	212	212	132	153	146	121	1.2 times
4	Growth of the value of non-commodity (processed) export	%	1	131	137	141	150 m	161	164	173	1.7 times

Priority activities

Priority activities are manufacturing of motor vehicles, bodies for vehicles, trailers and semi-trailers, electrical and electronic equipment for motor vehicles, other parts and accessories for motor vehicles and their engines, manufacturing of other vehicles and equipment not included in other groups (Table 2.2.8.6).

Table 2.2.8. 6.Priority activities

CCEA-4	CCEA item
2910	Motor vehicles manufacturing
2920	Bodies for motor vehicles production; trailers and semi-trailers production
2931	Electrical and electronic equipment production for motor vehicles
2932	Other parts and accessories production for motor vehicles and their engines
3099	Other transport equipment not elsewhere classified production

Priority product groups

Priority in development is the production of motor vehicles, their parts, accessories and engines (Table 2.2.8.7).

Priority projects in the production of parts and accessories of motor vehicles involving domestic companies having a certain capacity is the production of batteries, electrical products, glass, rubber products, grease, motor oil, filters, brake pads, textiles for upholstery, as well as other exterior and interior elements.

The following priority directions is the development of sales, engineering and maintenance services for engineering enterprises of the sector.

Table 2.2.8.7. - Priority product groups

FEACN-6	Name of a product group	Import capacity of the domestic market, thousands of U.S. dollars	Import capacity of the macro-regions markets*, thousands of U.S. dollars
870840	Gearboxes	23 453	11055985
870,710	Bodies for motor vehicles of the item 8703	104 853	3800300
870829	Other parts and accessories of bodies (including cabs)	17 494	6889033
840 734	Reciprocating motors used for vehicles of 87 group, with engine capacity exceeding 1000 cm ³	21 552	4505755
870120	Wheeled tractors for semi-trailers	251 940	3375879
870423	Other motor vehicles for	280 869	3394797

	transportation of goods with compression-ignition engine (diesel or semidiesel) with GVW exceeding 20 tons		
840820	Engines used on vehicles of 87 group	25 705	1671474
870880	Suspension bumpers	45 941	2131760
870830	Brakes and brake with servo amplifiers, their parts	27 878	2147263
870870	Travelling wheels, their parts and accessories	37 143	1772328
870850	Drive axles with differential assembly or separately from other transmission elements	18 977	1584348
871639	Other trailers and semi-trailers for goods transportation	80 779	1291690
870891	Radiators	20 586	592061

* Countries of the macro-region: Armenia, Azerbaijan, Belarus, China, Georgia, Iran, Kyrgyzstan, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.

Priority projects

In the period from 2015 to 2019, it is planned to implement the projects according to the Industrialization Map and updated information from applicants (Table 2.2.8.8).

Table 8. Priority projects

Name of the project	Region	Creating jobs, people.	The volume of investments, mln tenge	Commissioning	Capacity, in volume terms
Construction of a complete cycle car plant and technology park for production of automotive components in Ust-Kamenogorsk (JSC "Asia Auto Kazakhstan")	EKR, Ust-Kamenogorsk	4000	74 500	2016	120 000 cars
Creating a production of car models SsangYong	Kostanay region, Kostanay	1000	13 000	2014 -2015 years.	25 000 cars

Nomad by CKD method of assembly (LLP "SaryarkaAvtoProm")					
Manufacturing of brake pads for motor vehicles (LLP "DDEK")	SKR, Shymkent	45	160	2015	260 000 sets

Promising projects.

A project is addressed for the production of spare parts for cars

ToyotaTsushoCorporation (Japan), construction of a plant for the production of aluminum wheels for automobile wheels LLP «Altech»[\[3\]](#) with technology "low pressure casting" and auto parts manufacturing MagnaInternational (Canada).

A possibility to implement the following projects is addressed jointly with the National Chamber of Entrepreneurs of Kazakhstan:

- 1) Production of buses on compressed natural gas - DaewooGDW 6126 HG (LLP «DaewooBusKazakhstan»);
- 2) Development and production of hybrid trucks with electrogas motor (JSC "KAMAZ - Engineering");
- 3) Mastering the production of a new generation of fire trucks (JSC "KAMAZ - Engineering");
- 4) Creation of installation center based on (JSC "KAMAZ - Engineering").

2.2.9 Electric equipment

According to the International Energy Agency, growth in demand for electrical machinery and equipment is forecasted, which is due to the increasing consumption of electricity in the world with over 80% growth in the period up to 2030 will be provided by the emerging economies. Cumulative global investments in the development of the sector amount to 13.7 trillion dollars in the period up to 2030.

Currently, the production of electrical equipment sector in the Republic of Kazakhstan is dynamically developing, during the past five years a steady growth of export transformers, electricity distribution and control equipment was observed. The sector also include competitive enterprises that have a very high export-oriented potential.

When implementing the SPAIID within the Industrialization Map, 11 investment projects worth 9.6 billion tenge were commissioned. 658 jobs were created.

Examples of completed projects under the SPAIID:

- Development of industrial stationary, traction lead-acid batteries, “Kaynar AKB” LLP with a capacity of 10,000 batteries;
- Construction of the fan plant by “Almaty fan factory” LLP with a capacity of 122,830 pcs.;

- Production of power and control cables by “EAST INDUSTRY COMPANY Ltd” with a capacity of 33,600 km of cables per year;
- Manufacture of LED light fittings and lamps by “Energy-Taraz” LLP with a capacity of 5,000 light fittings;
- Organization of production of LED lamps by “Prolux KZ Ltd” with a capacity of 15 thousand pieces per year;
- Organization of a modern process control system by TREI-Karaganda LLP;
- Construction of a plant for production of electrical equipment by “RIG” LLP;
- Production of energy-saving lamps by “MaxLight Group” LLP with a capacity of 1 million lamps;
- Workshop for production of components for transformers by “Kantau Transformer Plant” JSC with a capacity of 6,000 tons of aluminum wires, 900 tons of copper wires;
- Modernization and expansion of production capacity of the plant for production of transformer equipment and electrical products by “Kantau Transformer Plant” JSC;
- Automation of technological processes of production of LED products by “LED Solution” LLP.

The sector’s share of electrical equipment production in the processing industry in 2012 made 1.5%, and the share in the mechanical engineering industry makes 12% (Table 2.2.9.1).

Table 2.2.9.1. share of electrical equipment production in the total volume of processing industry and total volume of mechanical engineering, %.

	2008	2009	2010	2011	2012	2013**
Share in processing industry	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%
Share in mechanical engineering	16%	16%	15%	14%	12%	10%

Source: Agency of Statistics of the Republic of Kazakhstan

Over the period from 2008 to 2012 total production volume of electrical equipment in the Republic of Kazakhstan increased from 49 billion tenge to 80.6 billion tenge making a nominal growth in 1.6 times (Table 2.2.9.2).

Electrical production growth was due to increased production of transformers from 2.1 million kVA to 3.5 million kVA in 2012, electrical capacitors to 12.3 thousand units with an increase by 1.6 times compared to 2010, indicator panels with liquid crystal devices or diodes, light emitting 258.5 tons in 2012, which is 1.9 times more than in 2011.

Table 2.2.9.2. Dynamics of production volume for 2008 – 2013, million tenge

	2008	2009	2010	2011	2012	2013*
Processing industry	3 359 551,4	2 945 965,5	3 844 658,5	4 801 407,2	5 261 940,2	5 882 455,6
IFA, % to the previous year	97,5	97,1	113,9	107,7	101,2	101,6

* Current data

Mechanical engineering	301 386	281 310	376 184	536 876	687 235	853 923
IFA, % to the previous year	89,7	82,5	133,6	119,0	116,5	114,6
Electrical equipment	49 040,05	43 949,83	57 742,48	72 869,69	80 603,58	88 113,40
IFA, % to the previous year	109,6	102,2	121,1	98,0	106,8	109,3

Source: Agency of Statistics of the Republic of Kazakhstan Gross value added since 2008 has increased by 2.3 times, amounting to 47.4 billion tenge in 2012. The number of people employed in the sector also has a positive trend: since 2008, the increase of employment in the sector amounted to 1.5 thousand people, the total number of people employed in the manufacture of electrical equipment amounted to 9.2 thousand people in 2012.

Labor productivity in the sector by the end of 2012 amounted to 34.6 thousand dollars, which is almost three times less than the indicators of the same sector in the OECD countries.

The number of existing enterprises is also increasing: in 2012 in this sector amount of active enterprises was 65 companies.

In 2012, in the production of electrical equipment the capacity utilization rate was 74.6%, the depreciation of fixed assets – 34.2%, investments in fixed assets amounted to 5.2 billion tenge, renewal ratio of fixed assets was 19.4%.

The level of exports since 2009 has a steady growth, amounting to 131.3 million dollars in 2012.

Imports of electrical equipment since 2010 also has a positive trend, amounting to 2.9 billion dollars in 2012 (Table 2.2.9.3).

Table 2.2.9.3.Data on electrical equipment for 2008 – 2013

	2008	2009	2010	2011	2012	2013*
GVA, million tenge¹⁵	20 355,7	19 342,8	44 104,5	43 260,8	47 437,3	40 259,90
Number of people employed in the sector, thous. people	7,7	7,4	8,1	8,9	9,2	9,6
Labour productivity in mllion tenge	2,6	2,6	5,4	4,9	5,2	-
Labour productivity in thous. dollars¹⁶	22,0	17,7	36,9	33,2	34,6	-
Labour productivity by OECD countries¹⁷, thous. dollars	94,3	88,7	96,7	100,8	99,0	-
Number operating enterprises	59	52	48	64	65	-
Use of annual average capacity in the reporting year, %	47,9	36,2	59,7	64,8	74,6	-
Depreciation level, %	25,6	28,6	37,1	40,5	34,2	-
Capital investments, million tenge	3 860,6	2 185,3	7 068,1	5 224,3	5 156,2	7 164,2

*Current data

¹⁵GVS for 2013 – current data of ASRK for 9 month.

¹⁶Dollar rate for the end of the period, data of ASRK

¹⁷OECD countries: Japan, USA, Australia, Germany, Italy, Canada, Great Britain, France, South Korea

Coefficient of renewal of fixed assets, %	24,8	20,0	13,2	12,3	19,4	-
Availability of fixed assets for the end of the year at initial cost, million tenge	14 939,2	19 429,0	29 981,1	28 315,6	34 391,1	-
Export, million dollars	122,6	65,0	48,3	117,7	131,3	-
Import, million dollars	2 555,5	2 221,5	2 101,5	2 781,7	2 923,1	-

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

Currently, production of electrical equipment in Kazakhstan is demonstrated by the following enterprises (Table 2.2.9.4).

Table 2.2.9.4. Main producers of electrical equipment in Kazakhstan and the list of issued products.

Name of company	Location of the object	Issued products
“Kantau transformer Plant” JSC	Kantau, South Kazakhstan region	Transformers, measuring transformers, substation
“Kainar-AKB” JSC	Taldykorgan	Batteries, dry-charged batteries, semaphore batteries
“Almaty electromechanical plant” LLP	Almaty	Complete switchgears, transformer substations, switchgear panels
“Kazenergocabel” JSC	Pavlodar	Cables: power, control, direction, signal-blocking. Wires: bare, isolated for overhead lines, adjusting, connecting, special purpose
“Kelet” JSC	Almaty	Electric motors, generators, stabilizers, electric equipment, compressor equipment
“Ust-Kamenogorsk Capacitor Plant” JSC	Ust-Kamenogorsk	Cosine and electrothermal capacitors, coupling capacitors and divisors, low-voltage capacitor units, capacitor blocks
“Almaty Fan Plant” LLP	Koyankus, Almaty region	Fans, fire ventilation equipment, central air conditioners
“Kazcentrelectroprovod” LLP	Saran, Karaganda region	Telecommunications products, energy products, cables and wires
“Saiman Corporation” LLP	Almaty	Single-phase meters, three-phase meters, current transformers, control and protection stations
“ZHERSU POWER” LLP	Taldykorgan	Production of automotive lead-calcium batteries

Source: Data of enterprises

In the world the electrical manufacturing sector is represented by the following companies within the Global 2000: FujiElectric (Japan), VestasWindSystems (Denmark), WEG (Brazil), Prysmian (Italy), LSCorp (South Korea), FurukawaElectric (Japan), DongfangElectric (China) Ametek (USA), Nidec (Japan), LeGrand (France), WWGrainger (USA).

Within the SPAIID implementation for development of electrical production, the following activities were planned and carried out:

By 2014, the increase in production by 1.7 times was observed. The increase in volumes was achieved through the production of batteries, transformers and insulated wires.

Placement of new electrical equipment enterprises in the southern and central regions with a focus on existing production base (projects in South Kazakhstan, Almaty and Karaganda regions)

Strong points:

presence of competitive enterprises in the domestic market;

availability of state programs to support manufacturers of electrical equipment.

Weak points

small volume of the internal market in terms of products;
 relatively low labor productivity in the sector of electrical equipment compared to the OECD countries;
 undeveloped ecosystem of suppliers;
 shortage of qualified personnel.

There is also a lack of their own competitive developments on a global level and dependence on imported technologies, insufficient development of technical regulations and lack of available funding.

Opportunities:

further export development to the market of the Customs Union and the macro-region;
 the launch of new projects;
 development of new products, further diversification of output lines;
 transfer of technologies by attracting foreign companies.

Threats:

increased competition from producers from China, Russia and Belarus;
 WTO accession, which will limit the ability of the state support of domestic manufacturers of electrical equipment.

Improvement of the competitiveness of enterprises producing electrical equipment is affected by a number of key factors such as access to export markets of electrical equipment products, technological and innovative potential, ecosystem of providers and human resource development.

Goal, objectives and target indicators

Goal: To improve the competitiveness of enterprises in the sector, increased production demand in the domestic and external markets.

Objectives:

- 1) Promotion of exports;
- 2) Modernization of the capacity of existing enterprises;
- 3) Improvement of the system of technical regulation;
- 4) Increase in labor productivity;
- 5) Creation of conditions for the emergence of new industries;
- 6) Providing sector with highly qualified personnel.

Solution of the above problems will allow achieve the following target indicators.

Target indicators:

Program implementation will allow to achieve in 2019 the following economic indicators to the level of 2012 (Table 2.2.9.1):

- 1) increase in the gross value added no less than 2.1 times in real terms;
- 2) employment growth by 1.3 thousand people;
- 3) labor productivity growth by 1.9 times in real terms;
- 4) increase in the value of non-commodity (processed) export no less than 1.9 times.

Table 2.2.9.1.Target indicators

№	Target indicators	Meas	2012	2013	Forecast in terms of 2012	2019
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		. unit	report	expecte d	2014	2015	2016	2017	2018	2019	vs. 2012, in %
1	Increase of gross value added	%	100	98	121	139	169	203	210	210	by 2,1 times
2	Growth of employed	тыс.ч.	9,2	9,6	9,9	10,1	10,4	10,5	10,5	10,5	by 1,3 thous.h.
3	Growth of labour productivity on GVA	%	100	95	113	126	149	179	185	185	by 1,9 times
4	Increase in volume of non-commodity (processed) export	%	100	109	119	130	142	156	170	186	by 1,9 times

Priorities of sector's development

Priority activities of the sector are reflected in Table

2.2.9.2.

Table 2.2.9.2. Priority activities

CEA	Name of activity
2521	Manufacture of radiators and central heating boilers
2529	Manufacture of other metal tanks, reservoirs and containers
2530	Manufacture of steam boilers, except for central heating boilers
2711	Manufacture of electric motors, generators and transformers
2712	Manufacture of electricity distribution and control equipment
2720	Manufacture of batteries and accumulators
2731	Manufacture of fiber optic cable
2732	Manufacture of other electronic and cable types
2733	Manufacture of electric devices
2740	Manufacture of electric lighting equipment
2790	Manufacture of other electrical equipment
2811	Manufacture of engines and turbines, except aircraft, vehicle and cycle engines
2825	Manufacture of industrial cooling and ventilation equipment

Priority commodity groups

The priority directions of the sector development include manufacture of machinery and equipment having both strong domestic and export potential, parts and components for their production (Table 2.2.9.6), as well as the organization of basic production (casting, forging, metal treatment, etc.).

The priority for the sector's development is the organization of productions for service and technical maintenance of machinery and equipment.

Table 2.2.2.6. Priority commodity groups

TNVED-6	Name of commodity group	Imported home market capacity, thous. dollars	Imported macroregion market capacity*, thous. dollars
850440	Statistical converters	102 868	7 893 433
853710	boards, panels, consoles, desks, switchboards and bases for electrical equipment for a voltage not exceeding 1000 v	165 345	5 840 562

853690	other electrical devices for switching or protecting electrical circuits, or for connections to electrical circuits or in electrical circuits for a voltage not exceeding 1000 v	34 283	8 611 164
854449	other electric conductors for a voltage not exceeding 80 v	186 969	2 975 706
842139	other equipment for filtering or purifying gases	84 793	1 752 718
841510	units for air conditioning of window or wall type, in a single package or 'split-system'	81 849	1 099 735
840999	other parts suitable solely or principally for engines of commodity heading 8407 or 8408	51 405	1 463 087
853650	other switches for a voltage not exceeding 1000 v	15 973	2 026 312
841869	other refrigerating or freezing equipment, heat pumps	23 566	1 161 948
850423	liquid dielectric transformers with a capacity more than 10,000 kva	112 547	892 735
853669	other lamp holders, plugs and sockets for a voltage not exceeding 1000 v	12 405	2 018 679
850220	electricity generation units with internal combustion piston engine with spark ignition	23 163	515 226
850153	other multiphase AC motors with a capacity exceeding 75 kW	61 981	927 476
850152	other multiphase AC motors with a capacity exceeding 750 W but not exceeding 75 kW	28 900	833 747

* *Macro-region countries: Armenia, Azerbaijan, Belarus, China, Georgia, Iran, Kyrgyzstan, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.*

Priority projects

In the five-year period, the implementation of 11 projects within the Industrialization Map are provided, which are planned for launch in the period 2015 – 2019, discussed with the applicants (Table 2.2.9.7).

Table 2.2.9.7. Priority projects.

№	Name of the project	Region	Jobs in the period of operation	Investment volume, mln.tenge	Introduction into operation	Capacity in natural units
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1	Construction of the plant of dry measuring transformers with a voltage of 6-10 kV, "Transformer KZ" LLP	Akmola region	56	335	2015	10 thous.pcs. for measuring transformers
2	Plant for production of power-traction batteries, "Semey Splav" LLP	East-Kazakhstan region	150	3000	2015	1 mln.pcs/year
3	Production of new energy-saving equipment: capacitive voltage transformers, high power capacitors, "Ust-Kamenogorsk Condenser Plant" LLP	East-Kazakhstan region	430	1 100	2017	24 000 pcs.
4	Construction of plant for production of process equipment, "Ust - Kamenogorsk Technological Equipment Plant" LLP	East-Kazakhstan region	180	2 210,3	2015	2 007 tons (electrofilters, sleeve filters, cyclone separators, scrubber filters, raw-coal feeders)
5	Production of power transformers of 6-10 kV voltage class, "Ural Transformer Plant" LLP	West-Kazakhstan region	270	2 609,5	2015	2 500 pcs.
6	Launch of workshop for production of cooling towers, "Kotlomash" LLP	Karaganda region	79	286	2015	24 sets
7	Creation of production for manufacturing of energy boiler equipment, "Petrovsk Heavy Engineering Plant" JSC	North-Kazakhstan region	44	600	2015	1 500 tons
8	Manufacture of power transformers of 110-220 kV voltage class, "Asia Trafo" JSC	South-Kazakhstan region	400	5 040	2016	100 transformers/year

9	Services for manufacturing ruffle-walls, wires and components for transformers, “MonoEleTeh” LLP	South-Kazakhstan region	50	817	2015	
10	Construction of plant for production of cable and wire products with cross-linked polyethylene insulation for voltage up to 220 kV, “KMC construction” LLP	Almaty	539	6 700	2017	20 000 km (24 000 tons)
11	Production of LED products, “LED System Media” LLP	Astana	45	750	2015	Light fittings – 156 000, light-emitting diodes – 12 000 000

The total investment volume for these projects is more than 23 billion tenge.

Together with the National Chamber of Entrepreneurs of the Republic of Kazakhstan implementation of the following projects is worked out:

- Production of monitoring instruments of liquids and gas, production of cabinet systems of automated control for manufacturing facilities (TREI-Karaganda LLP);
- Modernization of the production to produce modern radio communications equipment for the needs of law enforcement agencies, production of local warning systems for small settlements, production of automated systems for monitoring of environment and environmental condition (“S.M.Kirov Plant” JSC);
- Expansion of cable products production (“Kazenergocable” JSC);
- The second stage of modernization of technology batteries production (“Kainar-AKB” LLP);
- Expansion of power equipment production (“Schuchinsk Boiler Mechanical Plant” LLP);
- Manufacturer of diesel generators “ASTRA” (“Machinery Service Ltd”);
- Modernization of existing welding equipment (“PZSO Svarko” LLP);
- Manufacture of batteries by Toyota Tsusho Corporation (Japan);
- Establishment of assembly of industrial heaters workshop Macheaters (USA);
- Production of auto parts and electrical equipment Bosch GmbH (Germany).

2.2.10 Production of agricultural machinery

In his state-of-the-nation address in 2010 “New Decade – New Economic Growth – New Opportunities of Kazakhstan” the President set the task to create an agrarian-industrial diversification through processing of agricultural raw-materials

and introduction of new equipment, new technologies and approaches in agriculture using world experience.

When implementing the SPAIID within the Industrialization Map 4 large investment projects worth 9.1 billion tenge were commissioned. 825 jobs were created.

Examples of implemented projects under the SPAIID:

- Production of power-driven combined harvesters Essil KZS-740 and other agricultural equipment by “Agromashholding” JSC. Capacity of the project amounts to 700 units of ESSIL KZS-740 brand and 100 units ESSIL KZS-760 brand per year, up to 50 units of forage harvesters KSK-600;

- Expansion of service centers for agricultural equipment of “Agromashholding” JSC. The project annual turnover amounts to 5.3 billion tenge;

- Assembly production of tractor “Belarus-3022DC.1” of “SemAZ” LLP. Capacity of the project amounts to 50 tractors “Belarus-3022DC.1”;

- Organization of the workshop for assembly rice reapers JV “Azov-Aral Agromach” LLP. Capacity of the project amounts to 100 reapers per year.

Manufacture of agricultural machinery occupies a small share in the processing industry – 0.4%. In the structure of mechanical engineering the share of sector in 2012 made to 3.0% (Table 2.2.10.1).

Table 2.2.10.1. Share of agricultural machinery production in the volume of processing industry and total engineering volume of RK, %

	2008	2009	2010	2011	2012	2013 ¹⁸
Share in processing industry	0,3	0,3	0,2	0,3	0,4	0,3
Share in engineering	3,4	3,0	2,2	2,3	3,0	2,3

Source: AS RK

During the period from 2008 to 2012 the production volume of agricultural machinery increased from 10.4 billion tenge to 20.7 billion tenge (nominal growth – 2.0 times). The production growth in the sector was due to increased production of tractors by 5.9 times compared to 2008, from 244 to 1448 units, harvesters production by 1.2 times compared to 2008, from 467 to 565 units (Table 2.2.10.2).

Table 2.2.10.2. Dynamics of production volume for 2008-2013, million tenge

	2008	2009	2010	2011	2012	2013
Processing industry	3 359 551	2 945 966	3 844 658	4 801 407	5 446 749	5 882 456
IFE, in % in the prev. year	97,5	97,1	113,9	107,7	101,2	101,6
Mechanical engineering	301 386	281 310	376 184	536 876	687 235	853 923
IFE, in % in the prev. year	89,7	82,5	133,6	119,0	116,5	114,6
Agricultural equipment	10 357	8 320	8 317	12 243	20 536	19 509
IFE, in % in the prev. year	179,5	166,7	96,2	181,2	134,2	85,7

Source: Agency of Statistics of the Republic of Kazakhstan

During the period from 2008 to 2012 the GVA volume in absolute terms increased from 5.3 to 10.3 billion tenge (nominal growth – 2 times).

¹⁸Current data

Labor productivity in the sector during the period 2008 to 2012 increased by 4.6 times from 16.3 to 60.8 thousand dollars/person due to the reduction of the number of employed in the sector by 32 % from 2,709 to 1,850 employees. In 2012, 17 enterprises operate.

Investments in fixed assets remain low and in 2012 amounted to 1,935 million tenge, which is 3.7 times higher than investments in 2008. Rate of renewal of fixed assets amounted to 11.4%.

Exports increased by 1.3 times compared to 2008 and amounted to 14.3 million dollars (2.1 billion tenge).

Existing in Kazakhstan demand for engineering products of agricultural machinery mainly met through imports (80.3%). Imports decreased by 37% compared to 2008 and amounted to 509.2 million dollars (75.9 billion tenge) (Table 3). High latent (hidden) demand in Kazakhstan is present for agricultural machinery, characterized by a significant level of depreciation of agricultural machinery (80%). In 2012, in the production of agricultural machinery depreciation of fixed assets was 28.3%, production capacity was loaded for 46.6% (Table 2.2.10.3).

Table 3. – Data on the sector for 2008-2013.

	2008	2009	2010	2011	2012	2013 ¹⁹
GVA, mln. tenge ²⁰	5 326,0	5 014,1	9 216,2	11 255,7	16 768,3	10 303,8
Number of employed, persons.	2709	1709	1546	1938	1850	1902
Labor productivity	thous. tenge/person	1 966,0	2 933,9	5 961,3	5 807,9	9 063,9
	\$ thous./person	16,3	19,9	40,5	39,6	60,8
Productivity in OECD countries, \$	77,3	69,8	75,0	80,7	79,3	-
Number of operating enterprises	N.o	N.o.	28	32	30	-
Level of capacity load, %						
Tractors for agriculture and forestry, others, pcs	17,4	14,0	29,8	43,3	46,6	-
Ploughs, pcs	0,5	1,0				-
Parts of harvesters and separators, not included in other groups, thous. tenge	-	6,8	12,7	2,2	-	-
Parts of cultivating machines, thous. tenge	-	67,3	66,4	35,0	46,4	-
Parts of other agricultural machinery, thous. tenge	38,2	3,6	4,5	18,1		-
Level of equipment depreciation, %	16,8	19,1	20,3	25,9	28,3	-
Investments in the fixed assets, mln. Tenge	518	547	264	1 846	1 935	2 333
Rate of fixed assets renewal, %	20,7	4,5	19,5	9,6	11,4	-
Availability of fixed assets for the end of the year on the initial cost, mln. Tenge	13667,5	11823,5	14873,0	15784,9	16900,0	
Export, mln. dollars.	10,7	4,6	4,6	6,5	14,3	13,7
Import, mln. dollars.	812,9	482,1	244,1	301,6	509,2	514,7

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

A significant level of development of agricultural equipment production is observed in the northern regions of the country (Kostanay, North Kazakhstan, Pavlodar and Akmola regions).

Large enterprises in the sector of agricultural equipment production are shown in Table 2.2.10.4.

¹⁹Current data

²⁰For 2013 - current data of AS RK for 9 months

Table 2.2.10.4. – Main RK producers and list of issued products

№	Name of legal entity	Tegion	Production
1	CF “Agromashholding” CF	Kostanay	Combine Harvesters “Yenisei-1200,” “Yesil-740,” “Yesil-760”; Seeders SKP-2.1
2	“Agrotechmash” LLP	Kostanay	Tractor K-744P1; LDG-15; harrow, “Typhoon”
3	“West Kazakhstan Engineering Company” JSC	Uralsk	Tillage equipment
4	“Don Mar” LLP	Lisakovsk, Kostanay region.	Headers “Don-Mar 2009”; Don-Mar 2009DV
5	“SemAZ” LLP	Semipalatinsk	Wheel tractors MTZ-80,1
6	“KaratalAgroTeh” LLP	Almaty region	Tractors “Arlan 200,” “Arlan,” “Arlan 404”; attachments: plow IL435, mowing 9GB2.1, round baler MRB0850, brush equipment RSS160, mechanical shovel TH 165.
7	“Kamaz Engineering” JV	Kokshetau	Trucks “KAMAZ”
8	NGO “Avangard Agro” LLP	NKR, Petropavlovsk	Trailed sprayer OPSHU-25
9	“JV KazBelAgromash” LLP	NKR	Co-production of combine harvester “Kyzylzhar-1300” on the basis of “Orbita K” LLP and “Lidagroprommash” JSC
10	Selikanov K. IE	Pavlodar	1. Combined Universal Hitch KUN-0,8; height H-4,2 meters; bucket V- 0, 8 cubic meters, forks for manure and silage; forks for hay and straw (with pusher and hydraulic valves), grabbing of a roll hay; 2. blade for 3 positions, 2 positions
11	“Uralskagroremmash” JSC	Uralsk	Drip irrigation system
12	“Center of industrial and innovative development of Astana” LLP	Astana	Seeders SZS
13	“ZIKSTO” JSC	Petropavlovsk	Scrapers LDG widths 5, 10, 15 and 20 meters, soil processing combine unit APK-F-020
14	“YUKMZ” JSC	SKR	plows PN-4, PN-3A, chisel opener CG-000002G, cultivators CPN-2, KP-2, KP-3, KP-5
15	“KazAgroInnovation” JSC Tselinny RI of Mechanization and Electrification of Agriculture	Kostanay	harrow for pre-emergence harrowing of crops, multifunction tillage MFO, combined tillage machine KMS-3, instrument with combined working bodies of OKT-4, 2M, mounted soil cultivator RSN-3,0
16	“Tynts” JSC	Akmola region. Kokshetau	mobile sprayer machine- PSO-2000
17	“Technological lines” LLP	Pavlodar	grain cleaning and grain processing equipment
18	“ARMZ” LLP	Atbasar	parts for agricultural machinery
19	“KRMZ” LLP	Akkol	parts for agricultural machinery, seeders
20	“Factory of Agricultural Machinery” LLP	Petropavlovsk	Production of trailing roller harvester
21	(“Astana Agropromtehnika”) Tselinselmash LLP	Astana	Production of agricultural machinery

22	“Kazakhstan Agro Innovation Corporation” LLP	Kokshetau	Production of agricultural machinery
23	“JV AzovAralAgromash” LLP	Kyzylorda region, Kyzylorda	Assembly of agricultural machinery (headers assembly).
24	“Kazakh Research Institute of Mechanization and Electrification of Agriculture” LLP	Almaty	Assembly of agricultural machinery

Source: data of MA

The global market volume for agricultural machinery in 2012 was 72 billion dollars, of which the share of the tractor market was 36%, combines – 21%, attachments – 22 %, spare parts and other equipment – 21%. World market leaders are JohnDeere, CHN, Agco. In addition to these companies significant players in the global market are KUBOTA and YANMAR (Japan), CLAAS (Germany), SameDeutzFahre (Italy) and Kverneland (Norway).

As part of SPAIID the following activities were planned and carried out:

1) Modernization of existing enterprises in order to create flexible production for expansion of produced assortment and development of new types of machinery products;

2) Organization of large assembly productions with increasing the level of localization through mastering the production of parts and components;

3) Creation of new modern enterprises manufacturing engineering products with high added value;

Sectoral and project measures of state support:

1) Provision of transport infrastructure;

2) Provision of qualified human resources;

3) Introduction of technical regulations;

4) Development of innovations and promotion of technology modernization: Design Bureau of Agricultural Engineering was created in Astana in 2011;

5) Creation of attractive conditions for direct investment: stimulating demand for agricultural machinery by acquiring leased equipment of domestic production on favorable terms on the basis of “KazAgroFinance” JSC;

6) Trade policy: promotion of products for export;

7) Improvement of management skills on advanced machine-building enterprises of developed countries.

The issue for allowing leasing companies is not worked out enough to purchase agricultural machinery from domestic producers for further leasing without the presence of applications from agricultural productions at the time of funding.

Strong points:

priority development of the agricultural sector of the country;

industrialization of all branches of agriculture;

the existing productive capacity and corresponding infrastructure;

protection of the market of the Customs Union from imported equipment by customs duties;

concessional financing of buyers.

Weak points:

low purchasing capacity of the agricultural sector and its volatility due to climate change;

lack of production of complement, including special grades of steel required for manufacture of working bodies and supporting frames of agricultural machinery;

not developed system of technical regulation;

underdeveloped mechanism of subsidizing producers of agricultural machinery;

shortage of skilled workers and engineers.

Opportunities:

implementation of state support of demand for agricultural machinery;

development of agricultural machinery supply on the CU territory;

localization of production and development of the Kazakhstan suppliers of parts and components for agricultural machinery;

establishment of joint ventures;

integration into global value chains, development and provision of fiscal and other preferences for investors.

Introduction of new technologies in the APC will lead to the development of new types of agricultural machinery.

Threats:

accession to the WTO, which could lead to weakening of state support to enterprises and entail reduction of import duties on agricultural engineering products;

localization of production of the leading foreign manufacturers of agricultural machinery in Russia (JohnDeere, CLAAS, AGCO, CaseNewHolland, Lemken, Gromme) may increase competition in the markets of the Customs Union countries (expansion of foreign manufacturers, including through existing assembly plants in Russia);

increase in costs of raw materials and energy may also affect the price competition of domestic enterprises..

In general, the competitiveness of the agricultural technology is influenced by a number of **key factors**, such as technological and innovative capacity, availability of financial resources, human resources.

Goal, objectives and target indicators

Goal: Expansion of the range and volume of output competitive products in demand on the domestic and external markets.

Objectives:

- 1) Promotion of the development of high competitive industries;
- 2) Attracting foreign investors to establish joint ventures of agricultural machinery with gradual localization in Kazakhstan;
- 3) Adjusting the volume of own production of agricultural machinery to 30% of the total volume of supply;
- 4) Integration into global value chains;

- 5) Stimulating domestic demand;
- 6) Promoting capacity load of existing businesses;
- 7) Modernization of the capacity of existing enterprises;
- 8) Increased productivity;
- 9) Providing sector with highly qualified personnel.

Solution of the above tasks will allow achieve the following target indicators:

Target indicators:

Program implementation will allow by 2019 to achieve the following economic indicators to the level of 2012 (Table 2.2.10.5):

- 1) growth of gross value added no less than 1.5 times in real terms;
- 2) employment growth by 0.2 thousand people;
- 3) growth of labor productivity by 1.3 times in real terms;
- 4) growth of the value of non-commodity (processed) export no less than 1.4 times.

Table 2.2.10.5. Target indicators

№	Target indicators	Me as. unit	2012 report	2013 expected	Forecast interms of 2012						2019 to 2012, in %
					2014	2015	2016	2017	2018	2019	
1	Growth of gross value added	%	100	98	126	143	145	146	146	146	by 1,5 times
2	Growth of employed	тыс.ч.	1,9	1,9	2,0	2,2	2,2	2,2	2,2	2,2	by 0,2 thous.p eople.
3	Growth of labor productivity in GVA	%	100	122	120	128	129	131	131	131	by 1,3 times
4	Growth of value of non-commodity (processed) export	%	100	114	116	117	118	118	118	138	by 1,4 times

Priorities for sector development

Priority types of activity

The priority activity of agricultural machinery is the production of agricultural and forestry machinery (Table 2.2.10.6).

Table 2.2.10.6. Priority types of activity

OKED-4	OKED name
2830	Production of agricultural and forestry machinery

Priority commodity groups

Priorities directions of development – manufacture of machinery and equipment, on which stimulation of domestic demand is provided within the branch program “Agribusiness 2020” (Table 2.2.10.7).

Another priority of the development is the production of components and assemblies for assembly productions: bearings, hubs, wheels, cultivating lamps, plowshares, conveyor belts, sowing units, cutter units and reapers, gearboxes and hydraulics, as well as organization of basic production (casting, forging, metal processing, etc.).

The priorities of the sector development also includes creation of productions for service and maintenance of agricultural machinery and equipment.

Table 2.2.10.7. – Priority commodity groups by codes TN VED - 6²¹

TN VED-6	Name of the commodity group	Import volume of the internal market, thous. dollars	Import volume of macroregion markets, thous. dollars
842 481	Devices for spraying and sprinkling for agriculture and horticulture	25 086	257 403
843 210	Ploughs	3 716	76 125
843 221	Disk harrows	3 449	60 061
843 229	Other harrows, rooters, cultivators, weeders and hoes	12 222	259 410
843 230	Seeders, planters and transplanters	51 927	389 490
843 240	Manure and fertilizer sowers	3 010	29 349
843 280	Machines and other mechanisms for soil preparation or cultivation; rollers for lawns and playgrounds	1 600	31 420
843 290	Agricultural, horticultural or forestry machinery parts for soil preparation or cultivation, rollers for lawns or playgrounds	44 573	283 649
843 311	Haymowers, mowers for lawns, parks and playgrounds, motor with the cutting device rotating in a horizontal plane	2 254	57 105
843 319	Other haymowers, mowers for lawns, parks and playgrounds	1 419	14 784
843 320	Other haymowers, including mounted on tractors	7 659	127 314
843 330	Other machines for haymaking	973	29 332
843 340	Presses for baling hay or straw, including balers	12 461	109 120
843 351	Harvesters	120 838	429 113
843 352	Other equipment and machinery for threshing	8 905	163 005
843 353	Machines for root or tuber harvesting	4 478	138 451
843 359	Other harvesting machinery	27 415	391 171
843 360	Machines for cleaning, sorting or grading eggs, fruit or other agricultural products	2 694	78 262
843 390	Parts of machinery or equipment for harvesting or threshing crops, balers, presses for baling hay or straw; mowers; machines for cleaning, sorting and calibration	14 914	472 098
843 410	Units and devices for milking	3 119	107 369
843 490	Parts for milking units and machines, equipment for processing and reprocessing of milk	192	33 639
843 610	Equipment and machinery for preparing fodder	7 895	133 410
843 621	Incubators and brooders	3 709	63 802
843 629	Other equipment for poultry	17 103	405 598
843 680	Other equipment for forestry	4 001	582 977
843 691	Parts of machinery for poultry or poultry incubators and brooders	736	14 927
843 699	Other parts of equipment for agricultural, horticultural, forestry, poultry and beekeeping	504	30 286
870 110	Tractors controlled by driver going by	5 452	28 344
870 190	Other tractors (except for tractors of commodity position 8709)	105 491	118 7827
871 620	Self-loading or self-unloading trailers and semi-trailers for agriculture	11 429	43 030
	Total	509 224	6 027 871

²¹ Trademap statistical base for export and import,

* Countries of macroregion: Armenia, Azerbaijan, Belarus, China, Georgia, Iran, Kyrgyzstan, Russia, Tadjikistan, Turkmenistan, Ukraine, Uzbekistan.

Priority projects

In the five-year period implementation of the project within the Industrialization Map, scheduled for launch during the period 2015-2019, discussed with the applicant, are provided (Table 2.2.10.8).

Table 2.2.10.8. Projects within the Industrialization Map, scheduled for launching during the period of 2015–2019

№	Name of project	Project applicant	Region	Commissioning	Capacity in natural units	Investment volume, mln.tenge	Jobs in the period of operation
1	Construction of a plant for production of communal, agricultural, transport equipment	“Machine-Building Plant KAZTEHMASH” LLP	Astana	2015г.	harvesters, tractors, mowers, rakes, feeders, balers, trailers in the amount of 1 500 units per year in the amount of 13.8 billion tenge Project output is scheduled for 2020 in the amount of 2500 units per year	4 313	152

Perspective projects (Table).

The issue together with JohnDeere is being worked out on the establishment of agricultural machinery (combines, tractors, attachments and components for assembly plants).

The issue together with CLAAS KGaA mbH is being worked out on the establishment of agricultural machinery assembly plant with a total investment of 65 million dollars.

In the period from 2015 to 2019 together with NPP the issue of implementation of the following projects is under consideration:

- production of trailed bi-beam mowers “DAFA” LLP. Total investment will make 2.5 million tenge. Creation of 29 new jobs;

- plant for large-hub assembly of agricultural machinery “Mekada” LLP. Investment will amount to 150 million tenge;

- launch of the Kazakh-Belarusian industrial and technological park of agricultural and municipal machinery “Kazakhstan Agro Innovation Corporation” LLP. Investment will amount to 3.4 billion tenge. Creation of 232 jobs.

- manufacture of machinery for agriculture and water resources (water-lifting machines to irrigate transhumance) “YUKMZ” JSC. Investment will amount to 2 billion tenge. Creation of 796 jobs;

- production of combined tillage tools, rippers, crack-makers, planters, hay machines, shredder-spreaders and winnowing machines based on Kostanay branch of “KazNIIMESKH” LLP. Investment will amount to 716 million tenge. Creation of 50 jobs;

- production of tractor trailers with carrying capacity of 4 and 6 tons (tilting) “KazAgroTehSnab” LLP (“Zhetysuauylmash” LLP). Total investment will amount to 60 million tenge. Creation of 20 jobs. Project capacity – up to 200 units per year;

- construction of service-production centers in the regions of Kazakhstan “Eurasia Group” LLP (official dealer of JohnDeere company);
- production of seeders by branch of “KazNIIMESKH” LLP in Kostanay;
- organization of cantilever pumps – “KarlskronaLCAB” LLP;
- organization of submersible pumps – “ODDESSEZentralasien” LLP;
- production of wheeled tractors and combines with the organization of the production of components “Virage” JSC;
- production of mounted and trailed agricultural machinery (balers, trailers, stackers) “Semaz” LLP;
- organization of development of wheel tractor with drawbar category 1.4 “SKB Arlan” LLP;
- organization of agricultural machinery assembly NC “Kazakhstan Engineering” JSC.

Table 2.2.10.8. – Standard demand of AIC in agricultural machinery, supply volumes (inclusive decommissioning) and forecast of the vehicle park for 2020

№	Name of equipment	Standard demand for 1000 ha, pcs.	Volume of execute works, thous. ha	Required park, pcs.	Availability for 01.01.14, pcs	2014		Forecast of decommissioning for 2015-2020		Lack for 01.01.15. pcs	Supply for 2015-2020, pcs.	Including in						Forecast vehicle part for the end of 2020. pcs.
						supply, pcs.	expected decommissioning pcs.					2015	2016	2017	2018	2019	2020	
								Pcs.	%									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	Tractors, all including				153000													
	- kl.5-8 (wheel)	1,4	13000	18200	17500	1600	1650	9900	57	700	9600	1600	1600	1600	1600	1600	1600	17200
	- kl.4 (track)	3,5	4000	14000	13100	550	600	3600	27	900	3300	550	550	550	550	550	550	12800
	- kl.3 (track)	3,8	5000	19000	18800	680	700	4200	22	200	4080	680	680	680	680	680	680	18680
	- kl.2 (wheel)	1,8	10000	18000	16500	100	110	660	4	1500	600	100	100	100	100	100	100	16440
	- kl.1,4 (wheel)	4,5	18000	81000	75600	7000	7500	45000	60	5400	42000	7000	7000	7000	7000	7000	7000	72600
	- kl.0,9 (wheel)	1,5	3000	4500	4000	60	60	360	9	500	360	60	60	60	60	60	60	4000
	- kl.0,6 (wheel)	12,5	400	5000	4500	80	60	360	8	500	360	80	80	80	80	80	80	4500
	- special	16,5	200	3300	3000	200	200	1200	40	300	1200	200	200	200	200	200	200	3000
2	Transport, all including				88600													88600
	- tractor-trailers	5,4	21600	116640	76600	12000	7500	45000	59	40040	72000	12000	12000	12000	12000	12000	12000	103600
	- tractor semi-tipper	0,8	6000	4800	4000	700	600	3600	90	800	4200	700	700	700	700	700	700	4600
	- loading and unloading facilities	0,4	21600	8640	8000	1250	1000	7000	88	640	7500	1250	1250	1250	1250	1250	1250	8500

№	Name of equipment	Standard demand for 1000 ha, pcs.	Volume of execute works, thous. ha	Required park, pcs.	Availability for 01.01.14, pcs	2014		Forecast of decommissioning for 2015-2020	Lack for 01.01.15. pcs	Supply for 2015-2020, pcs.	Including in						Forecast vehicle part for the end of 2020, pcs.
						supply, pcs.	expected decommissioning pcs.				2015	2016	2017	2018	2019	2020	
3	mud machine, all including				324600												
	- plough 2-4 corps	0,5	12000	6000	4500	300	100	600	13	1500	1800	300	300	300	300	300	5700
	- plough 5-7 corps	0,4	14000	5600	5200	180	120	720	14	400	1080	180	180	180	180	180	5560
	- deep ripper	0,2	9000	1800	1600	80	50	300	19	200	480	80	80	80	80	80	1780
	- subsurface	0,4	6000	2400	2200	120	100	600	27	200	720	120	120	120	120	120	2320
	- subsoiler	0,2	5000	1000	800	50	20	120	15	200	300	50	50	50	50	50	980
	- combined aggregates	0,5	6000	3000	2800	150	120	720	26	200	900	150	150	150	150	150	2980
	- full-length cultivator	0,3	8000	2400	2200	130	100	600	27	200	780	130	130	130	130	130	2380
	- subsurface cultivator	0,9	6000	5400	5100	180	120	720	14	300	1080	180	180	180	180	180	5460
	- cultivator-fertilizer	9,4	1200	11280	10500	300	220	1320	13	780	1800	300	300	300	300	300	10980
	- disc harrows, hoeing plow. disk header	1,7	4000	6800	6600	250	220	1320	20	200	1500	250	250	250	250	250	6780
	- harrows acicular	0,2	2000	400	300	20	10	60	20	100	120	20	20	20	20	20	360
	- hoe	4,5	500	2250	2100	125	100	600	29	150	750	125	125	125	125	125	2250

№	Name of equipment	Standard demand for 1000 ha, pcs.	Volume of execute works, thous. ha	Required park, pcs.	Availability for 01.01.14, pcs	2014		Forecast of decommissioning for 2015-2020		Lack for 01.01.15. pcs	Supply for 2015-2020, pcs.	Including in						Forecast vehicle part for the end of 2020, pcs.
						supply, pcs.	expected decommissioning pcs.					2015	2016	2017	2018	2019	2020	
	ridger, ridge filler	8,7	300	2610	2400	150	120	720	30	210	900	150	150	150	150	150	150	2580
	- cutters, rotary tools	5,2	200	1040	800	75	40	240	30	240	450	75	75	75	75	75	75	1010
	- roll	2,1	18000	37800	34000	6000	5500	33000	97	3800	36000	6000	6000	6000	6000	6000	6000	37000
	- draught	0,3	15000	4500	4200	250	210	1260	30	300	1500	250	250	250	250	250	250	4440
	- snow retainer	0,2	15000	3000	2700	180	150	900	33	300	1080	180	180	180	180	180	180	2880
4	Sowing and planting machines, all including																	
	- grain seeder	4,3	14000	60200	56500	7500	7000	42000	74	3700	45000	7500	7500	7500	7500	7500	7500	59500
	- all-crop drill	8,4	4000	33600	29500	5100	4500	27000	92	4100	30600	5100	5100	5100	5100	5100	5100	33100
	- planter	3,6	1500	5400	4045	320	150	900	22	1355	1920	320	320	320	320	320	320	5065
	- sowing machine	1,4	8000	11200	3122	1520	110	660	21	8078	8334	1460	1460	1220	980	890	804	10796
5	Applicator, all including				1508													
	- mineral amendment	0,5	12000	6000	1008	900	100	600	60	4992	5400	900	900	900	900	900	900	5808
	- organic	0,1	21600	2160	500	350	80	480	96	1660	2100	350	350	350	350	350	350	2120

№	Name of equipment	Standard demand for 1000 ha, pcs.	Volume of execute works, thous. ha	Required park, pcs.	Availability for 01.01.14, pcs	2014		Forecast of decommissioning for 2015-2020		Lack for 01.01.15. pcs	Supply for 2015-2020, pcs.	Including in						Forecast vehicle part for the end of 2020, pcs.
						supply, pcs.	expected decommissioning pcs.					2015	2016	2017	2018	2019	2020	
6	Plant Protection, all including				3070													
	- protectant	0,2	18000	3600	1000	450	30	180	18	2600	2700	450	450	450	450	450	450	3520
	- spraying machine	0,5	15000	7500	1800	1000	60	360	20	5700	6000	1000	1000	1000	1000	1000	1000	7440
	- duster	4,5	1000	4500	270	1200	20	120	44	4230	3600	1200	1200	1200	1200	1200	1200	3750
7	green crop harvester, all including																	
	- cutter	0,6	18000	10800	3100	1600	350	2100	68	7700	9600	1600	1600	1600	1600	1600	1600	10600
	- mower-conditioner	0,8	2000	1600	700	250	100	600	86	900	1500	250	250	250	250	250	250	1600
	- leaf chopper	3,7	1000	3700	2500	500	300	1800	72	1200	3000	500	500	500	500	500	500	3700
	- forage harvesters (attached, tractor-drawn, traveling)	0,4	3200	1280	840	140	70	420	50	440	840	140	140	140	140	140	140	1260
	- field harvester	2,3	180	414	240	45	20	120	50	174	270	45	45	45	45	45	45	390
	- semi-pickers	0,1	10000	1000	820	140	110	660	80	180	840	140	140	140	140	140	140	1000
	- complexes for fodder	0,1	3000	300	90	45	10	60	67	210	270	45	45	45	45	45	45	300
	- rakes, tedder rakes, agitators	1,0	4000	4000	2860	550	360	2160	76	1140	3300	550	550	550	550	550	550	4000

№	Name of equipment	Standard demand for 1000 ha, pcs.	Volume of execute works, thous. ha	Required park, pcs.	Availability for 01.01.14, pcs	2014		Forecast of decommissioning for 2015-2020		Lack for 01.01.15. pcs	Supply for 2015-2020, pcs.	Including in						Forecast vehicle part for the end of 2020, pcs.
						supply, pcs.	expected decommissioning pcs.					2015	2016	2017	2018	2019	2020	
	- swath maker	0,08	6000	480	270	50	25	150	56	210	360	50	50	50	50	50	50	480
	- rotobaler	0,4	2000	800	450	120	70	420	93	350	720	120	120	120	120	120	120	750
	- ejector baler	1,4	1400	1960	1000	300	140	840	84	960	1800	300	300	300	300	300	300	1960
	- rolls loaders-transporters	0,1	6000	600	240	80	20	120	50	360	480	80	80	80	80	80	80	600
	- vine spreader	2,1	1000	2100	840	250	40	240	29	1260	1500	250	250	250	250	250	250	2100
	- cocklifter, stack mover, smoothing harrow	0,4	6000	2400	940	300	60	360	38	1460	1800	300	300	300	300	300	300	2380
	- haystacker	0,1	8000	800	620	80	50	300	48	180	480	80	80	80	80	80	80	800
8	Harvesting machinery, all including																	
	- combine harvesters	3,8	13000	49400	45353	1500	840	5040	11	4047	9000	1500	1500	1500	1500	1500	1500	49313
	- picker	4,5	120	540	520	75	65	455	88	20	450	75	75	75	75	75	75	515
	- Rise combine harvesters	30	86	2580	1940	200	80	560	29	640	1200	200	200	200	200	200	200	2580
	- beet combine	3,5	22	77	60	12	8	56	93	17	72	12	12	12	12	12	12	76
	- potato harvester	5	193	965	212	150	30	180	85	753	900	150	150	150	150	150	150	932

№	Name of equipment	Standard demand for 1000 ha, pcs.	Volume of execute works, thous. ha	Required park, pcs.	Availability for 01.01.14, pcs	2014		Forecast of decommissioning for 2015-2020		Lack for 01.01.15. pcs	Supply for 2015-2020, pcs.	Including in						Forecast vehicle part for the end of 2020, pcs.
						supply, pcs.	expected decommissioning pcs.					2015	2016	2017	2018	2019	2020	
	- cotton combine harvester	1,6	130	208	70	30	6	42	60	138	180	30	30	30	30	30	30	208
	- vegetable harvesting machine	1,7	140	238	102	30	8	48	47	136	180	30	30	30	30	30	30	234
	- cutter, adaptor, platform	1,4	12000	16800	15044	1200	950	5700	38	1756	7200	1200	1200	1200	1200	1200	1200	16544
	- potato-digger	22	193	4246	3300	550	400	2400	73	946	3300							4200
9	amelioratory machine, all including		2000															
	- planners of long-baseline	5,5	2000	11000	500	1700	80	480	96	10500	10200	1700	1700	1700	1700	1700	1700	10220
	- levelers, graders	1,4	2000	2800	650	400	50	300	46	2150	2400	400	400	400	400	400	400	2750
	- ditching-leveler machine, trench cutter	2,5	2000	5000	900	800	120	720	80	4100	4800	800	800	800	800	800	800	4980
10	Machinery for irrigation, all including		2000															
	- pumping stations	5,5	400	2200	1145	250	80	480	42	1055	1500	250	250	250	250	250	250	2165
	- irrigation machines	10	200	1230	1140	200	190	1140	100	90	1200	200	200	200	200	200	200	1200
	equipment for drip irrigation	40	100	4000	500	550	50	300	60	3500	3300	550	550	550	550	550	550	3500

Source: Based on USDA

1. Volumes of supplies may be adjusted based on contracts between producers and consumers of technics.
2. When developing the forecast will be used statistics of the statistical management 10 fur.

- 3 . Concept of establishing a single integrated territorial development strategy of Kazakhstan for 2011-2015 USDA (agricultural sector)
- 4 . Programme update of tractors and agricultural machinery for the period until 2015 and USDA monthly information on the technical condition of vehicles .
- 5 . Tractors are the basis of the energy base of agricultural production. Tractor connected to machines or implements, is tractor units (AIT).
6. To perform various works in conjunction with mounted, semi-mounted and trailed agricultural machinery and implements, vehicles , as well as for light construction and reclamation works in agriculture driven working machines .

2.2.11 Production railway engineering

Kazakhstan is among the ten countries with the largest wagon and locomotive fleet, and has significant prospects for the development of competitive production of railway engineering. A peculiar feature of this sector is the development of railway engineering export, mainly to the CU and CIS countries.

Rolling stock in Kazakhstan has 1.9 thousand units of locomotives, more than 2 thousand units of passenger cars and more than 127 thousand freight cars.

The total fleet of locomotives in Kazakhstan in 2012 has 1866 locomotives, including 552 electric locomotives, diesel locomotives and locomotive 1314 special systems.

The total fleet of passenger cars in 2012 amounted to 2302 units, railcars – 355 units, baggage cars – 55 units.

In 2012, the total fleet of freight cars of the Republic of Kazakhstan amounted to 127,695 units, 66,503 units (52%) of which are inventory, and 61,192 units (48%) – private (Table 2.2.11.1).

Table 2.2.11.1. Rolling stock of railway transport in 2003-2012, units.

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Locomotives – total	1770	1711	1659	1695	1714	1720	1684	1681	1772	1865,5
including:										
railway engines	53	34	36	26	26	26	-	-	-	-
electromotives	591	595	552	592	595	600	579	575,5	570,5	552
locomotives and engines of special system	1126	1082	1071	1077	1093	1094	1106	1105,5	1201,5	1313,5
Railcars – total	282	301	308	255	284	294	292	288	318	323
Passenger cars	2559	1922	1874	2768	2740	2188	2307	2354	2306	2302
Luggage cars	135	100	100	118	115	116	60	62	56	55
Freight cars, belonging to railway – total	70366	60792	56843	56895	61523	59756	60605	53104	55909	66503
including:										
box cars	14113	11179	7460	7508	9956	8782	8946	7809	8654	10145
open box cars	23720	22952	25794	25834	25417	26309	26724	23727	26298	32413
cars – platforms	10045	8388	6809	6371	7633	6924	6560	4823	4246	3992
tanks	10281	8692	7770	7748	8141	7016	7524	6280	6152	6634
other cars	12207	9581	9010	9434	10376	10725	10851	10465	10559	13319
Cars belonging to private organizations	18360	26688	30078	33634	34702	35161	39637	43305	51924	61192

Source: Agency of Statistick of the Republic of Kazakhstan

When implementing SPAIID within the Industrialization Map, 15 investment projects worth 73.4 billion tenge were commissioned. 3391 jobs were created.

Examples of completed projects under the SPAIID:

- Organization of production of electromotives “Electromotives Kurastyru Zauyty” LLP with a capacity of 50 electromotives per year;

- Organization of production of passenger cars “Talgo” in Astana with a capacity of 150 cars per year;
- Center of carload service “CMC “Yeskene” LLP. Project capacity 9000 current repairs of rolling stock, 7,000 redundant cars repairs (DEPO), 1400 overhauls;
- Reconstruction of the cast-iron workshop No. 10 for production of steel car casting “Repair Corporation “Kamkor” LLP. Project capacity 14,000 tons per year;
- Capacity building for production of freight cars in the Republic of Kazakhstan on the basis of “Taman” LLP – “Kamkor Management” LLP 3000 cars per year;
- Engineering production “FormatMachCompany” LLP;
- Organization of production of switches and processing of railway wheels in Ekibastuz “Prommashkomplekt” LLP. Project capacity switches - 1000 pcs., repair of complement – 2000 pieces, frogs – 1000 units per year;
- Organization of manufacture of large and medium casting “FormatMachCompany” LLP;
- Production of covered hopper car for transportation of grain “ZIKSTO” JSC with a capacity of 600 pieces;
- Production of specialized platforms-container carriers “ZIKSTO” JSC with a capacity of 300 pieces;
- Implementation of production for manufacture of hatch covers of open box cars “Ayagoz Locomotive Repair Depot” LLP, “Kamkor Locomotive” LLP with a capacity of 42,000 pieces per year;
- Reconstruction of production complex “Kaztemirtrans” JSC – “Kushmurun Car-Repair Depot”;
- Expansion of production with the construction of a new building for modernization of wheeled machinery “S.M.Kirov Plant” JSC.

Sector’s share in the volume of manufacturing increased from 0.2% in 2008 to 1.7% in 2012. Manufacture of railway equipment occupies a significant share in the total engineering of Kazakhstan. In the structure of engineering in 2012 the specific share was 13.7%, increasing compared to 2008, by 8 times (Table 2.2.11.2).

Table 2.2.11.2. Share of production of railway engineering in the volume of processing industry and mechanical engineering of RK, %

	2008	2009	2010	2011	2012	2013*
Share in processing industry	0,2	0,3	0,6	1,3	1,7	2,4
Share in mechanical engineering	1,7	2,7	6,0	11,3	13,7	16,2

Source: Agency of Statistics of RK

During the period from 2008 to 2012 the volume of production of railway equipment increased from 5.1 billion tenge to 95.4 billion tenge (nominal growth – 18 times). The growth in the sector was due to increased production of diesel

*Current data

locomotives by 2.5 times up to 75 units compared to 2010, production of freight cars by 12.4 times up to 1967 units compared to 2008 (Table 2.2.11.3).

Table 2.2.11.3. Dynamics of production volume for 2008-2013, million tenge

	2008	2009	2010	2011	2012	2013*
Processing industry	3 359 551	2 945 966	3 844 658	4 801 407	5 446 749	5 882 456
IFE % to the previous year	97,5	97,1	113,9	107,7	101,2	101,6
Mechanical engineering	301 386	281 310	376 184	536 876	687 235	853 923
IFE % to the previous year	89,7	82,5	133,6	119,0	116,5	114,6
Railway engineering	5 193	7 543	22 394	60 823	95 422	138 326
IFE % to the previous year	176,2	119,6	797,9	146,8	142,3	111,5

Source: Agency of Statistics of RK

During the period from 2008 to 2012 the volume of GVA in absolute terms has increased from 2.5 to 31.2 billion tenge (nominal growth – by 12.4 times).

Labor productivity in the sector for the period from 2008 to 2012 decreased by 45% to 70.3 thousand dollars/person due to the increase of employment in the sector by 23 times from 159 to 3654 employees. In 2012, 17 operating enterprises.

In 2012, depreciation of fixed assets remains low at 19.2%. Investments in fixed assets in 2012 amounted to 9 billion tenge, which is 2 times higher than the investments in 2008. Rate of renewal of fixed assets amounted to 29.2%.

In 2012, exports of railway products increased twofold compared to 2008 and amounted to 68.4 million dollars (10.4 billion tenge). Imports increased by 2.8 times compared to 2008 and amounted to 2.3 billion dollars (350.2 billion tenge).

Table 2.2.11.4. Data on the sector for 2008-2013

	2008	2009	2010	2011	2012	2013*
GVA, mln.tenge ⁺⁺⁺⁺⁺	2 454,7	3 077,2	8 785,9	20 427,0	31 899,6	17 112,7
Number of employed, persons.	159	145	623	2158	3043	3 654
Labor productivity	thous. tenge/person	15 438,4	21 222,1	14 102,6	9 465,7	10 482,9
	\$ thous./ person	128,3	143,9	95,7	64,6	70,3
Average productivity on OECD countries, \$	92,8	89,6	90,5	100,6	96,8	-
Number of operating enterprises	-	-	9	11	17	-
Level of capacity utilization, %						
Level of depreciation, %	20,4	31,4	3,1	13,0	19,2	-
Investments to the fixed assets, mln.tenge	4 382	132	2 984	8 589	9 008	4 194
Share of renewal of fixed assets, %	3,2	5,5	67,5	27,2	29,2	-
Availability of fixed assets for the year-end on initial cost, mln. Tenge	346,0	201,7	15939,3	27752,8	37986,4	-
Export, \$ mln	37,6	6,6	7,3	45,5	68,4	25,4
Import, \$ mln	812,8	525,3	655,7	1448,6	2348,6	1193,7

Agency of Statistics of RK, TradeMap

Large enterprises in the sector for production of railway engineering are reflected in Table 2.2.11.5.

*Current data

+++++Current data for 9 months of 2013.

Table 2.2.11.5. – Main producers of RK and list of issued products

Name of company	Region	Issued products
“Locomotive Kurastyru Zauyty” JSC	Astana, Akmola region	Locomotives
“Electrovoz kurastyru zauyty” JSC	Astana, Akmola region	Electromotives
“Tulpar talgo” LLP	Astana, Akmola region	Passenger cars
“KVK” LLP	Ekibastuz, Pavlodar region	Freight open box cars
“ZIKSTO” JSC	Petropavlovsk, North-Kazakhstan region	Freight cars
“Prommashkomplekt” LLP	Ekibastuz, Pavlodar region	Weldless wheels, switching products
“Format Mach Company” LLP	Pavlodar , Pavlodar region	Axle box, coupler, cushioning unit, traction collar, supports and other average car casting

As part of SPAIID the following activities were planned and carried out:

- 1) Modernization of existing enterprises in order to create flexible production on expansion of produced assortment of new types of machinery products;
- 2) Organization of large assembly plants increasing levels of localization through mastering the production of parts and components;
- 3) Creation of new modern enterprises manufacturing engineering products with high added value;
- 4) Increased production of locomotives, freight cars.

Sectoral and project measures of state support:

- 1) Provision of transport infrastructure;
- 2) Provision of qualified human resources;
- 3) Introduction of technical regulations;
- 4) Development of innovation and promotion of technologic upgrading: Transport Engineering Design Bureau was established in Astana in 2009;
- 5) Creation of attractive environment for direct investment;
- 6) Trade policy: export of locomotives to the markets of Turkmenistan, Tajikistan, Uzbekistan;
- 7) Improvement of management skills on advanced machine-building enterprises of developed countries;
- 8) The technical regulations “On safety of wheeled vehicles” was elaborated and approved.

Strong points:

productive capacity and the corresponding infrastructure, presence in the sector of the institute of collaboration represented by “National Company

“Kazakhstan Temir Joly” JSC (hereinafter referred to as “NC “KTZ” JSC); availability of modern plants with global manufacturers, which ensured growth of the sector’s competitiveness;

moderate risks and low level of competition;

Weak points:

undeveloped system of technical regulation (absence of a body for conformation of correspondence of railway products, conducting conformity assessment under the CU;

lack of testing centers and/or laboratories for certification testing under the CU;

need for harmonization of standards of railway engineering in accordance with the international requirements);

underdevelopment of key components’ suppliers;

lack of production of certain types of high-tech products for the rolling stock;

lack of coordination of design and technological bureau of engineering enterprises in order to ensure a uniform technological policy for production of rail industry;

lack of own elaborations competitive on the world market and dependence on imported technologies;

shortage of skilled workers and engineers; difficulty of obtaining by domestic enterprises that have mastered or are planning to master production of new products, including at the stage of development of production, guaranteed order (signing long-term contracts with large consumers of engineering products without competitive selection procedures).

Opportunities:

further development of the sector (development of Kazakhstan suppliers of parts and components);

availability of domestic demand results in significant potential for creating competitive industries of components in the market of the macroregion.

Domestic demand of Kazakhstan is formed by consumers of freight cars and locomotives – “NC “KTZ” JSC and private enterprises-carriers. According to the plans of “NC “KTZ” JSC until 2019 annually around 1.4 – 5.2 thousand cars and 100 locomotives will be purchased, the overhaul of the fleet of cars and locomotives will be held. “NC “KTZ” JSC plans to increase mastered by domestic producers nomenclature of railway products from 2 thousand to 5 thousand items and an increase in the volume of purchase from domestic producers of engineering products by 10 times.

The main factors contributing to the increased demand for railway engineering products are cargo turnover growth (on average – 5% per year over the last 5 years) and high wear of the railway equipment fleet (about 61%). Average wear of locomotives operating in Kazakhstan is 68 %, passenger cars – 64%. Disposal of freight cars on service life and maintenance considerably advances the rate of renewal and replenishment of the inventory stock.

The high importance of the railway as a mode of transport for national security (50% of freight and 10 % of passenger traffic goes by rail) in conjunction with the planned growth of the economy will lead to increased traffic volumes.

The opportunities in this sector may also include the creation of favorable business climate, especially in comparison with the countries of the Customs Union, availability of investment incentives for investors and creation of joint ventures to be embedded in the global chain of creation of value.

Threat to the further development is: entering into force in 2014 of a single vehicle technical regulations of the CU (hereinafter referred to as the TR CU), i.e. the equipment, which has not passed certification in accordance with the requirements will not be allowed to operate on the territory of the CU; WTO accession levels the state support to enterprises; localization of production by the leading foreign companies in the Russian Federation will lead to increased competition in the markets of the CU; rising costs of raw materials and electric energy will influence the product price of domestic enterprises.

The largest players in the global market are Bombardier (Canada), Alstom (France), Siemens (Germany), GeneralElectric (USA), GeneralMotors (USA). Issue of these 5 companies' production makes 60% of global market share.

The competitiveness of the production of railway equipment is affected by a number of such key factors as access to the export markets of products, technology and innovation potential, ecosystem of suppliers and availability and quality of human resources.

Goal, objectives and target indicators

Goal: Increase of localization of parts and components in the sector of railway engineering.

Objectives:

- 1) Improvement of the system of technical regulation aimed at increase of security and quality of products in the domestic market and overcoming of technical barriers to entering the target export markets;
- 2) Promotion of exports to the CIS markets;
- 3) Creation of a new production of certain types of high-tech products for the rolling stock;
- 4) Development of suppliers of key parts and components;
- 5) Support for technology transfer and research and development;
- 6) Provision of highly qualified personnel.

Solution of the above tasks will allow achieve the following target indicators:

Target indicators:

Program implementation will allow to achieve the following economic indicators in 2019 to the level of 2012 (Table 2.2.11.6):

- 1) growth of the gross value added no less than by 2.9 times in real terms;
- 2) growth of employment by 1,7 thousand people;
- 3) growth of labor productivity by 1.9 times in real terms;

4) growth for the value of non-commodity (processed) export no less than by 3.5 times.

Table 2.2.11.6. – Target indicators

№	Target indicators	Meas. .unit.	2012 report	2013 expected	Forecast in terms of 2012						2019 to 2012, in %
					2014	2015	2016	2017	2018	2019	
1	Growth of gross value added	%	100	140	170	216	259	288	292	292	by 2,9 times
2	Growth of employed	тыс.ч.	3,0	3,7	3,7	4,1	4,5	4,7	4,7	4,7	by 1,7 thous. people.
3	Growth of labor productivity on GVA	%	100	117	138	162	177	187	190	190	by 1,9 times
4	Growth of value of non-commodity (processed) export	%	100	91	116	138	171	233	295	349	by 3,5 times

Priorities of sector's development

Priority activity types

Priority activity in the sector is the production of railway locomotives and rolling stock, as well as production of components for railway engineering (Table 2.2.11.7).

Table 2.2.11.7. – Priority activity types

OKED-4	OKED Name
3020	Production of railway locomotives and rolling stock

Priority commodity groups

The priority commodity groups and areas of the sector's development include production of rolling stock for railways: locomotives, passenger and freight cars, tanks, trucks and other vehicles (Table 2.2.11.8).

The next priority for the sector's development will be production of components and spare parts for rolling stock, track and other equipment for the needs of railways, as well as the organization of basic productions (casting, forging, metal processing, etc.).

Priorities for development include organization of service and auxiliary industries.

Table 2.2.11.8. Priority commodity groups on codes TN VED - 6 ²³

FEACN-6	Product heading	Import capacity of the domestic market, of thousands dollars U.S.A.	Imported container markets Macro Region*, thousands of dollars U.S.A.
860719	Other trucks, driving bogie, axles and wheels, including parts	120 296	1 689 313
860692	Railway or tramway goods vans and rolling open, with non-removable sides higher than 60 cm	854 136	1 177 920
860610	Wagons of all types	309 257	706 411
860310	Propelled railway or tramway passenger, freight or baggage, open platform, other than those of heading 8604 powered by an external power source	1 136	488 903
860210	Diesel-electric locomotives	77 188	435 589
860721	Air brakes and parts thereof	11 497	386 554
860730	Hooks and other coupling devices, buffers, and parts thereof	19 750	361 659
860630	Hopper wagons, other than those of subheading 860610	106 449	279 538
860799	Other parts of railway or tramway locomotives or rolling stock	111 254	256 156
860400	Vehicles propelled or non-self , designed for the repair or maintenance of railways or tramways (eg, cars, workshops, cranes, ballast tampers).	52 486	207 219
860500	Railway or tramway rolling; luggage wagons, postal and other special railway or tramway rolling (other than those of heading 8604)	54 209	170 301
860791	Other parts of locomotives	55 110	139 627
860800	Track fixtures and fittings for rail and tramways; mechanical (vkluchaya electro-mechanical) traffic signaling equipment ...	80 855	109 384
860691	Other railway or tramway coaches, not self-propelled trucks, covered and lockable	221 091	99 890
860110	Rail locomotives powered from an external source of electricity	10 892	89 973
860290	Other locomotives and tenders	6 879	69 801
860712	Other carts and driving bogie	72 957	68 836
860729	Other braking devices and parts	11 741	35 269
860699	Other railway or tramway coaches, not self-propelled trucks	151 249	28 478
860390	Other motor railway or tramway coaches, freight or baggage, open platform, other than those of heading 8604	5 439	23 787

²³ TradeMap statistical base for exports and imports,

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

860711	Leading truck and driving bogie	13 806	8 319
860120	Rail locomotives powered by electric accumulators	909	1 549
	Total	4 594 729	12 559 350

Priority projects

In the five-year period, implementation for a number of projects within the Industrialization Map, planned for launch in the period 2015 - 2019, discussed with the applicants, is provided (Table 2.2.11.9).

Table 2.2.11.9. Projects within the Industrialization Map, planned for launch in the period 2015 – 2019

Name of the project	The project applicant	Region	Commissioning	Power in real terms	The volume of investments mln.tenge	Workplaces during operation
Construction of a factory for the production of diesel engines "GEVO"	"Astana Diesel Endzhins" LLP	Astana	2015r.	Diesel 12 and 8 cylinder engines "Gevo" 400 units per year / 28 mlrd tenge per year	12 000	300
Production commuter train technology company "Patentes Talgo SL".	JSC "NC "KTZ"	Astana	2015r.	150 wagons annually	9 250	150
Production of brake systems for railway rolling stock	LLP JV RHYTHM KZ	Karaganda region	-	347 000 units	1500	150
Industrial production of large wagon casting (beam bolster and side frame truck)	on the basis of "Vostok mashzavod" LLP "Format Mach Company", "Karaganda machine-building plant after Parkhomenko" LLP	Ust-Kamenogorsk, Pavlodar, Karaganda	2017r.	12 000 wagon sets	14 800	1500
Production of of railway axles and wheelsets formation	LLP "R.W.S. Wheelset"	Pavlodar region	2016r.	32,000 of railway axles and 10,000 wheelsets	9 300	200
Organization in the Republic of Kazakhstan production of promising species bogies for freight wagons with welded and molded construction with increased axle load, as well as on the organization's database of new types of trolleys wagons with high-capacity;	-	-	2017r.	-	-	-

In the period from 2015 to 2019, the issue of implementation of the following promising projects is jointly worked out with the NCE:

- “Development and putting into production of a promising model of open box car and truck with increased basic overhaul time 500 thous. kilometers” “ZIKSTO” JSC in North Kazakhstan region with a capacity of 1,200 units and 2,400 units of open box cars carts. The investment amounts to 160 million tenge. Creation of 50 jobs;

- “Complex for production of wheels for railway” “Prommashkomplekt” LLP in the Pavlodar region with a capacity of 200,000 units. The investment amounts to 30,462 mln tenge. Creation of 400 jobs;

- Production of passenger diesel locomotives of series TEP33A “LKZ” JSC. The investment amounts to 2,005 billion tenge;

- Production of equipment and consumables for soldering of rail electroconnectors “PZSO “Svarko” LLP in the Pavlodar region with a capacity of 600 units and tens of thousands of sets for soldering rail connectors. The investment amounts to 125 million tenge. Creation of 15 jobs.

2.2.12 Production of machinery and equipment for mining industry

Sector of machinery and equipment for the mining industry is related to the priority sector of engineering based on high attractiveness in the medium term. Domestic market volume in 2012 amounted to 1.3 billion dollars, showing a continuous growth from 2009. Kazakhstan on reserves and production level of the main types of solid minerals is in the top ten countries with the developed mineral resource base.

When implementing the SPAIID within the Industrialization Map, 3 investment projects worth 11.3 billion tenge were commissioned. 290 jobs were created.

Examples of implemented projects under the SPAIID:

- Project of technical rearmament “Kaztsinkmash” LLP for production of spare parts and complements;

- Creation of a service center for heavy equipment “Caterpillar” LLP “Borusan Makina Kazakhstan” IE;

- Ust-Kamenogorsk plant of mining machinery and equipment “BalumKazService” LLP.

Manufacture of machinery and equipment for the mining industry occupies a small share in the total of Kazakhstan engineering – 3.3% (Table 2.2.12.1).

Sector’s share in the volume of processing industry made 0.4% in 2012.

Table 2.2.12.1. – Sector’s share in the volume of processing industry and mechanical engineering of RK, %

	2008	2009	2010	2011	2012	2013*
Share in processing industry	0,4	0,3	0,4	0,3	0,4	0,4
Share in mechanical engineering	4,3	3,3	3,7	2,8	3,3	2,7

Source: Agency of Statistic of RK

According to Table 2.2.12.2 production volume of machinery and equipment for the mining industry for the period from 2008 to 2012 increased from 12.9 billion tenge to 22.5 billion tenge (nominal growth –1.7 times). The growth in the sector occurred due to the increase of equipment production for mining industry, underground mining and construction almost twofold (16.6 billion tenge in 2012 vs. 8.8 billion tenge in 2008) compared to 2008. The volume of machinery and equipment production for metallurgy from 2008 to 2012 increased by 1.5 times and reached almost 3 billion tenge in 2012.

Table 2.2.12.2. Dynamics of production volume for 2008-2013, million tenge

Production volumes	2008	2009	2010	2011	2012	2013 *
Processing industry	3 359 551	2 945 966	3 844 658	4 801 407	5 446 749	5 882 456
IFE, in % to the prev. year	97,5	97,1	113,9	107,7	101,2	101,6
Mechanical engineering	301 386	281 310	376 184	536 876	687 235	853 923
IFE, in % to the prev. year	89,7	82,5	133,6	119,0	116,5	114,6
Machinery and equipment for mining industry	12 981	9 382	14 067	15 224	22 578	23 368
IFE, in % to the prev. year	78,4	124,9	170,4	119,5	79,3	105,4

Source: Agency of Statistic of RK

According to Table 2.2.12.3 gross value added from 2008 to 2012 increased by 2.6 times. Depreciation level of fixed assets amounted to 38% in 2012, increasing by 15% compared to 2008. Rate of renewal of fixed assets amounted to 9.5% in 2012 reducing by 50% compared to 2008. Investments in fixed assets in 2012 amounted to 3.8 billion tenge, which is 2 times higher than the investments in 2008.

In the machinery and equipment production for the mining industry dominates the imports, which amounted to 90.5% of the market share of Kazakhstan in 2012. The main share of imports accounted for commodity groups (on code 6 of TN VED): fully steerable machines (15.5%), frontal loading shovels (11.6%), spare parts for boring or sinking machinery (8.4%). These three commodity groups made 35% of imports of machinery for mining engineering in 2012.

Table 2.2.12.3. – Data on the sector for 2008-2013

Indicator	2008	2009	2010	2011	2012	2013 *
GVA, mln.tenge ²⁴	6 675	5 648	15 587	13 995	17 580	12 342
Number of employed, persons.	6 215	4 922	5 137	5 572	6 804	6 778

*Current data

*Current data

²⁴GVA for 2013 – current data of AC RK for 9 months.

Labor productivity, thous. tenge/person. \$ ²⁵	1 074	1 147	3 034	2 512	2 584	-
	8 892	7 734	20 586	16 967	17 191	-
Average labor productivity on the OECD countries ²⁶ , \$	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	-	-
Level of fixed asset depreciation, %	32,9	33,3	30,5	33,9	38,0	-
Investments in the fixed assets, mln. tenge	1 830	2 069	1 277	781	3 812	3 066
Rate of renewal of fixed assets, %	18,8	10,7	18,5	5,2	9,5	-
Availability of fixed assets for the yearend on the initial cost, mln.tenge	16 997	19 974	26 118	28 657	29 273	-
Export, mln.dollars	63,9	38,2	41,2	45,1	46,7	96,3
Import, mln.dollars	1 676	1 086	1 184	1 145	1 350	1 468

Source: ACRK, TradeMap.

Kazakhstan machinery and equipment producers for mining industry are provided in Table 2.2.12.4.

Table 2.2.12.4. Main Kazakhstan producers and list of issued products.

Name of the company	Object location	Current products
LLP JV KAZBELAZ	Karaganda region, Karaganda	Mining and ancillary equipment to move the rock mass
Karaganda Casting and Machine Works	Karaganda region, Karaganda	Mining equipment
“Karaganda machine-building plant after Parkhomenko” LLP	Karaganda region, Karaganda	Mining and mineral processing equipment
LLP KARGORMACH	Karaganda region, Karaganda	Mining , mining equipment and spare parts.
LLP RUDSERVIS K	Karaganda region, Zheskazgan	Compressor plants for mining equipment
KIVMF GEOMASH LLP	Karaganda region, Karaganda	Metalwork
LLP KURILISMET	Karaganda region, Karaganda	Mining equipment
“Kazakhstan Excavator Plant” LLP	Karaganda region, Karaganda	Backhoe bulldozers, backhoe loaders
LLP “Kaztsinkmash”	EKR, Ridder	Equipment and spare parts for mining and beneficiation and metallurgical enterprises.
LLP Mashzavod number 1	EKR, Ust - Kamenogorsk	Machinery and equipment for underground mining operations
JSC “Kohanovskiy excavator plant”	SKR Kentau	Different types of excavators

²⁵Dollar rate for the end of the period, data of AC RK

²⁶OECD countries: Japan, USA, Australia, Germany, Italy, Canada, Great Britain, France, South Korea, Mexico, Spain, Turkey.

JSC JV Byelkamit	Almaty	Capacitance and flotation equipment
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The largest players in the global market are the companies²⁷ Caterpillar (U.S., 65.9 billion dollars), Thyssen Krupp (52 billion dollars), Hyundai heavy industries (South Korea, 48.8 billion dollars), Komatsu (Japan, 23.9 billion dollars), Kubota (Japan, 12.2 billion dollars), Sany heavy industries (China, 8.1 billion dollars).

As part of SPAIID the following activities were planned: by 2014 increase the volume of equipment production for mining industry through development of production engineering enterprises, creation of Design Bureau for mining equipment, support of the development of procurement of goods, works and services of the enterprises in the mining industry, national companies and state bodies.

Currently, volume of equipment production for mining industry increased twofold, Design Bureau for mining equipment was established in Ust -Kamenogorsk, contracts for procurement of engineering products were concluded by “Samruk-Kazyna JSC, mining companies, national companies and strategic enterprises.

Strong points: The existence of state support programs (obligations of subsoil users on local content);

existing competence in the production of individual components and machinery.

Weak points: technological backwardness of productions, increase in the share of spare parts produced in single and small batch production, high resource intensity, lack of qualified personnel, depreciation of fixed assets, lack of available financial resources for development of enterprises, low level of capacity utilization of many existing enterprises, low competitiveness of issued products in comparison with global peers: in price – in comparison with China and Russia, in quality and performance – with European and American counterparts.

Opportunities: the need of Kazakhstan mining companies in repair works of imported equipment, production of components and spare parts of existing enterprises, growing demand as a consequence of the planned modernization of existing enterprises of mining and metallurgical complex (hereinafter referred to as MMC) and commissioning of new fields. Growing market demand for products of the sector in the countries of the Customs Union (hereinafter referred to as CU) and macro-region.

Successful step in further development of engineering for the mining industry may become the use of tools of the Civil offset through creation of joint ventures for production of high-tech products, technology transfer, maintenance and service of the supplied equipment, as well as training of local staff.

²⁷Data on the sales volume for 2013

Threats: WTO accession, which may weaken state support to domestic enterprises. In the case of expansion of foreign manufacturers, including through existing assembly plants in Russia (full-turn machines) and China, domestic enterprises will be uncompetitive. Outpacing the increase in costs for raw materials, energy and non-development of the technical regulation system may reduce the price advantage of the Kazakhstan producers.

The competitiveness of the sector is affected by a number of such key factors as availability of financial resources, technologies and innovation potential, effectiveness of individual companies, availability and quality of human resources.

Goal, objectives and target indicators

Goal: Increase in the production volume of competitive products and product diversification.

Objectives:

- 1) Creation of new high-tech industries;
- 2) Modernization of existing production enterprises;
- 3) Promotion of capacity utilization;
- 4) Export promotion;
- 5) Support for technology transfer and research and development;
- 6) Providing sector with highly qualified personnel.

Solution of the above tasks will allow achieve the following target indicators:

Target indicators:

Program implementation will allow achieve the following economic indicators in 2019 to the level of 2012 (Table 2.2.12.4):

- 1) growth of the gross value added no less than 1.3 times in real terms;
- 2) employment growth by 0.2 thousand people;
- 3) growth of labor productivity by 1.3 times in real terms;
- 4) growth of value of non-commodity (processed) export no less than twofold.

Table 2.2.12.4. – Target indicators

№	Target indicators	meas. unit	2012 report	2013 expected	Forecast in terms of 2012						2019 to 2012, in %
					2014	2015	2016	2017	2018	2019	
1	Growth of gross value added	%	100	100	102	113	120	126	133	133	by 1,3 times
2	Growth of employed	thous.p	6,8	6,8	6,9	6,9	6,9	7,0	7,0	7,0	by 0,2 thous.p.
3	Growth of labor productivity on GVA	%	100	100	101	111	117	123	129	129	by 1,3 times
4	Growth of value of non-commodity (processed) export	%	100	100	100	135	156	177	198	205	by 2 times

Priorities of sector's development

Priority types of activity

Priority activities are oriduction of: machinery and equipment for metallurgy, mining machinery, underground mining and construction, other machinery and equipment for special purposes, not included in other groups (Table 2.2.12.5).

Table 2.2.12.5. – Priority types of activity.

OKED-4	OKED name
2891	Production machinery and equipment for metallurgy
2892	Production of machinery for mining industry, underground mining and construction
2899	Production of other machinery and equipment for special purposes, not included in other groups

Priority commodity groups

Priority commodity groups for development and areas of sector development include production of machinery and equipment for mining and metallurgical complex of the country – mining machinery and equipment, pit machinery, mineral processing and metallurgical machinery and equipment (Table 2.2.12.6).

The next priority for the sector development will be production of components and spare parts, as well as organization of basic production (casting, forging, metal processing, etc.).

The development priorities also include organization of service and auxiliary productions.

Table 2.2.12.6. Priority commodity groups.

FEACN-6	Product heading	Import capacity of the domestic market, of thousands dollars U.S.A.	Imported container markets Macro Region*, thousands of dollars U.S. A.
842952	machine fully steerable	179 087	3 712 074
842951	Wheel loaders shovel	133 952	1 412 735
870410	Dump trucks, designed for use in off-road conditions	85 840	1 499 635
847420	Machines for crushing and grinding	73 529	1 061 163
842911	Bulldozers, angledozers, track	51 070	939 533
847910	Equipment for public works, building or other similar works	24 164	585 201

*Macro-region countries: Armenia, Azerbaijan, Belarus, China, Georgia, Iran, Kyrgyzstan, Russia, Tadjikistan, Turkmenistan, Ukraine, Uzbekistan.

Priority projects

In the five-year period implementation of projects within the Industrialization Map, planned for launch in the period 2015 - 2019, discussed with applicants is provided. (Table 2.2.12.7).

Table 2.2.12.7. Priority projects.

Name of the project	Region	Creating jobs, people	The volume of investments mln tenge	Commissioning	Power in real terms	The volume of investments mln.tenge
Production career and special vehicles and equipment to move the rock mass (LLP JV KAZBELAZ)	Karaganda region, Karaganda	193	10 500	2015 г.	150	7 380
Production compressor units for mining equipment power (LLP RUDSERVIS K).	Karaganda region, Zheskazgan	120	170	2015 г.	50 ед.	420

Promising projects.

The issue on modernization of equipment Karaganda casting-machine factory is being worked out. Investment volume – 7.77 billion tenge.

A project for establishing a joint venture with Thyssen Krupp for parts production is being worked out.

Together with the National Chamber of Entrepreneurs of Kazakhstan the following projects are worked out:

- 1) The organization of serial production of drill bits and bits for MMC (“Vostokmashzavod” JSC). The volume of investments – 150 million tenge;
- 2) Production of low voltage equipment for the needs of mining enterprises – PZSO “Svarko” LLP.
- 3) Organization of serial production of drill unit “UBEM-100” (“Kazakhstan Engineering Plant” LLP). Volume of investments – 90 million tenge;
- 4) Production of large power and management hydraulics for mining production (“MashZavod No. 1” LLP). Volume of investments - 2 bllion tenge;
- 5) Production of diamond bits and drilling bits for specialized drill in the mining industry (“Bulat” LLP). Volume of investments – 500 mln.tenge;
- 6) Production of large parts with complex machining for mining production (“Karaganda Engineering Consortium” LLP). Volume of investments – 3.2 billion tenge.
- 7) Organization of production (“Almaty fan factory” LLP):
fans for local ventilation of pits;
mine drives for improved design of fire protection systems;
energy efficient electric motors with external rotor.

2.2.13 Production of machinery and equipment for oil refining and oil production industry

In 2013, oil production in Kazakhstan amounted to 81.8 million tons, accounting 103.2% in 2012. The main increase in oil production was provided by “Tengizchevroil” LLP, “ZhaikMunai” LLP, “Petro Kazakhstan Ventures Inc.,” JV “KuatAmlonMunai” LLP, “Mangistaumunaygaz” JSC, “Karazhanbasmunay” JSC, “Emir Oil” LLP, “KMK Munay” JSC, “Kazpetrolgroup” LLP. In the long term expansion of oil fields Tengiz, Karachaganak is planned, as well as development of new fields.

Favorable forecast of oil production in Kazakhstan in the long term correlates with global trends²⁸, according to the forecast until 2025 oil consumption as a primary energy source in the transport sector will not fall below 90% of the total share of consumption.

The total market for oil and gas equipment in the Republic of Kazakhstan in 2012 amounted to 2 billion dollars. While domestic production was 7.1% of the total market volume.

Upon the results of 2013 oilfield equipment was produced for the amount of 5.4 billion tenge, oil and gas processing equipment for the amount of 571.7 million tenge, drilling or sinking machinery parts for the amount of 16.7 billion tenge.

All this creates the preconditions for the priority development of machinery and equipment production sector for the oil processing and oil-producing industry.

When implementing the SPAIID for 2010-2014 within the Industrialization Map 9 investment projects worth 22.8 billion tenge were commissioned. 1010 jobs were created.

Examples of completed projects under the SPAIID:

- Modernization of production capacity, expansion of the range of products produced by “Ust-Kamenogorsk Valve Plant” JSC with a capacity of 8900 pcs. per year;
- Factory for manufacture of oil and gas equipment (Stage 2) “GMMOS Kazakhstan” LLP with a capacity of 6000 tons;
- Factory for repair and maintenance of gas turbine units “KazTurboRemont” LLP;
- Service Center for repair of pumping equipment “Flowserve Kazakhstan” LLP;
- Production of various seals for oilfield equipment “Novus Sealing Caspian” LLP, with a capacity of 200 thousand units of seals per year;
- Plant for production of pipe fittings Chevron Munaygas Inc. with a capacity of 30,000 units per year;

²⁸InternationalEnergyAgency, IEA

- Modernization of machining production of oil industry products “Munaymash” JSC with a capacity of 7500 sets.

The share of machinery and equipment for oil refining and oil production industries in total volume of processing industry in 2013 was 0.5%. Share in total engineering in 2013 was 3.2%, while the figure in 2008 was 2.6% (Table 2.2.13.1).

Table 2.2.13.1. Share of production of oil and gas machinery in total volume of processing industry and total volume of mechanical engineering, %

	2008	2009	2010	2011	2012	2013*
Share in processing industry	0,2%	0,4%	0,4%	0,4%	0,4%	0,5%
Share in total volume of mechanical engineering	2,6%	4,1%	4,0%	4,0%	3,1%	3,2%

Source: Agency of Statistics RK

During the period from 2008 to 2013 the production level of oil and gas engineering grew from 7.8 billion tenge to 27.1 billion tenge, making nominal growth by 3.5 times (Table 2.2.13.2).

Table 2. Dynamics of production volume for 2008 – 2013, mln.tenge

	2008	2009	2010	2011	2012	2013*
Processing industry	3 359 551,4	2 945 965,5	3 844 658,5	4 801 407,2	5 261 940,2	5 882 455,6
Growth in % to the previous year	97,5	97,1	113,9	107,7	101,2	101,6
Mechanical engineering	301 386	281 310	376 184	536 876	687 235	853 923
Growth in % to the previous year	89,7	82,5	133,6	119,0	116,5	114,6
Oil and gas mechanical engineering	7 787,6	11 646,4	15 132,6	21 575,2	21 578,6	27 100,1
Growth in % to the previous year	102,5	149,6	129,9	142,6	100,02	125,6

Source: Agency of Statistics RK

Gross value added in the sector compared to 2008 increased by 4 times, amounting 16.8 billion tenge in 2012. Number of people employed in the sector has strong positions, in 2012 5.6 thousand people were recorded. Amount of active enterprises over the recent years is at the same level of 52 companies.

Labor productivity in the domestic sector of equipment production for oil processing and oil production industry upon the results of 2012 was 20.1 thousand dollars, the index is 5.6 times lower than the same index in OECD countries.

In 2012, the percentage of capacity utilization amounted to 57.1%, the depreciation of fixed assets – 35.4%, rate of renewal of fixed assets – 26.5%.

Starting in 2009, an increase in investment of fixed assets is observed, which in 2012 amounted to 5.4 billion tenge, which is 3 times higher than the values of 2008.

*Current data

The level of exports also has a positive trend, in 2012 reaching 111.4 million dollars, which is 11.4 million more than in 2008.

It should be noted that to date the new oil and gas projects moved into a phase of operation. Thus, the market of machinery and equipment for the oil processing and oil production industry markedly reduced. Level of imports in 2012 amounted to 1.9 billion dollars decreasing by 673.8 million dollars compared to 2008.

Table 2.2.13.3. Data of machinery and equipment production for oil processing and oil production industry for 2008 – 2013

	2008	2009	2010	2011	2012	2013*
GVA million tenge ²⁹	4 008,9	7 020,5	16 768,2	19 835,6	16 801,8	16 196,7
Number of people employed in the sector, thousand people	6,0	5,9	5,8	6,0	5,6	5,6
Number of operating	23	32	50	52	52	-
Labor productivity in tenge	0,7	1,2	2,9	3,3	3,0	-
Labor productivity in thousands of dollars U.S.A. ³⁰	5,6	8,1	19,6	22,6	20,1	-
Labor productivity in OECD countries ³¹ , thousands of dollars U.S.A.	111,4	105,2	111,0	114,9	112,6	-
Using the average power in the reporting year, %	23,4	24,9	49,5	50,7	57,1	-
Level of wear and tear, %	36,3	31,8	39,6	39,7	35,4	-
Availability of fixed assets at the year end at cost, million tenge	11 288,5	10 903,6	15 461,3	18 814,5	28 084,8	-
Investments in fixed capital, million tenge	1 582,9	677,0	2 084,1	2 217,9	5 354,4	2 798,1
Rate of renewal of fixed assets, %	9,8	8,7	14,1	8,6	26,5	-
Exports, million	99,96	78,4	78,1	113,2	111,4	-
Imports, million	2 666,5	2 525,1	1 638,4	1 815,2	1 992,7	-

Source: Agency of Statistics RK, TradeMap.

Currently, production of equipment for the oil processing and oil production industry in Kazakhstan is represented by the following companies (Table 2.2.13.4).

* Operational data

²⁹GVA for 2013 - ARMS operational data for 9 months.

³⁰Dollar exchange rate at the end of the period, the data AS RK

³¹OECD countries: Japan, USA, Australia, Germany, Italy, Canada, United Kingdom, France, South Korea

Table 2.2.13.4. Major producers of equipment for oil processing and oil production industry of Kazakhstan and the range of issued products*.

Name of the company	Object location	Current products
JSC "Petropavlovsk heavy engineering plant"	Petropavlovsk	Drills, hoisting machines , machinery for service
JSC "Almaty Heavy Engineering Plant"	Almaty	Mechanical assembly manufacturing of metal , foundry, forging production
JSC "West Kazakhstan Engineering Company"	Uralsk	Design, manufacture and service of equipment for compressor stations and gas turbine power plants
JSC "Munaymash"	Petropavlovsk	
JSC "Aktobe Oil Equipment Plant"	Aktobe	Downhole rod pumps; Raman instrument, CP; spare parts for oil and gas equipment
JSC "Kazneftegazmash"	Petropavlovsk	
JSC "Plant named after Kirov"	Petropavlovsk	Sucker rods and couplings, sucker rod pumps, pipes and tubing couplings,
LLP "Byelkamit"	Almaty	four-section gas anchor

**According to data of enterprises*

World production sector of oil and gas equipment is represented by the following companies Delaunay et Fils (France), Orlandi (Italy), Arc Energy Resources Ltd (UK), Walter Tosto Spa (Italy), Rosetti Marino SpA (Italy), Siemens (Germany), Areva (France), Bel-valves (UK), Man-Turbo (Germany), GE (USA), Nuovo Pignone (Italy), Amarinth (United Kingdom), Aturia Pompe (Italy), CAT Pumps (U.S.), Triqua BV (the Netherlands), Cerpelli (Italy), Framo (Norway), Peroni Pompe SpA (Italy). Within SPAID for development of machinery and equipment production for oil processing and oil production industry the following activities were planned and carried out:

Production of valves, liquid pumps and drilling machines was increased. Enterprises on repair and service of gas turbine units and equipment were launched. The design bureau for oil and gas equipment was established.

New oil and gas engineering enterprises in accordance with the profile were placed in the western region in order to technologically ensure a rapidly developing oil and gas production with a focus on oil and gas enterprises demand in specialized equipment, supplies and complement to them (oil and gas engineering projects in Atyrau and Uralsk) and existing production facilities in Almaty, the North Kazakhstan and East Kazakhstan regions.

Strong points of the sector: availability of individual competence in the production of machinery, equipment and components; state support programs (requirements for Kazakhstan content); benefits of transport branch (significant costs when transporting large substandard, oversized cargo).

Weak points: labor productivity in the domestic oil and gas engineering sector in comparison with the average indicators for the OECD countries are three times lower; lack of ecosystem of suppliers; inefficient system of monitoring of local content; low availability of financial resources; underdevelopment of engineering and research and development. Noncompetitiveness of Kazakhstan enterprises due to exemption from VAT and import duties on goods imported by certain foreign oil and gas companies.

Potential opportunities: the internal market capacity of the macro-region countries in the medium- and long term; expansion of existing oil and gas fields and development of new. Integration into the global value chain through joint ventures.

Threats: high barriers to enter the largest oil service companies have great competence in engineering and R&D; Kazakhstan's accession to the WTO may limit the ability of state support for domestic producers; underdevelopment of technical regulation; outflow of qualified personnel.

The lack of modern technologies, narrow range of products, low value-added, shortage of personnel, insufficient investment attractiveness are among the systemic problems of the sector.

The competitiveness of the oil and gas equipment production is affected by a number of such key factors as infrastructure, access to export markets of oil and gas engineering products, technology and innovation potential, ecosystem of suppliers and human resources.

Goal, objectives and target indicators

Goal: Increased release volume of competitive industries and expansion of the range of export-oriented products, integration into global value chains.

Objectives:

- 1) Improvement of the system of technical regulation and transition to generally accepted standards;
- 2) Creation of the conditions for emergence of new industries, together with leading international companies with the gradual localization of a production part;
- 3) Increase in labor productivity;
- 4) Promotion of the development of innovative and high-tech industries;
- 5) Modernization of the capacity of existing enterprises;
- 6) Providing sector with highly qualified personnel.

Solution of the above tasks will allow achieve the following target indicators.

Target indicators:

Program implementation will allow achieve the following economic indicators in 2019 to the level of 2012 (Table 2.2.13.5):

- 1) growth of the gross value added no less than 1.8 times in real terms;
- 2) employment growth by 0.3 thousand people;
- 3) labor productivity growth by 1.8 times in real terms;

4) increase in the value of non-commodity (processed) export no less than by 1.9 times.

Table 2.2.13.5_. **Target indicators**

№	Target indicators	Meas.u nit.	2012 report	2013 expected	Forecast in term of 2012						2019 to 2012, in %
					2014	2015	2016	2017	2018	2019	
1	Growth of gross value added	%	100	111	137	151	172	178	177	184	by 1,8 times
2	Growth of employed	тыс.ч.	6,9	6,8	7,2	7,2	7,2	7,2	7,2	7,2	by 0,3 thous.p.
3	Growth of labor productivity on GVA	%	100	113	132	144	165	170	170	176	by 1,8 times
4	Growth of value fo non-commodity (processed) export	%	100	109	119	130	142	156	170	186	by 1,9 times

Priorities of sector development

Priority types of activity of the sector are shown in Table 2.2.13.6.

Table 2.2.13.6. Priority types of activity

OKED	Name of activity
2812	Manufacture of fluid power equipment
2813	Manufacture of other pumps, compressors, taps and valves
2814	Manufacture of other taps and valves
2829	Manufacture of other general-purpose machinery, not included into other groups
2899 ³²	Production of machines and equipment for special purposes, not included in other categories

Priority commodity groups

Priority direction in the development of oil and gas engineering is further increase in the production of products in demand – oil and gas valves, tanks, spare parts and components (Table 2.2.13.7).

The priority direction to attract investors for the purpose of integration into the global distribution channels is the production of machinery and equipment aimed to meet the needs of oil and gas operators, including through localization of individual components and assemblies.

The next priority of development is the support for development of engineering industries in service and equipment support service, as well as the organization of basic productions (casting, forging, metal processing, etc.).

Table 2.2.13.7. Priority commodity groups by codes TN VED – 6

³² FEACN 28991, 28992

№	FEACN -6	Product heading	Import capacity of the domestic market, thousands of U.S.A. dollars	Imported container markets Macro Region*, thousands of dollars U.S. A.
1	848180	Other fittings for pipes, boiler shells, tank , vats or the like	391 294	7 842 082
2	843143	Parts suitable iskluychitelno or mainly for boring or sinking machinery of subheading 843041 or 843049	97 460	1 261 713
3	841480	Other air or vacuum pumps , air or other gas compressors	94 322	3 540 061
4	847989	Other machines and mechanical appliances having individual functions	92 963	8 210 356
5	842139	Other equipment for filtering or purifying gases	84 793	1 752 718
6	843041	Boring or sinking machinery propelled	75 372	885 589
7	841391	parts of pumps	56 179	1 035 494
8	843050	Self-propelled machines and mechanisms other	56 056	271 244
9	843149	Other parts of machinery of heading 8426 , 8429 or 8430	46 629	2 124 174
10	841350	Other positive displacement pumps reciprocating	44 932	1 173 141
11	841381	Other liquid pumps	44 483	418 679
12	843049	Other boring and sinking machinery	40 391	341 439
13	843139	Other parts of machinery of heading 8428 90300 0	40 424	516 805
14	842199	Other pieces of equipment and devices for filtering or purifying liquids or gases	34 588	1 366 888
15	841360	Other rotary positive displacement pumps	31 698	1 068 917
16	842649	Other mechanisms are not self-propelled elevating wheeled	32 623	299 830
17	848190	Parts of taps, valves, valves to valves for pipes, boiler shells, tanks , vats and similar containers, including pressure-reducing valves and thermostatically controlled valves	29 716	1 250 245
18	841490	Parts of pumps air, vacuum, air and gas compressors and ventilation; ventilating or recycling hoods, cabinets with ventilation filters with or without	29 345	1 384 651
19	848140	safety or discharge valves	28 295	566 153

20	841382	liquid elevators	26 822	48 807
21	841221	Power engines and motors , hydraulic linear acting (cylinders)	19 071	898 791
22	841330	Fuel pumps, oil or coolant for internal combustion engines	25 189	962 012
23	842123	Equipment for filtering oil or fuel in internal combustion engines	32 826	616 023

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

Table 2.2.13.8. Most popular products, the production of which is economically feasible in the Republic of Kazakhstan

Materials / Equipment / Service	Examples of potential foreign partners	Examples of potential Kazakhstani producers	Annual demand (million \$)
Seamless pipes	Iiva SpA, Salzgitter Mannesmann International GmbH, Dalmine SpA, Sumitomo, Tenaris (Italy-Japan), V&M Tubes (Germany-France), Breda Energia SpA	KSP Steel	110,9
Header pipe	Russian and Chinese manufacturers	KSP Steel	22,6
Casing	Tenaris, Sumimoto, Vallourec Mannesmann	KSP Steel	64,9
Drilling	Delauuany et Fils, Orlandi, Arc Energy Resources Ltd, Imstalcon JSC, Walter Tosto Spa, Rosetti Marino SpA,	Белкамит, ЗКМК, Атыраунефтемаш, Keppel Kazakhstan LLP, Kazakhstan, АО «ПЗТМ»	10,6
Vessels working under pressure / heat exchangers	Kisco, FAD Flange, Acciao&Derivation, Allied Int SpA, Tectubi Raccordi SpA, FAST SRL, P. Van Leeuwen Jr's Buizenhandel BV, Canadoil Europe SRL, Breda Energia SpA,	АО «УКАЗ», АО Казнефтегазмаш	9,5
Fittings, Flanges	Petrovalve, Breda Energia, Nuovo Pignone, Petrovalve, B.F.E., Tai Milano SpA, Oms Saleri SpA, Breda Energia	Казнефтегазмаш, УКАЗ, Accessories Plant JSC, КРАР LLP, "Poisk" Venture	97,8
Wellhead equipment:	Areva, Tyco, Siemens Building Technology, Johnson control, Autrinica F&S AS, Foxboro, Kazakhstan Intergrated Serv. Ltd Kisco UK, Sea Star International LLP, Consolidated Supply & Services Int'l LLP, ABB LLP, Gateway Ventures (CA) Ltd LLP, V.T.D. Transformatori SRL, Schneider Electric LLP, Siemens LLP	АО «Кентауский трансформаторный завод»	86,2

Valves and spare parts	Honeywell, Yokogawa, Emerson, Invensys, ABB, Foxboro, Johnson Control, Argosy Technologies		54,7
Electrical	Siemens, Areva, Bel-valves, Man-Turo, GE , Nuovo Pignone, Amarinth, Aturia Pompe, CAT Pumps, Triqua BV, CerPELLi, Framo, Peroni Pompe SpA	Machine-Building Plant JSC, TREI-Karaganda LLP, Pavlodar Wiring	74,2
Equipment	Wellquip	-	

Source: Ministry of Oil and Gas RK

“Tengizchevroil” LLP, Karachaganak Petroleum Operating B.V., North Caspian Operating Company B.V. and NC “KazMunayGas” JSC signed Aktau declaration of joint actions on September 25, 2013, which primary purpose is to develop a mechanism for better coordination and agreement of individual programs for development of local content of operators, investors and state bodies.

In accordance with the initiative of the above campaigns within the Aktau Declaration on the principle of the largest consumption of products it was decided to determine responsibility for development of production to each company:

Tengizchevroil	FVF	NCOC	KMG
tubular products heat exchangers reservoirs	valves Electrical Equipment fitting flanges	Rotating equipment (rotors, turbines, pumps, etc.)	Services: drilling Related downhole services

Priority projects

In the five-year period implementation of three projects within the Industrialization Map, planned for launch in the period 2015-2019, discussed with applicants, is provided. (Table 2.2.13.8).

Table 2.2.13.8. – Priority projects

№	Name of the project	Region	Workplaces during operation	The volume of investments mln tenge	Commissioning	Power in real terms
1	The establishment of an SKD submersible installations in Kyzylorda, “KazPump” LLP	Kyzylorda region	47	374	2015 год	600 sets
2	Organization of production assembly oversize and heavy equipment, LLP	Atyrau region	250	2500	2015 год	assembly

	“AtyrauNefteMash”					
3	Construction of a factory for the production of ball valves, LLP “Boehmer Valves”	Karaganda region	160	1050	2015 год	10,000 tons

The total investment volume is about 4 billion tenge.

Promising projects.

Together with the National Chamber of Entrepreneurs the Republic of Kazakhstan implementation of the following projects is worked out.

Company	Product Type
JSC MUNAYMASH Petropavlovsk	Organization of the production chain drives downhole rod pumps for oil
JSC ZKMK Uralsk	Organization of the production chain of deep feeders to facilitate and increase the amount of oil extracted
LLP Venture company “Search” Petropavlovsk	Organization of high-tech manufacturing turbochargers, heat exchangers , special vehicles, fittings, locking devices for the needs of the oil and gas sector
JSC Kazneftegazmash Petropavlovsk	Creation of production piston pump for the oil and mining industries with pressure up to 10 MPa and flow rates up to 1.5 m ³ / min
JSC Petropavlovsk Heavy Engineering Plant Petropavlovsk	Building foundry (manufacturing cranes, valves , valves and other similar products reinforcement)
JSC Almaty Heavy Engineering Plant Almaty	Create a plant for production of studs and nuts for equipment operating at high pressures, temperatures and corrosive environments

Source: Ministry of Oil and Gas RK, SPE

Projects implemented by JSC NC KazMunaiGas:

Project	Partners	Planned products	Implementation time	planned investments, \$ mln	Number of jobs
AktauNefteService LLP	<ul style="list-style-type: none"> AktauNefteService (RK, NC KMG JSC) Vallourec Tubes (France) 	<ul style="list-style-type: none"> premium connections for tubing and casing pipes couplings (production expected in 2017) 	2014	40	50

Aktau Oil Services LLP	<ul style="list-style-type: none"> • Sputnik-Integration LLC (Russia) • JSC AVRZ (RK) • KazMunay Technology LLP (RK) 	<ul style="list-style-type: none"> • installation of commercial accounting of oil / gas • Position measuring liquid flow rate / gas • Position the reservoir pressure maintenance • block cluster pumping stations • Installations for oil / gas 	2014	38	40/100
It is planned to sign a framework agreement for the production of oil and gas equipment in Mangistau	<ul style="list-style-type: none"> • NC KMG JSC (RK) • China National Petroleum Corporation (China) 	<ul style="list-style-type: none"> • pumping units • Borehole rod • In-depth, screw pumps • anticorrosive coating for pipes • production of chemicals 	2014-2019	Will be determined after feasibility studies	Will be determined after feasibility studies
		Feasibility study of the project	2014		
	The expected timing of the Project (can be adjusted according to the results of the feasibility study)	Development of documentation project	2014		
		Construction Industrial complex	2015		
		Supply of equipment for the Industrial Complex (Phase 1, construction equipment)	2015		
		Operation Industrial Complex (Phase 1, construction equipment)	конец 2015 – 2018		
		Implementation Phase 2, the transition from assembly to manufacture equipment	2019		

Source: Ministry of Oil and Gas RK

2.2.14 Production of construction materials

Production of construction materials is an important steadily growing sector of the economy of Kazakhstan, providing 8.6% of manufacturing output. The sector aims to provide developers with the materials that take into account changes in the architectural and building systems, types of buildings and construction techniques and presents by the production of diverse products: structural (basic) construction materials³³, building materials of wood and plastics. 1453 companies in the industry (of which 85% are small) provide employment to more than 40 thousand people.

³³ Production of other non-metallic mineral products

When implementing SPAID 144 projects of the Industrialization Map amounting to 215.4 billion tenge were commissioned. 11820 jobs were created. Two cement plants (“KaspiyTsement” LLP, “Standard cement” LLP) were built, in 2014 the construction and modernization of another 4 cement plants will complete. Two projects were implemented in the industrial processing of glass: on expansion of the plant in Almaty and construction of the plant in Astana (“KazStroiSteklo” LLP), porcelain production plant (“Asia Ceramics” LLP), 9 production plants of plastic pipes, production of sanitary products of polymer-composite materials (“Tenusa” LLP) and other productions.

The share of construction materials production in the volume of manufacturing industry from 2008 to 2012 decreased by 0.2%, while in 2013 the share of the sector compared to 2008 increased by 0.7% and amounted to 8.6% (Table 2.2.14.1).

Table 2.2.14.1. The share of construction materials production in the total volume of manufacturing industry of RK, %

	2008	2 009	2010	2 011	2012	2013*
Share in processing industry	7,9%	7,6%	6,8%	7,3%	7,7%	8,6%

Source: Agency of Statistics of RK

Volume of construction materials production from 2008 to 2012 increased by 1.6 times. In 2013, the figure rose by 1.9 times mainly due to increased production of other non-metallic mineral products by 1.8 times, production of construction materials from wood by 5 times, and construction materials from plastics by 2.3 times (Table 2.2. 14.2).

Table 2.2.14.2. – Dynamics of production volume for 2008-2013, mln. tenge

	2008 г.	2009 г.	2010 г.	2011 г.	2012 г.	2013 г.*
manufacturing	3 359 551	2 945 966	3 844 658	4 801 407	5 446 749	5 882 456
in% to the previous year	97,5	97,1	113,9	107,7	101,2	101,6
Production of building materials	266 596	224 938	260 955	350 045	421 633	503 132
including						
Manufacture of other non-metallic mineral products	220 377	182 355	201 871	263 985	320 677	397 105
in% to the previous year	79,9	91,3	111,5	116,5	110,7	111,8
Building materials from wood	214	280	659	756	1 192	1 069
in% to the previous year	97,4	96,7	149,4	124,0	108,5	96,2
Building materials made of plastics	46 004	42 304	58 424	85 304	99 764	104 957
in% to the previous year	106,7	7	135,6	120,1	103,1	102,5

Source: Agency of Statistics of RK

*Current data

*Current data

Gross value added in 2012 increased more than twofold, in 2013 – by 2.2 times as compared with 2008 indicator (Table 2.2.14.3).

Number of people employed in the sector in 2012 decreased by 4.2 thous. people, in 2013 employment in the sector increased and reduction of the number of employed in the sector compared to 2008 was 644 people. This was due to modernization of production and labor productivity.

Labor productivity in the sector over the past five years has increased by 2.3 times. Compared to the OECD countries, labor productivity in the sector in Kazakhstan is 47% lower than the average labor productivity in the OECD countries. This is due to the fact that productions of lower limits than in the OECD countries dominate in the sector.

Level of capacity utilization in the sector depends on the type of production. Thus, in cement production – about 60%, in the manufacture of plastic construction products (pipes, sheets, films, etc.) within 35-58 %, in the manufacture of bricks – does not exceed 20%. The highest level of capacity utilization accounts for 2010, which is related to the stimulation of demand for the products of the construction industry and implementation of public construction programs.

Depreciation of fixed assets in 2012 increased from 32-35% to 40% in the production of bricks and concrete. In the production of plastic sheets and profiles (including pipes) depreciation rose from 29 to 32.5 percent. In cement production by modernizing plants reduction of depreciation of fixed assets occurred from 38.2% in 2008 to 19.8% in 2012.

Investments in fixed assets in 2012 decreased by 7.5%, but in 2013 increased by 8%.

Upon the results of 2012, exports of construction materials decreased by 3.4 times mainly due to reduction of exports of thermal insulation and roofing materials.

Cost to import 15.7 times higher than exports. Imports of construction materials in 2012 increased by 24% and in 2013 – by 27% compared to 2008 (Table 2.2.14.3).

Table 2.2.14.3.- Data on the sector for 2008-2013

index	2008 г.	2009 г.	2010 г.	2011 г.	2012 г.	2013*
GVA million tenge	125 781,5	110 110,8	172 569,1	216 535,4	257 217,2	282 115,5
The number of employed, thousand people	40,9	35,1	33,3	36,6	36,7	40,2
Labour productivity in the Republic of Kazakhstan, thousand tenge **	3 078,2	3 141,5	5 177,6	5 919,7	7 017,1	7 061,3

* Operational data

Labour productivity in the Republic of Kazakhstan, U.S. dollars **	25 528,3	21 298,5	35 123,7	40 024,8	46 649,8	45 840,7
Average labor productivity in OECD countries, U.S. dollars **	82 865,4	76 792,7	83 650,7	88 003,8	88 005,4	-
The number of existing 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, % by kind of production:						
Manufacture of cement, %	62,0	64,0	61,0	60,4	57,1	-
Manufacture of plastic plates, sheets, tubes and profiles, %	41,6	49,4	58,1	48,7	35,9	-
Manufacture of bricks, tiles and construction products, in baked clay, %	16,7	12,2	27,7	16,8	18,8	-
Degree of wear and tear in % by kind of production						
Manufacture of cement, %	38,2	39,4	30,7	19,8	27,5	-
Manufacture of plastic plates, sheets, tubes and profiles, %	29,4	28,8	36,9	36,6	32,5	-
Manufacture of bricks, tiles and construction products, in baked clay, %	32,4	37,6	40,9	35,0	39,0	-
Production of construction of concrete products, %	35,3	37,1	39,6	44,5	44,1	-
Investments in fixed capital, million tenge	62 627,3	57 557,7	54 821,0	39 436,2	57 931,9	68 090,6
Rate of renewal of fixed assets in %	0,18	0,02	0,10	0,21	0,09	-
Availability of fixed assets at the year end at cost mlntenge	153 810,1	869 818,4	274 723,8	307 469,5	332 460,0	-
Exports, \$ mn	426	199	133	130	126	118
Imports, \$ mn	1 604	1 212	1 514	1 705	1 989	2 043

Source: Agency of Statistics of RK, Euromonitor

In 2013 in the sector of production of construction materials 1453 enterprises were operating, of which 47 large and 141 medium-sized enterprises. Small businesses account for 87%. Given the versatility and numerous staffing of the enterprises in the sector, Table 2.2.14.4 shows the main major manufacturers and the predominant type of enterprises in each of the priority activities. The largest concentration of companies in the production of construction materials is observed in the central, southern and western regions of Kazakhstan.

Table 2.2.14.4. – Range of products and the major players in the sector of construction materials

Manufacturers	Market of thousands U.S. dollars *		
	Production	Export	Import
Manufacture of veneer sheets, plywood, boards and panels	7 740,6	322,5	115 464,3
Main players: LLP “Favorite” (EKR), LLP “Irtyshtansoyl” (EKR) and small enterprises	Manufacturers of plywood, boards carpentry, EAF		
Manufacture of plastic plates, sheets, tubes and profiles	425 972,3	17 663,2	272 888,7
Main players: LLP “STZ” Arystan”, LLP “Taraz Pipe Plant” and small businesses	Manufacturers of polyethylene and propylene pipes		
Manufacture of constructive plastic articles	226 079,1	0,0	9 634,6
Main players: LLP “Galaxy”, LLP “Tenusa” and small businesses	Manufacturers of doors, window frames, profiles, plastic and other composite-polymer materials		
Manufacture of flat glass	0	4 767,2	219 614,1
Main players: no manufacturer			
Shaping and processing of flat glass	22 553,2	33 218,1	350 647,2
Main players: LLP “KazStroiSteklo”, LLP “STEKLOSERVIS”	Manufacturers tempered glass, glass and industrial glass processing		
Manufacture of hollow glass	32 632,7	1 808,0	153 800,5
Main players: LLP “SAF”, “SAF-2”, LLP “EvroKristall”	Producers of glass		
Manufacture of glass fibers	33,6	215,1	56 464,5
Main players: LLP “StroyLeks”	Manufacturers glass and glass products		
Manufacture and processing of other glass	599,7	438,3	30 404,3
Main players: small businesses (Almaty, Pavlodar and Karaganda region)	Manufacturers processing of other glass		
Manufacture of refractory products	11 806,7	626,4	199 136,2
Main players: LLP “Kazogneupor”	Manufacturers refractory mixtures and articles		
Manufacture of ceramic tiles and flags	2 517,4	1 175,7	46 526,5
Main players: JSC “Ceramica”	Manufacturers of ceramic tiles and slabs		
Manufacture of bricks, tiles and construction products, in baked clay	75 216,4	187,2	19 689,5
Main players: JSC “ENKI”, LLP “Isker Company” LLP, “Kurilis Materialdary” and small and medium enterprises	Manufacturers of ceramic bricks		
Manufacture of ceramic sanitary fixtures	0	33,5	155 100,0
Main players: unknown			
Manufacture of ceramic insulators and insulating	0	73,3	22 478,1
Main players: unknown			
Manufacture of other ceramic products	176,7	6,9	39 949,0
Main players: small businesses, the main producing region (Pavlodar region).	Producers of other ceramic products		
Manufacture of cement, clinkers including	491 525,1	1 696,3	6 129,7
Main players: LLP “Bukhtarminsky CH”, LLP “CH Families”, LLP “Kazakhcement” LLP, “Jambul CCP” LLP “Central Asia Cement”, LLP “Karcement” LLP, “Shymkentcement” LLP, “Standarttsement” LLP, “Sas-Tobe cement”	Cement and clinker		
Manufacture of lime and plaster	20 421,9	7,2	6 320,3
Main players: LLP “Stroydetal”, LLP “Zhambylgips”, LLP “Knauf Gypsum Kapchagai”	Manufacturers of lime and plaster		
Production of construction of concrete products	612 998,1	6,1	5 675,9
Main players: placed in all regional centers and the cities of Astana and Almaty	Manufacturers of reinforced concrete structures and articles		

Manufacture of plaster products for construction purposes	60 126,6	17 827,9	125 546,0
Main players: LLP “Zhambylgips”, LLP “KnaufGipsKapshagay”, LLP “Alina Pro”	Manufacturers of dry mortar, drywall		
Production of concrete ready for use	467 902,8	4 840,5	23 740,9
Main players: placed in all regional centers and the cities of Astana and Almaty	Manufacturers of concrete and asphalt		
Manufacture of mortars	82 291,3	86,9	10 849,9
Main players: small and medium enterprises	Manufacturers of concrete mixes		
Manufacture of fiber cement	12 141,1	12 097,4	16 031,7
Main players: LLP “Semipalatinsk plant of asbestos products”	Manufacturers slate, asbestos cords and plates		
Manufacture of other articles of concrete, plaster and cement	20 350,2	113,5	2 553,0
Main players: LLP “Silicate”, LLP “West Kazakhstan KSM”, small and medium enterprises	Manufacturers bricks, blocks and slabs		
Cutting, shaping and finishing of stone	17 072,6	p/n	p/n
Main players: small and medium enterprises	Manufacturers of processed and finishing stones		
The production of abrasive products	882,6	6 349,4	45 335,3
Main players: small and medium enterprises	Manufacturers of abrasive products		
Manufacture of other non-metallic mineral products nec	165 596,2	4 145,5	11 637,3
Main players: LLP “Basalt-A”, JSC “PKRZ”, LLP “Plant MVI”	Manufacturers of thermal insulation and roofing, waterproofing materials		

* Estimates on the size of the market represented by the data of Agency of Statistics of RK and EC MF RK 2012.

The most developed industries, occupying the largest share in total production sector are the production of cement (18.2%), ready-mixed concrete (18%), concrete products (25%), plastic pipes (14.7%), thermal insulation and roofing materials (5.4%), production of mortars (5%).

Creation of productions of construction materials with high added value involves attracting international TNC. Large companies included in the list of Global 2000 companies already operating in Kazakhstan are:

- German HeidelbergCement, represented by Bukhtarma cement company, Caspian Cement, Concrete Baykaz, Bektas Group,
- Swiss Sika, represented by production company Sika Kazakhstan (additives for concrete, auxiliary materials for concrete, injection materials, ready mix cement, epoxy adhesives and mortars, protective coatings, materials for industrial flooring, protective materials for concrete and steel, sealants and waterstops),
- Chevron represented by Chevron Munaygas Inc., and Atyrau plant of polyethylene pipes, Atyrau pipeline valves plant.

From among major global companies, not entering the list of Global 2000, German company Knauf, producing construction materials of gypsum, operates in Kazakhstan.

Perspectives for cooperation are:

- South Korean company POSCOHEMTECH, supplying refractories for large metallurgical companies, cement and glass industries,

- AsahiGlass, producing sheet architectural glass, glass for automotive industry, liquid crystal displays and chemicals.³⁴

After launching own production of polymers in Kazakhstan, certain interest may represent:

- South Korean company LGHausys, specializing in the production and sale of energy-efficient plastic windows, sliding systems, co-extruded colored profiles, flooring for commercial and sports facilities, various kinds of interior films, artificial stone and wallpapers,

- English IPECO, having competence and long experience in design, development and manufacture of structures using both metallic and advanced composite materials.

Company SiseCam – the leader of the Turkish flat glass market is preparing to take part in the construction of plant for production of float glass in Kyzyl-Orda.

From among major Russian companies, Russian company “Polyplastic” presented by Stepnogorsk Tube Plant “Arystan” is present in Kazakhstan. Russian company KMGroup, a member of the MarazziGroup (Italy) is perspective for cooperation in the production of building ceramics.

Analysis of SPAIID implementation

The main task of the State Program on Accelerated Industrial and Innovative Development of Kazakhstan for 2010-2014 in the construction industry and in the production of construction materials was to *meet the demand of the domestic market by increasing domestic production of construction materials, products and structures and production of products with high added value.*

The first part of the task was performed. Substantially, the needs are met on all basic construction materials through domestic production: the need for concrete, concrete products – almost 100%, the need for plaster slab and cement – more than 80%, in pipes and tubes of plastic and bricks – nearly 75%. Direction of creating new and modernization of existing cement plants and bringing cement production to 7 million tons per year until 2014 is realized.

The task of issuing products with high added value was launched in 2010-2014 and will continue in the next five years. However, a part of projects is not implemented. The task of producing ceramic tiles with bringing production to 5.5 million square feet until 2014 is not achieved. Processing Plant for processing clay was not established.

Implementation of the task of *ensuring with qualified human resources with the introduction of internship of graduates of TPE and universities in manufacturing plants* was started by holding “Kasipqor” on creation of a network of colleges, inter-regional centers, Interregional Center for training and retraining of staff for oil and

³⁴ These companies are in the Global 2000

gas industry was established in Atyrau, but training of technicians in production of construction materials has not yet implemented.

The task of improving technical regulation in harmonization of system and processes with the practice of economically developed countries is performed in the scheduled mode and will continue in the second five-year period. In 2010, the Technical Regulations of RK “On safety of buildings and constructions, building materials and products” was adopted. National standards SN RK EN (52 parts) were elaborated, identical to the Eurocodes with national applications and instructions for use of Eurocode for the transitional period.

The task of promoting innovation and technological modernization was aimed at implementation of the project of box-frame construction (“Ontustik Qurylys Service”) and allocation of innovation grants for construction and modernization of the plant for industrial glass processing using innovative equipment and innovative technologies (“KazStroiSteklo” LLP) was partially implemented and its implementation will continue in the next five years.

Solution of the *task of creating attractive environment for direct investment* is provided through direct state support of housing construction, aimed at stimulating demand for construction materials of domestic production will continue.

Strong points:

availability of own raw materials, active state support of industry development, developed small and medium business. Factors affecting demand for construction materials in the 1st five-years are related to the implementation of the program “Affordable Housing 2020”, as well as industrial and road construction, which was held within the SPAIID.

Weak points:

small volume of production of construction materials with high added value, and as a consequence low labor productivity compared to developed countries; high degree of depreciation of fixed production funds and low level of renewal of fixed assets; use of outdated technologies in production, high energy intensity of production; low level of development of the necessary transport and logistics infrastructure; lack of accredited testing laboratories for certification of construction materials for compliance with quality indicators, norms and standards of the European Union in connection with the transfer of construction regulations on the Eurocodes from 2015 to 2020; standardization process of new materials produced by Kazakhstan enterprises lags behind the design of facilities construction and elaboration of design estimates; shortage of qualified personnel.

Opportunities:

growth of industrial, housing and road construction, including implementation of the program “Affordable Housing 2020” and others. Creation of own polymer production planned for launch in 2017 will allow produce construction materials with

higher added value. Promoting state procurement of construction materials with high added value by updating the construction regulations used in the design of objects.

Threats:

strengthening of technological leadership of foreign manufacturers of construction materials; increase of shortage of skilled personnel; growth of prices for raw materials and energy resources; growth of tariffs for cargo transportation; low level of development of transport infrastructure; increased competition in the market of the Customs Union; increased competition with imported products after WTO accession.

Goal, objectives and target indicators

Goal: Development of production of construction materials with high added value in Kazakhstan and increase of competitiveness of domestic producers in domestic and foreign markets.

Economic growth in the second five-year plan requires the following tasks for the development of construction materials production:

- 1) creation of conditions for launching new and modernization of existing enterprises for production of environmentally friendly, high-tech and energy-saving construction materials with regard to their export opportunities;
- 2) introduction of modern innovations and advanced technologies to improve performance and resource efficiency of construction materials productions;
- 3) promotion of demand for domestic products of construction materials through state programs “Affordable Housing 2020,” “Ak-Bulak” and other state programs;
- 4) establishment and development of transport and pipeline infrastructure;
- 5) promotion of exports of domestic producers of construction materials to markets of the macro-region;
- 6) facilitation of the provision of enterprises in the industry with engineering and transport infrastructure;
- 7) organization and implementation of exploration activities aimed at expansion and reproduction of mineral raw materials for the construction materials industry;
- 8) improvement of the system of technical regulation and regulatory framework of the construction industry by providing timely and quality legal and technical documents of domestic producers, as well as creation of conditions for export of Kazakhstan construction products to the markets of the Customs Union and the WTO countries;
- 9) providing the sector with qualified human resources.

Solution of the above tasks will allow achieve the following target indicators:

Target indicators

Program implementation will allow achieve the following economic indicators in 2019 to the level of 2012 (Table 2.2.14.5):

- 1) growth of gross value added no less than 1.5 times in real terms;
- 2) growth of employment by 11.3 thousand people;
- 3) growth of labor productivity by 1.2 times in real terms;
- 4) growth of value of non-commodity (processed) export no less than 1.2 times.

Table 2.2.14.5. Target indicators

№	target indicators	Unit.	2012 report	2013 expected	projection						2019r. to 2012r., manyfold
					2014	2015	2016	2017	2018	2019	
1	Growth in gross value added *	%	100	110	122	137	147	150	151	151	1.5 times
2	employment growth	тыс. чел.	36,7	40,2	45,1	47,4	47,9	48,0	48,0	48,0	11.3 thousand people
3	Productivity Growth GVA **	%	100	101	99	106	113	115	115	115	1.2 times
4	Growth of the value of non-commodity (processed) export	%	100	94	94	96	98	100	105	115	1.2 times

Priorities for sector development

Priority types of activity

Priority activities are production of construction materials is the production of construction materials of wood (section 16), production of plastic building materials (section 22) and production of other non-metallic mineral products (section 23). (Table 2.2.14.6) ³⁵

Priority directions of development of construction materials industry in Kazakhstan is the production of new and improved high-tech modern materials, introduction of innovative energy-efficient and resource-saving technologies in the production of construction materials and its automation, water- and energy-saving, environmental protection and safety.

Table 2.2.14.6. Priority types of activity

<i>CCEA - 2</i>	<i>CCEA -6</i>	<i>Name of activity</i>
16	1621	<i>Manufacture of veneer sheets , plywood, boards and panels</i>

³⁵Categories and name activities (CCEA) provides for the General Classification of Economic Activities CC RK 03-2007 to change number 1 from 25/12/2012

22	2221	<i>Manufacture of plastic plates, sheets , tubes and profiles</i>
	2223	<i>Manufacture of constructive plastic articles</i>
23	2311	<i>Manufacture of flat glass</i>
	2312	<i>Shaping and processing of flat glass</i>
	2313	<i>Manufacture of hollow glass</i>
	2314	<i>manufacture of glass fibers</i>
	2319	<i>Manufacture and processing of other glass</i>
	2320	<i>Manufacture of refractory products</i>
	2331	<i>Manufacture of ceramic tiles and flags</i>
	2332	<i>Manufacture of bricks, tiles and construction products, in baked clay</i>
	2342	<i>Manufacture of ceramic sanitary fixtures</i>
	2343	<i>Manufacture of ceramic insulators and insulating fittings</i>
	2349	<i>Manufacture of other ceramic products</i>
	2351	<i>Manufacture of cement, clinkers including</i>
	2352	<i>Manufacture of lime and plaster</i>
	2361	<i>Production of construction of concrete products</i>
	2362	<i>Manufacture of plaster products for construction purposes</i>
	2363	<i>Production of concrete ready for use</i>
	2364	<i>Manufacture of mortars</i>
	2365	<i>Manufacture of fiber cement</i>
	2369	<i>Manufacture of other articles of concrete, plaster and cement</i>
	2370	<i>Cutting, shaping and finishing of stone</i>
	2399	<i>Manufacture of other non-metallic mineral products nec</i>

Priority commodity groups

To solve the task for the development of **new types** of competitive construction materials with high added value, a list of priority products is determined (Table 2.2.14.7). Application of new and improved construction materials with improved performance will enhance the cost effectiveness and quality of construction, provide decrease for energy costs (heating, electricity, ventilation, etc.) during operation. In Kazakhstan, there are no modern technologies for production of construction materials, most of which are made by traditional obsolete methods (making bricks, concrete structures). Moreover, introduction of innovative technologies, their automation will allow primarily increase productivity and gross value added of products, as well as implement their persistent production regardless of season and weather conditions. Water and energy saving, rational consumption of raw materials and other resources, environmental protection and safety in the production of construction materials are essential in terms of competitiveness of the sector and prospects for its further development.

This list will be reviewed on an annual basis and adjusted as appropriate, taking into account the proposals of research institutes CRC and HPU MRD RK and the National Chamber of Entrepreneurs.

Table 2.2.14.7. Priority commodity types*

FEACN -6	KPEA-6	Name of commodity groups	Import RK	Macro Regionimport capacity **
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			tons	thousand dollars	tons
441 012	162 113	Plates polymer chipboard (OSB)	48 831	278 695	601 769
680 710	239 912	Roofing materials, bitumen	42 412	92 591	152 990
680 790	239 912	shingles	8 451	135 469	165 057
681 599	239 919	Other articles of refractory materials	3 271	594 897	248 014
690210, 690220, 690290	232 012	refractory bricks	170 174	533 311	525 410
690 710	233 110	unglazed tiles	67 367	340 855	167 781
690 790	233 111				
690 810	233 110	glazed tiles	225 964	944 559	1 575 577
690 890	233 111				
7 005.7003	231 112	Steklo sheet	132 457	802 858	885 266
691 010	234 210	Sanitary ceramics	3 271	131 163	56 720
680610	239 919	Basalt stone wool	33 780	275 146	245 156
680291	237011	Marble, travertine, alabaster	13787	1 458 146	311 070

* Assessment of the volume of production and imports made according to official AC RK and EC MF RK for 2012

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

When making a list of priority products, the growth in import volumes was taken into account in the macro for the last 3 years (at least 30% per year) and import volumes in RK and countries of the macro-region as potential niche.

High import growth rates for the last 3 years were observed on OSB plates, roofing and bitumen materials, including tiles, products of refractory materials, refractory bricks, ceramic tile, sheet glass, sanitary ceramics, mineral insulation materials, foam glass.

The production of sanitary ceramics, glazed tile, ceramic granite is currently missing an important link in the process chain of production of these products – *clay concentration factory* for processing of available in Kazakhstan high-quality clay deposits. Due to the lack of enriched clay the capacity of enterprises for the production of glazed tile, and ceramic granite are underutilized (Shymkent, Taldykorgan). Without the creation of this production the production of sanitary porcelain products cannot be started. Analogous production operates in Ukraine (Donbass), which supplies Russia, Belarus, and other European countries with raw materials. In the next five years it is necessary to create such a production.

For the production of glass plate the need to create production on enrichment of quartz sand will arise.

Rehabilitation and reconstruction of productions of demanded *retro materials* (expanded clay, foam glass, expanded vermiculite, pumice) is needed.

Production of multicomponent binders from imported cement clinker, which brings cement production to consumers, expands the range of cement, recycles industrial wastes.

In the next five years before creation of own productions of float glass and polymers, as priorities in the production of construction materials will remain the

production of *energy-efficient and constructive glass* using imported materials as well as materials and *construction chemicals products*: composites, plastics, sealants, plasticizers, stabilizers, modifiers, pigments, dyes, etc.

Priority projects

In the five-year period implementation of 15 projects within the Industrialization Map planned for launch in the period 2015-2019, discussed with the applicants is provided (Table 2.2.14.8).

Table 2.2.14.8. Projects within the Industrialization Map, planned for launch in 2015 - 2019 years

	Name of project	Object location	Creating jobs, people.	The volume of investments, bn	Commissioning	Planned production capacity
1	Manufacture of prefabricated building blocks for construction, housing vklyuchaya KAZYNAINVESTCOMPANY	Akmola region	2 000	20,8	2015 г.	2250 thousand square meters. m / year
2	Construction of a brick factory JV "Arshaly"	Akmola region	35	0,9	2016 г.	120 million shares
3	Cement plant LLP "BI-Cement"	Akmola region	480	23, 1	2016 г.	552 thousand tons of cement / year
4	Construction of a plant for the production of flat glass . SiseCamGroup (Turkey), "Investment Fund of Kazakhstan"	Kyzyl-Orda region		34,1	2016 г.	300 thousand tons
5	Construction of a plant for the production of bentonite powders of bentonite clays LLP "Bentonite K"	EKR	50	0,3	2016 г.	50 tons of mining of bentonite clay, 30 tons of bentonite powders production
6	Construction of plants for the production of dry building mixes (CAS) , fine ground gypsum fillers and LLP "AlinaHolding"	Zhambyl	105	3,9	2016 г.	140 thousand tons
7	Plant for the production of concrete products with elements of housing in Saran LLP " KKK Concrete"	Karaganda region	100	1, 2	2015 г.	n / a
8	Production of polymer products LLP "Petrochem Company LTD"	Pavlodar region	300	1,8	2015 г.	50 million units. per year
9	Expansion of the plant for the production of clinker and cement	SKR	450	18,1	2015 г.	(Big bags, etc.)
10	LLP "Standard Cement"	SKR	100	2,7	2015 г.	1 million tons
11	Plant for the production of fiber-cement products	SKR	600	16, 4	2015 г.	2,375,000 sheets of slate
12	LLP "Tectum Engineering"	SKR	350	4, 5	2015 г.	448 million bottles / year
13	production steklotary	SKR	90	0,5	2015 г.	100,000 m2 / year
14	Glassworks " Darkhan"	SKR	50	0,25	2016 г.	8000 tons
15	Construction of house-building plant	SKR	50	0,24	2016 г.	6000
	TOTAL:		4760	84,0		

List of prospective projects claimed by enterprises for production of construction materials and planned to launch in the period from 2015 to 2019 is given in Table 2.2.14.9.

Table 2.2.14.9. Promising projects announced enterprises producing construction materials and planned for launch during the period 2015 - 2019 years

	Name of project	Object location	Creating jobs, people.	The volume of investments	mlrd. tenge	Commissioning
1	Autoclaved aerated concrete LLP "Alfamac"	Akmola region	105	3, 0	2015 г.	120 thousand cubic meters
2	Construction of a plant for the production of insulation boards penopolisterolnyh German technology INFATEC LLP "TechnologicalsuperMarket" Kokshetau	Akmola region	300	0,7	2015 г.	
3	Non-autoclave aerated concrete "Corporation KazEco"	Aktobe region	12	39	2015 г.	4475 m ³ or 56 million tenge
4	Production of steel reinforcement	from Almaty	176	9, 1	2016 г.	105168
5	JSC "KARMATURAMETAL"	Almaty	93	7, 1	2017 г.	144 thousand m3 of panels per year
6	Construction of a modular building elements using technology	Astana		6, 2	2015 г.	15,000 or 57.75 billion tenge
7	"Philco EKOPARIES" in Kazakhstan	SEZ "Astana - new city"	50	3, 4	2015 г.	Heat-saving materials for facades , roofs, insulation tube 170 thousand m3 per year
8	LLP "KonkordSroy"	from Almaty	1 000	7,5	2015 г.	14384
9	Plant for the production of prefabricated houses turnkey LLP "Shanirak Kurilis"	from Almaty	80	2, 5	2015 г.	by profiles : 115000 m2 of products per year , on aluminum : 96000 m2, on steklopaketam : 264000 m2
10	Production of construction , materials and heat- metallic mineral products with accommodation multifunctional logistics center LLP "Ainur"	from Almaty	152	1,6	2015 г.	108000
11	Production equipment and metal capacitive LLP "Byelkamit"	from Almaty	87	1, 0	2015 г.	348 thousand m2
12	Manufacture translucent envelope structural glazing facades of buildings	from Almaty	32	0,1	2015 г.	6,000,000 pcs .
13	LLP "Tehnovid plus"	from Almaty	65	1,4	2016 г.	7480 thousand units
14	Production of shaped pipes	from Almaty	60	1,1	2016 г.	40 thousand m3
15	LLP "Sharif Metal"	from Almaty	89	0,7	2016 г.	3 million cubic meters
16	Manufacture of glass, glass and other glass products LLP "KazSroySteklo"	from Almaty	200	0,5	2016 г.	Products WPC 1450 tons, 840 tons of PE Products
17	Production of paper bags	from Almaty	600	4, 3	2017 г.	through pipes

						12 500 tons , according to profiles : 30,000 tons (2020)
18	LLP “AlmapackCoLTD”	from Almaty	300	2, 3	2017 г.	6,000 tons
19	Manufacture of metal products LLP “Magnetic”	from Almaty	20	0,3	2017 г.	40,000 m2 of housing
20	Slab ASG, wall panels and paving LLP “AZMK”	from Almaty	81	0,2	2018 г.	18956 units
21	Laminating particle board for furniture LLP “Chipboard Center”	from Almaty	85	0,8	2019 г.	More than 2 units per year
22	Production of materials exterior trim LLP “IZ-PLAST 2001”	Almaty region	41	0,04	2015 г.	395 tons
23	Production of building materials from plastic LLP “Galaxy”	Atyrau	121	2, 2	2015 г.	2,200 tons
24	Production of building structures and products from aluminum alloys LLP “Alyugal”	Atyrau	150	4,2	2016 г.	120,000 m3 , or 2.3 billion tenge
25	Production of light steel thin-walled structures LLP “Southeast- EnergoSstroy”	EKR	73	2,7	2015 г.	Quick lime -66 , 9 tons, slaked lime , 75 tons
26	Manufacture of products of wood furniture LLP “KARA”	WKR	53	0,8	2015 г.	Powdered flask - 3 tons. steklo liquid sodium - 2 tons. granular penosteklo -40 thousand m ³ . penosteklo block 20 thousand m ³ in the amount of 1.58 billion tenge / year
27	Manufacture of products of wood furniture LLP “Adelphi”	Mangystau region		0,8	2015 г.	5000 km per year , or 39.75 million tenge
28	Production of building materials based on polymer waste LLP “TK.TuranUnigueProject”	Karaganda	38	0,4	2014 год	Copper slag processing and production of mineral additives for cement , insulation, non- metallic materials
29	Production of bitumen from oil shale road LLP “Gimarat”	Mangystau	122	1,0	2015 г.	120,000 square meters. or 400 million tenge
30	Construction of a plant for the production of aerated concrete LLP “NLGroup”		40	0,1	2016 г.	
TOTAL:			4 225	63,84		

2.3. Goals, objectives and target indicators in innovative sectors

Goal: increase of manufacturability and research intensity of priority industries through acceleration of introduction of new technologies and solutions to current and future technological tasks aimed at increasing the level of labor productivity, value-added of products, as well as its ecological properties.

Promotion of technology transfer and localization of high-tech industries in priority sectors;

promotion of increase of demand for innovation;

enhancement of technological and managerial competencies.

Target indicators:

Increase in the share of innovative enterprises to 20% (in line the OECD procedure);

increase in the share of innovative products in the total gross domestic product volume to 2.5%;

increase in the share of domestic expenditures on research and development of gross domestic product to 2%.

2.3.1. Innovative sectors

Along with support for priority sectors it is necessary to focus on the development of innovative sectors – sectors of the “new economy,” which formation is largely determined by the results of researches and developments, and will have a direct impact on the development of many traditional industries.

As is known, the pace of technological change in the world is fleeting, and to hold and occupy new positions it is necessary to develop new areas. Besides, the Head of State in his state-of-the-nation address “Kazakhstan’s way-2050: Common goal, common interests, common future” in the second and subsequent five-year periods set the corresponding task to build the knowledge-intensive economy and develop such new industries as mobile and multimedia, nano- and space technologies, robotics, genetic engineering, search and discovery of future energy.

The core of the development of these industries will be the national innovation clusters as Nazarbayev University and Park of Innovative Technologies.

Creating knowledge-intensive industries cannot be solved without development of domestic science. In this regard, the role of the Nazarbayev University will be the development of basic research in the life sciences, medicine, genetic engineering, materials science with a specialization in production of new materials, energy saving technologies, biotechnologies. New centers of competence will be created for this purpose, the world’s best scientists will be invited from abroad.

At the same time, the tasks for transfer of advanced technologies, as well as industrial introduction of research results will be assigned to the Park of Innovative Technologies. Priority areas of the Park development will be mainly information and communication technologies, including mobile and multimedia technologies, as well as robotics. An autonomous fund will be created for this cluster, a special law granting special control mode, providing conditions for the participants will be adopted.

Thus, within this five-year period the main goal will be forming a base for the above innovative sectors of the economy, in particular development of appropriate infrastructure, creation of centers of competencies, and personnel training.

2.3.2. Space industry

Space industry worldwide is deeply specific, but at the same time it is closely linked to all other sectors of the economy such as space industry is a powerhouse of innovative technological development for other industries. Most modern models of knowledge-intensive technology and the most advanced high technologies that have found wide application in other sectors of the economy have been developed in the space industry.

Within the SPAIID the first phase of a full-fledged space industry as knowledge-intensive and high-tech sector of the economy was implemented, contributing to the acceleration of industrial-innovative development of the country, strengthening the national security and defense, development of science and high technologies.

The national budget allocated more than 141 billion tenge for implementation of the projects for creating the space industry (Table 2.3.2.1).

Table 2.3.2.1. Volume of financing of space activity within the SPAIID, bln.tenge.

Source of financing	2010	2011	2012	2013	2014
Republican budget	14,8	39,1	35,7	28,9	22,5

Source: Republican budget

Within SPAIID and Industrialization Map two projects were completed and the third project is scheduled for completion in 2015. More than 600 jobs for highly qualified specialists were created.

Upon the SPAIID implementation the national space system (SS) entered the project of communication and broadcasting “KazSat,” second SS “KazSat- 3” and backup ground control complex put into operation. From the start of the rental services of SS series “KazSat” import substitution of these services amounting to over 3.5 billion tenge took place.

Table 2.3.2.2. Dynamics of production of KA “KazSat”, mln. tenge

Name	2011	2012	2013	2014 *
Rental services of containers KA series “KazSat”	12,97	1 156,15	2 004,45	341,44

Source: The National Space Agency of the Republic of Kazakhstan

* Operational data

National SS of earth remote sensing (ERS) was commissioned, which includes in its composition two optical SV ERS, one of high resolution, and the other of medium resolution, ground SV control set and ground-based target system for receiving, storing and processing of ERS.

The construction work on the project of creating the Assembly and test complex of space vehicles (ATC SV) is at the completion stage, within which Special Design and Technological Bureau of Space Technology (SDTB ST) was created and operates with pilot production. To ensure efficient operation and use of project and production facilities of SDTB ST with pilot production and ATC SV was established Kazakh-French joint venture (JV) “Galam” LLP. French side has invested 31 million euros in the authorized capital of “Galam” JV and has assumed additional obligations for guaranteed orders for ATC SV products in the amount of 60 million euros for the first five years of its operation. Commissioning of this facility in 2015 will allow to start a full cycle of design, manufacturing of components, assembly and testing of SV ERS, scientific and technological applications, communications and broadcasting from 2016.

Data on GVA in the space industry following the implementation of SPAIID-1 is shown in Table 2.3.2.3:

Table 2.3.2.3. GVA space activities, mln. tenge

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

Source: Agency of the Republic of Kazakhstan on Statistics

The facilities of ground infrastructure of high-precision satellite navigation system created in Kazakhstan (HSNS) were commissioned.

Design project of creating space system of scientific and technological purposes (SS STP) was implemented under a contract with the leading space company SSTL (UK). Under the contract, the design, manufacturing of components, assembly and testing of the SS STP, a joint team of experts of the Kazakh-French “Galam” JV and the company SSTL are performed.

Consent of SSTL to create a joint development team SS STP is a great achievement of Kazakhstan, as only in the course of joint design full transfer of advanced space technologies in Kazakhstan work can be implemented. The project implementation for creation of SS STP will allow obtain a year history of components produced by SS STP, which will greatly reduce the cost of creating future SV of Kazakhstan production.

Project works on creation of space rocket complex (SRC) “Baiterek” at the “Baikonur” cosmodrome were implemented.

** Operational data for the first 9 months

Issue of Kazakhstan participation in the commercial use of carrier rocket (CR) “Dnepr” was solved. In 2010, National Company “Kazakhstan Gharysh Sapary” became a shareholder of International Space Company “Kosmotras” CJSC, which is an operator of commercial launches of “Dnepr” CR and acquired a 10% stake. Following two years, the National Company received dividends exceeding the cost of purchase of shares.

The main driver of innovation in the space sector is applied scientific research. Through these researches, scientific researching of near and far space, geodynamic of processes for receiving and processing of satellite images, development of advanced models of space equipment and technology, ensuring environmental safety of rocket and space activities, increase of use of space-based products and services in the economy of Kazakhstan are developing.

National Center for Space Research and Technology (NCSRT), which is composed of four research institutions. In these institutions highly qualified scientists are employed, who conduct basic and applied researches at the international level. Implementation of scientific and technical programs and projects provides qualified academic staff: 5 academicians and corresponding members of the National Academy of Sciences of RK, 26 doctors, 81 Candidate of Science and 4 PhD, more than 470 researchers.

In 2010-2014, “NCSRT” JSC implemented 37 research projects, 5 patents for inventions. Development works on creation of the first prototypes of domestic space technology were held, production of differential stations (DS) for HSNS was organized and the first batch of DS in an amount of 50 pieces was issued.

During this period, “NCSRT” JSC developed pilot and experimental models of instruments and components of SV, as well as more than ten kinds of hardware-software tools (HST) of end-users of space products and services in the economy.

Four target technologic programs (TTP) were developed. Two TTPs: “3D-Printing Technology” and “Technology for obtaining composite and ceramic materials to replace metal products” are included by the MINT RK in the list of the programs planned for implementation, and two TTPs: “Technology of flexible design and manufacture of space technology” and “Technology of design of specialized very large scale integration “system on a chip” – are under consideration by the National Agency for Technological Development.

Achievements of space science could be more significant if would have been resolved an overdue question about upgrading laboratory and pilot experimental base of space researches, which requires modernization due to a significant degree of its moral and physical wear. Situation of serious scientific and technological breakthrough of the Republic of Kazakhstan in the field of domestic samples of space equipment and technology, HST of end users of space products and services took shape.

Within ensuring of space industry with highly qualified specialists, a system of training, retraining and skills development for the space industry was formed, which includes training of students in the universities of Kazakhstan and the international program “Bolashak” in universities abroad, advanced training of space sphere staff, practical training of Kazakhstan specialists within implementation of space projects and research internships abroad.

Within the contract with the French company EADS Astrium technology transfer was implemented and professional staff prepared to establishment and operation of SS ERS. In total, in all areas of education and training more than 1,000 people and 1,300 highly skilled professionals working in the space industry passed.

For effective implementation of the set tasks for the development of scientific and technological base of Kazakhstan, international cooperation with world leader in the field of space technology development and technology is developing. Since the beginning of the SPAIID-1 implementation, 9 international agreements were concluded at the governmental and departmental levels with Japan, Germany, United Arab Emirates, Scientific and Technical town of King Abdulaziz of Saudi Arabia, the People’s Republic of China, the Kingdom of Thailand, the UK and Sweden.

Kazkosmos enterprises performed research works on Interstate radionavigation program of CIS member states, adopted at a meeting of the Heads of State of the CIS countries in May 2010. Projects of creating certification system of radionavigation equipment and users’ devices and test center, as well as uniform requirements for cartographic products, design solutions to create a competitive and high-tech equipment were elaborated.

As part of the Interstate program of innovation cooperation of CIS member states until 2020 implementation of two innovative projects is planned:

- development and certification of multipurpose aerospace system for forecast monitoring;
- development of hardware and software management of international transport corridors.

Table 2.3.2.4. Major manufacturers and nomenclature of cosmetic products and services

Name of the company	Location	SGEA number	SGEA name	Products and Services
JSC “National Company” Kazakhstan Gharysh Sapary “	Astana	7219	Other research and experimental development on natural sciences and engineering	Development of space technology and technology
				ERS services
				services SVSN

LLP “Kazakh-French joint venture “Galam”	Astana	7219	Other research and experimental development on natural sciences and engineering	SC Development (design, manufacturing of components, assembly and testing of the spacecraft)
JSC “National Center of Space Communications”	Astana	6190	Other telecommunications services	Services space communication system “KazSat”
JSC “Kazakhstan-Russian joint venture” “Baiterek”	Astana	7219	Other research and experimental development on natural sciences and engineering	Services launches spacecraft
JSC “National Center for Space Research and Technology”	Almaty	7219	Other research and experimental development on natural sciences and engineering	Research and development in the field of space technology and technology
RSE “Research Center” Gharysh-Ecology”	Almaty	7219	Other research and experimental development on natural sciences and engineering	Research and development in the field of environmental safety of space activities

Source: National Space Agency

Space activity in Kazakhstan is part of the global space activity and is influenced by current trends of the latter.

As international experience shows, space technologies have long ago entered daily life. Weather, air traffic control, global communications and broadcasting are unthinkable without satellite technology. Industry has long ceased to be a purely scientific – now it is one of the most successful businesses in the world.

At this stage, there are more than 50 countries that launched satellites into orbit. The emergence of Brazil, India and China among the authoritative space powers, along with Russia and USA testify that space technology moves to developing countries and is a key characteristic of modern space industry. Asian countries with a clear leadership of China (19 launches in 2012 – more than the US – 13) surpassed European states on the number of rocket and satellite launches on the orbit. In 2012, total world space budget made at least 72.9 billion dollars of them for civilian space projects were aimed 41.5 billion dollars, for military space sector – 31.4 billion dollars. All G20 countries have space programs. USA, China, Japan, France and Russia have invested more than 2 billion dollars in the sector in 2009-2012 (each), USA leads in the investment volume (47 billion dollars).

About a thousand of active satellites are in orbit now, through which Earth observation, communications and navigation are conducted. In parallel with the

growing importance of these earth applications, science and space research remain the primary mission of space agencies, reviving international scientific cooperation.

As international experience shows, the actual creation of space systems is not an end in itself, as they are the only modern and efficient tool for solving tasks in different sectors of the economy. Therefore, in the second five-year period of industrialization, the focus works on creation of space industry should be shifted from issues of creating actual space systems towards the efficient use of space products and services and market-oriented economy sectors.

In general, we can conclude that Kazakhstan during the SPAIID-1 implementation made a big step in the creation of the domestic space industry, provided a breakthrough in the development of domestic models of space technologies. Based on the foundation formed under the SPAIID-1, Kazakhstan can count on further expansion of the use of space products and services in the base and market-oriented sectors of the economy and increase the added value of products through introduction of advanced space technologies, transition to the knowledge-intensive economy.

Strong points of the country's space industry is the presence of developed space infrastructure in Kazakhstan, including "Baikonur" cosmodrome, availability of high scientific and technical potential for development of space technology, availability of design, technological and industrial bases to create space technology and provide end-user with space products and services.

Weak points of space industry relate to the fact that it is still in the first stage of its creation. Its main problem is the lack of modern experimental base for space research, which prevents the output of scientific research on creation of national samples of space technology to enter the world level; to the absence of a full-fledged space infrastructure bringing space products and services to end-users; to technological dependence of the space industry of Kazakhstan from foreign partners.

Opportunities of the space industry development include active development of global space industry, growth in demand of national base and market-oriented sectors of the economy in space technologies, products and services.

Threats of further development of the space industry include growth of international competition in the space industry; transition of the Russian Federation to a new "Vostochny" cosmodrome; Republic of Kazakhstan refusal of membership in the international control regime for missile technologies.

The purpose of the development of space industry is the creation of a full-fledged space industry as knowledge-intensive and high-tech sectors of economy, contributing to acceleration of industrial-innovative development of the country, strengthening of the national defense and security, development of science and high technology.

To achieve the set goal, solution of the following tasks is required.

- 1) Development and expansion of the orbital group of SV communications, ERS and scientific and technology purpose.
- 2) Development and use of ground space infrastructure facilities, including ATC SV, SDTB ST with pilot production, HSNS, “Baiterek” SRC, ground segments of SS communication and SS ERS.
- 3) Development of scientific and technological basis of space activities, modernization and expansion of laboratory and experimental base of space studies.
- 4) Human resource development of space industry, providing training, retraining and advanced training of engineers and scientists in the field of space activities in the respective educational institutions and research centers, including within international program “Bolashak.”
- 5) Improvement of the regulatory and legal base of space industry.

Target indicators

Program implementation will allow to achieve the following economic indicators in 2019 to the level of 2012 (Table 2.3.2.5):

- 1) Growth of 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 sector up to 300 people by 2019.
- 3) Increase the share of scientific and technical developments in the total volume of space research to 50% by 2019.
- 4) Increase the share of scientists with industrial experience of developing space technology to 25% by 2019.

Increase the share of commercialized projects in the total amount of research development to 25% by 2019.

Table 2.3.2.5. Target indicators space activities

Target indicators	2012	2013	Projection					
	Report	fact	2014	2015	2016	2017	2018	2019
GVA growth in 2019 in real terms to the level of 2012, %	100	-	-	106	112	118	124	130
Increase the number of highly qualified specialists working in the space industry, people	-	-	-	60	120	180	240	300

Share scientific and technical developments in the total space research, %	21	21	21	26	31	36	42	50
Win scientists with industrial experience developing space technology, %	15	15	15	15	20	20	20	25
Win commercialized projects in the total amount of research and development, %	8,7	13	17,4	18	19	21	23	25

Priorities of space industry development

Priority activities in the space industry are research and development to create samples of domestic space equipment and technology, providing technical operation of space communications systems, ERS and navigation, bringing products and services of these space systems to end users in a variety of sectors of economy.

From 2015 to 2019 the state policy in the development of space industry will be aimed at increasing the use of space products and services of space communications systems, ERS and navigation for innovation development of basic and market-oriented sectors of economy, introduction of production of new space technologies into various branches.

In the five-year period implementation of 10 projects within the Industrialization Map, scheduled to launch in the period 2015-2019 is provided (2.3.2.7).

Table 2.3.2.6. Projects within the Industrialization Map, planned for launch in the period 2015 - 2019 years

№	Name of project	Region	Creating jobs, people	The volume of investments, ml.tenge	Commissioning	Power in real terms
1	Создание сборочно-испытательного комплекса космических аппаратов	Astana	200	48,2	2015 г.	2 КА в 3 года
2	Создание КРК «Байтерек» на космодроме «Байконур»	Kyzylorda region	200	11,7	2019 г.	2 пуска РН в год

Таблица 2.3.2.7. Перспективные проекты, планируемые к заявлению и к запуску за период 2015 – 2019 годы

№	Наименование проекта	Регион	Создание рабочих мест, чел	Объем инвестиций, млрд тенге	Ввод в эксплуатацию	Мощность, в натуральном выражении
1	Creating and launching a high-resolution radar	Astana	25	48,6	2019	When shooting high-resolution

	satellites “KazSAR 1”					100,000 sq.km. night, when shooting in a scanning mode, 3 million square kilometers per day
2	Create a space system of scientific and technological applications	Astana	28	6,0	2016	Payload - 2 units, design documentation SC - 1 package documentation.
3	Network expansion DSSVSN	Astana	30	0,6	2019	Covering the territory of Kazakhstan - 76%
4	Establishment of the National Space Technology Laboratories	Astana	32	4,0	2019	29 types of tests
5	Modernization and expansion of laboratory and experimental base for Space Studies	Almaty	60	21,7	2018	6 new pilot-testing laboratories
6	Creating Chemical and Environmental Laboratory in Zhezkazgan	Karaganda region	10	0,42	2019	One own scientific and technical laboratory with the expectation of 10,000 tests per year
7	Development of GIS space environmental monitoring “North Caspian”	Almaty	12	0,27	2016	WEB-GIS system of space monitoring - 3 units, map database
8	Research and experiments in flight Kazakh cosmonaut to the ISS	Almaty	40	4,0	2017	20 experiments in space

Successful implementation of the section of the state program for development of space activity will form research and innovation space cluster of the country, promote the use of the results of the national space activities for socio-economic development, expansion of presence of Kazakhstan in the global space market, solving important exploration tasks and use of space.

3. MAIN AREAS, ROADS TO THE PROGRAM'S OBJECTIVES AND ASSOCIATED MEASURES.

In determining the main directions and ways to achieve these goals it is necessary to consider the relationship between the development of the manufacturing industry and socio-economic development of the country. Successful implementation of the program is possible only by respecting the fundamental principles set out in the Concept of Kazakhstan joining the 30 most developed countries of the world, namely

openness, competition, inclusiveness, rule of law, meritocracy and sustainability. Also, country's development indicators need to be achieved, and identified in the said Concept specifically in terms of human capital development, the country's investment and business environment.

Thus, the achievement of the goals and objectives of the Program will depend entirely on the implementation of other socio-economic programs of the state, which together form the strategic direction of the Concept of Kazakhstan joining the 30 most developed countries of the world. In particular, this applies to the following aspects:

- improving human capital by reaching the level of developed countries in education, health, social protection and labor market;
- improvement of the institutional environment, providing favorable conditions for business development and entrepreneurial initiatives.

Sectoral and project-scale measures of state support were identified during the realization of SPAIID. Sectoral support measures implemented through the implementation of sectoral programs and 27 master plans for them, design support measures with programs such as “Performance 2020,” “Export 2020,” “Investor 2020,” “Agribusiness 2020” that help entrepreneurship at the regional level was carried out with the help of the program “Business Road Map 2020.” The support programs also implemented that aimed at attracting investment, innovation, provision of technological modernization and optimization of production and business processes.

Implementation of SPAIID showed that many manufacturing firms are overextended, and second-tier banks do not have “long money” to finance long-term and medium-term investment projects in connection so that there is an urgent need to provide businesses with the tools support development institutions.

Support measures are financial and non-financial in nature (service tools). Financial measures ensure the availability of financial resources for business development. Non-financial measures are aimed at creating incentives for efficient investment projects. They are also used as support for specialized services to enhance the competitiveness of enterprises in the introduction of modern technologies and to stimulate innovation, increase productivity and resource efficiency, improving the quality of human capital, the development of export potential and other priorities.

The SPAIID provides 64 state support measures (including 26 financial and 39 service tools), which can be divided into the following groups (Table 3.1):

- attracting investment (8, including 1 financial, 7 service tools);
- innovation development (18, including 2 financial and 16 service tools);
- export promotion (5, including 1 financial and 4 service tools);
- solving the problems of absence or lack of funding for the development of production (18, including 17 financial instruments and 1 service tools);

– development of small, medium and large businesses (15, including 5 financial and 10 service tools).

Total service measures of state support were provided to more than 86 thousand enterprises and about 20 thousand of those were financial measures.

These measures can be divided into three groups based on the objects of obtaining measures:

- Support of industries (9, including 3 financial and 6 service);
- Support of regions (8, including 1 financial and 7 service);
- Support for enterprises (48, including 22 financial and 26 service).

The analysis showed that 57 measures of state support effectively implemented, including 8 - at the level of industries (including 5 of the financial and 3 service), 7 - at the regional level (including 1 financial and 6 service), 42 - at the enterprise level (including 20 financial and 22 service). 8 measures were deemed ineffective because were not too popular, or just beginning to be implemented by the end of SPAIID.

Within the framework of investments attraction the most popular service measures included support to investors; about 500 members of the FEZ were exempt from taxes. Enterprises were also exempt from customs duties on importation of equipment, components, raw materials and spare parts needed for the investment project in the amount of 20 billion tenge.

Support for innovation addressed about 500 companies, mostly by services technology business incubation, development activities, creation and development on the basis of research institutes and universities of technology commercialization centers. Innovative grants aimed at improving productivity, were issued in the amount of 17 enterprises 89,500,000 tenge under the “Productivity 2020.”

Service support for export promotion under the “Exporter 2020” was provided to approximately 2 thousand enterprises in terms of promoting domestic goods abroad, information and analytical support for exporters, training and trade finance services, etc. were used by over 160 entrepreneurs in the amount of 6,4 billion tenge.

Financing tools for development of production were largely in demand in agricultural enterprises (more than 15 thousand entrepreneurs in the amount of 324.6 billion tenge.) Within the framework of “Agribusiness in 2020” financial support in the form of medium-and long-term financing of investment projects in industry and infrastructure was provided by 22 large and medium projects worth 29.4 billion tenge, of which 9 projects were in the form of preferential leasing within the framework of “Performance 2020”.

Support for small and medium-sized businesses was carried out using the program “Business Road Map 2020,” in which the information and analytical support was provided to over 80 thousand budding and existing entrepreneurs. Financial support in the form of interest rate subsidies on loans, loan guarantees, refinancing loans and leases was given to about 4 thousand entrepreneurs.

Table 3.1 - State support measures implemented under SPAIID

Measures of state	Number of applications pc		Amount of monetary funds million tenge.		Little / not used
	declared	obtained	specified	obtained	
Attracting investment (7 service tools)	530	518	21 300	-	1
Development of innovation (18, including 2 and 16 financial service)					
Direct and venture financing (JSC “SODA”)	p/n	22	p/n	13,4	2
Service tools (JSC “SODA”) , including (Performance 2020)	3 975	563	72 328,5	11097,5	
	37	17	289,4	89,5	
Export promotion (6, including 1 and 5 of the financial service) (Export 2020)					
Service tools (JSC “KAZNEXINVEST”)	1655	1655	p/n	p/n	
Reimbursement of costs of industrial-innovative development (JSC “KAZNEXINVEST”)	319	268	713	713	
Solving problems of absence or lack of funding for the development of production (17 financial instruments and 1 service)					
Major projects : “DBK”	80	13	1 389605	282354	2
“DBK –Leasing” (2020 Performance)	35	9	75245	11409	
Projects APC : JSC “Agrarian Credit Corporation” (2020 Agribusiness)	11177	8615	209736	165610,5	
“KazAgroFinance” (2020 Agribusiness)	9032	6840	275404	159 045	
Consulting support and advice	101	101	-	-	
Development of small, medium and large businesses (15, including 5 and 10 financial service)					
Financial Instruments SMEs (JSC “FRP” Lady”) (2020 CST)	4 130	3 934	p/n	133513	
Service tools SMEs (JSC “EDF” Damu”) (DCS 2020)	p/n	83 434	-	-	3
Service Tool (“KIDI») (Performance 2020)	64	61	78,4	75,9	

Analysis JSC KID according Operators tools

A high degree of demand showed the measures of the program “Business Road Map 2020,” “Agribusiness 2020,” “Export 2020” and “Investor 2020.” Measures provided for medium and large businesses under the “Performance 2020” innovation were shown to be insufficient.

Successful implementation of the program "Business Road Map 2020" is explained by the following:

- the principle of “single window”;
- efficiency in the selection process associated with a small set of documents and a simplified procedure for consideration of projects;

- the magnitude of the program, with the support of regional administrations, second-tier banks, leasing companies and service centers that support entrepreneurs across the country.

Given the advantages and disadvantages of programs and support to enterprises, implemented under SPAIID should be revised instruments, mechanisms and conditions of action programs "Productivity 2020" and in the directions of support for entrepreneurs to attract investment, promote innovation, support for domestic producers. That information on support measures should not depend on the size of companies. The main differences will be provided in the amount of action and decision-making level.

The program will maintain continuity with SPFIID and should make maximum use of the established infrastructure support and development institutions.

The programme will be implemented through direct and general system of state support.

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

The target of *direct support measures for the regions* will be the boards of national and regional clusters cluster association.

The object of *direct support measures for enterprises* will be existing domestic enterprises and foreign companies, which localize the production of their goods and services in the Republic of Kazakhstan, as well as implementing possible investment projects (new business initiatives).

Public financial resources will be channelled through public and private operators. The operators of the public sector are NMH "Baiterek" JSC and NMH "Kazagro" with their member institutions for development, JSC "National Agency for Export and Investment "KAZNEXINVEST," "Kazakhstan Industry Development Institute," JSC "NADLoc" etc.

Private operators are second-tier banks, leasing companies, investment companies and other entities of the financial sector.

In order to avoid duplication and the formation of business support infrastructure (principle of "single window") will be structured development institutions NMH "Baiterek" JSC, "Kazakhstan Industry Development Institute" JSC, "NADLoc" JSC with a focus on business needs.

All measures of state support, existing and anticipated, under the Program must be brought into compliance with the terms of integration agreements, including the WTO.

3.1 System-wide measures to support industrial development

System-wide measures are aimed at improving the overall investment attractiveness of manufacturing industries. The Programme of system-wide measures are grouped into nine major destinations.

3.1.1 Industry regulation

To accelerate the industrial development of sector it is necessary to provide world-class regulations. Technical regulations need to be developed and implement aimed at upgrading production assets and restricting the use of outdated technologies. In agreeing regulations within integration structures the primarily interests should of consumers and producers of Kazakhstan.

It is necessary to harmonize existing and adopt new national standards at the highest standards (API, ASTM, GMP, EN, ISO, etc.). This will reduce technical barriers to trade and to create conditions for free circulation of Kazakhstani goods on the world market, increase the competitiveness of domestic products, and ensure the safety of products and services. Mechanisms of funding and reimbursement of expenses of experts, related to standards development in priority sectors, as well as to analyzing and systematizing standards in sectors must be in place.

It is necessary to be stimulated by the creation of test databases and system certification centers for competitive and quality products; a mechanism for the recognition of certificates of conformity and test reports issued in the Republic of Kazakhstan. To do this, use the mechanisms of funding and reimbursement of expenses for the creation, expansion and accreditation of testing laboratories in the priority sectors of the industry to develop infrastructure and provide metrological traceability to the international system and to participate in international organizations and accreditation ILAC IAF.

In the western and central regions of the planned creation of verification, calibration laboratories in the priority sectors of the industry. Need to improve existing skills and develop new cadres in the field of technical regulations, metrology and management systems to ensure the production of competitive and high quality products.

Customs regulation, control and supervision should protect the domestic market from unfair competition from unscrupulous suppliers of products and provide the domestic market the products and raw materials.

To create favorable conditions for the production and marketing, should infrastructure to provide information on regulatory technical documents, codes, registers, classifiers, technical barriers, testing and certification bodies develop, as well as domestic products produced.

There is a need to reduce technical barriers to trade and production of low-quality and non-competitive products for new projects. For this pre-approval of the

project should be assessed planned products for compliance with the system of technical regulation and metrology (technical regulations, standards, security testing laboratory, etc.).

3.1.2 Internationalization

For industrial development must be focused and active steps to attract foreign investment, improve the performance of FTZ, expansion of export potential of Kazakhstan companies and their integration into global value chains.

Necessary to conduct systematic work and deeper involvement of specialized government agencies, holding companies and national companies to attract companies from the list ForbesGlobal 2000 priority sectors for embedding non-oil products produced in Kazakhstan in global value chains.

You need to create the most favorable conditions to attract investors from OECD countries and Russia for production in Kazakhstan, as well as an international network of national operator to attract investment in priority countries. Will be enhanced efforts to promote climate investitsonnogo Kazakhstan abroad.

Need to improve Kazakhstan's position in international rankings on the attractiveness of investment and business. Should be improved indicator of Kazakhstan in the Global Competitiveness Index of the World Economic Forum in such indicators as: “the influence of the rules governing foreign direct investment on the business”; “Foreign direct investment and technology”.

Need to achieve to make Kazakhstan Index of investment trust (FDI Confidence Index by ATKearney).

To attract foreign investment in the priority sectors of industry will be implemented through the provision of financial services and foreign investors. For investment projects in priority sectors of the economy in order to stimulate additional investment inflow rate will be used to ensure the stability of the legislation for investors (10 years). For large investment projects will be formed “package of new incentives for investors” through the conclusion of investment agreements , which will be provided :

- reimbursement of expenses , taking into account the implementation of high-tech projects;
- order to provide guaranteed long-term contracts;
- implementation of transparent and predictable policy on tariff for investors;
- providing priority access to raw materials;
- ensuring access to infrastructure.

Will be strengthened by work on the formation and promotion of investment image of Kazakhstan abroad using the tools of promotion.

Should be changed visa regime on entry and stay in Kazakhstan citizens from OECD countries. Permit is required visa-free regime and cancellation of registration in migration services for investors countries - members of the OECD.

For investors from countries outside the OECD, measures should be taken to increase the number of hotels, which will be implemented through the registration of passports of foreigners and stateless persons; should also optimize the business processes of the public service for the registration of citizens and stateless persons.

Assumed a deeper involvement of specialized government agencies, holding companies and national companies in efforts to attract major investors in the face of transnational corporations. On the most important and priority investment projects with the participation of TNCs will be individual investment agreements providing for special measures to support and guaranteed investment protection.

Step up the post-investment support from investors on the basis of a network of service investors (COMI). COMI in the regions will be split into separate legal entities with appropriate funding and participation in the activities of the PIC national operator to attract investment .

Particular attention should be paid to work to protect the rights and interests of foreign investors on the basis of the investment of the Ombudsman. Necessary to continue the activity of the current Commission to consider appeals of foreign investors led by Deputy Prime Minister - Minister of Industry and New Technologies of the Republic of Kazakhstan . At the same time , efforts will be made to establish a legislative framework for the implementation of activities of the Institute and Investment Ombudsman in Kazakhstan.

In order to improve the efficiency of the FTZ and bring to international standards is necessary to introduce institutional governance, in which the assumed association of FTZ development functions in a single corporate center - a single operator .

In order to ensure efficient operation of the FTZ is necessary to provide the capitalization of infrastructure management companies, providing tax incentives for management companies, providing tax incentives for infrastructure investors and related industries and related priority activities, provision of utilities, logistics and services to participants of FTZ in accordance with approved tariff policy, financing of FTZ, EO and management companies at the expense of the state budget, by increasing the share capital and targeted transfers in the initial stages, as well as borrowing for the construction of infrastructure and funding under the public- private partnership. In the following comprehensive measures will allow to withdraw funding from the state budget, which will reduce the burden on the budget.

To further develop the FTZ legislation to ensure stability, as well as the introduction of these measures should be amended accordingly to the legislation.

You must apply a national approach to system development and export promotion, including the service and financial instruments to support exports.

For this it is necessary to continue to support service exports and reimbursement of costs of industrial innovation and implement new support measures for exporters, in particular, the mechanism to ensure traffic volumes in the export direction to reduce transportation costs.

To promote domestic exports and protect the interests of Kazakhstan's business abroad should be a network of promotional support in the target markets.

You must create a National Export Council under the President to prioritize export development and coordination of key stakeholders support infrastructure exports.

Will also form a parliamentary committee for international trade, which will be the main focus, monitoring of foreign trade, the assessment of potential damage due to unfair trade practices of foreign countries.

Export orientation for the formation of the ideology of Kazakh business on an annual basis must be established a special prize in the export “Best Exporter of the Year”.

Need to expand the range of financial and insurance instruments to support exporters. Tools should be implemented pre-export finance and insurance support through funding and insurance of second tier banks for loans to exporting enterprises for working capital financing under export contracts for the purchase of raw materials for export production, including transport, storage and other expenses. Necessary to insure credit risks from BWI net losses on pre-export loans and implement export-credit agencies of foreign countries reinsurance to transfer insurance risks “KazExportGarant” JSC in the outgoing reinsurance on an optional basis. Should be given preferential funding sources to export leasing, with the aim of creating a competitive leasing rates for overseas buyers of Kazakh products.

For effective implementation of the new financial and insurance products to support exporters must:

1. Changes to insurance legislation regarding prudential regulation of insurance of export transactions as well as to expand the insurance risk of the exporter and the exporter's bank by insurance premiums paid by the importer;

2. Recognition of an insurance contract “KazExportGarant” JSC as 100% coverage under the loan for exporters through changes in banking legislation.

For the period 2015-2019 years, the main export destination should be macro-region consisting of five levels:

- 1) border regions of Russia;
- 2) Countries TC;
- 3) The countries of Central Asia;
- 4) Afghanistan, Iran and the Caucasus;

5) Western regions of China.

3.1.3 Technology and Innovation

Improving the competitiveness of the manufacturing industry is directly related to the introduction of new technology and high innovation activity. In the area of innovation program should solve the issues of creating demand for innovation in the economy, transfer of relevant technologies for priority sectors and further qualitative development of its innovation system.

Transfer of advanced technologies

Should be a system of fiscal incentives and technical regulation to increase the demand for innovation from the state, quasi- private partnerships.

Should be stimulated transition from the acquisition of equipment for technology transfer, including the transfer of technical documentation, patents, know-how, technological information accompanying the acquisition of equipment, engineering and technology adaptation. System should be a measure of promotion and support of strategic national projects that have a positive impact on the development of the industry and the economy as a whole, through innovative grants for the purchase of foreign technologies. There should be a significant increase in investment grants for this purpose. Should be specified types of innovation grants, and optimized scheme of their allocation. Tackling the above projects should be JSC “National Agency for Technological Development”. Must approve the list of projects by the Commission on Industrial Development of the Republic of Kazakhstan, followed by their inclusion in the Industrialization Map. Need to develop a mechanism of competition to determine the strategic projects to solve technological problems of enterprises and institutions of the country. To this should be allocated grants for competitions between teams of developers commissioned specialized government bodies, national companies associated with the solution to their technological problems in the priority sectors of industry.

For long-term objectives technological needs a mechanism for the implementation of grants targeted technology programs aimed at strengthening cooperation between the state, business and science. Need to develop a list of needs for industry program financing research activities.

Questions need to be worked to maintain projects venture funds by providing innovative grants.

Need to improve the mechanism of targeted technology programs to meet the technological needs of the priority sectors.

Should be continued to develop a network of technology transfer and participation in international programs for the development of science, technology and innovation, including the framework programs of the European Union, as well as joint projects with Japan, South Korea, the U.S. and other countries. Created joint

centers of technology transfer will be a link to exchange information, establish contacts and access to world Kazakh enterprises to modern technology, as well as attracting foreign innovative companies in the domestic market. At the same time, the system of technology transfer will be focused on search and adaptation technologies, primarily with domestic staff to improve their skills.

Will be improved expertise and innovation of new technologies in terms of providing evidence of their innovativeness.

Increased demand for innovation.

Creating demand for innovation by the state will be regulation and incentives. We need to continue the development of tax incentives for the development of small and medium-sized businesses in the field of innovation. In this direction requires the introduction of legal restrictions and regulations on energy efficiency in enterprises sector, harmonization of technical standards and environmental systems standardization Customs Union and the European Union.

Necessary legislative changes in procurement to stimulate the acquisition of high-tech products produced in Kazakhstan.

An important direction of high-tech enterprises , and stimulate the production of innovative products and services will be the improvement of the legal requirements for procurement, aimed at stimulating the acquisition of high-tech products and services for Kazakhstan companies. (Deleted)

Priority must support innovative companies producing in the medium- long-term public order innovative products and services in accordance with international quality standards. For this mechanism to be developed zaklyucheniya long-term contracts for the supply of products and development of new industries, implemented on the basis of technical memoranda .

Increasing technological and managerial competencies. For sustainable innovative development will be carried out structural reform of education, training and competence building of Kazakh personnel. These reforms will create an environment that will encourage lifelong learning and human society to shape a culture of innovation.

You must create industry competence centers in the regions through the provision of innovative grants. These centers will be a special “FAB- LAB”, innovative workshops, experimental grounds, aimed at solving the internal needs of domestic enterprises in terms of prototyping and proof of their effectiveness.

Should be opened online competency centers, providing additional development opportunities and learning the basics of technical skills and specialties, as well as training.

Requires the reorganization and optimization of existing industrial parks in order to organize joint work of innovators and promote projects and centers of

excellence , which are specialized “Fablab” focused on providing opportunities to innovators prototyping products, experimentation, obtain technical advice .

Necessary to extend the functions of existing industry design bureau , with the creation in them of pilot sites.

Should be improved system of examination of innovations and new technologies in terms of providing evidence of their innovation, ensuring efficiency and transparency of the procedures .

Priority development will receive two major innovative cluster Nazarbayev University Park and innovative technologies with a clear separation of functions. Development of fundamental and applied science will deal Nazarbayev University. Solving the transfer of advanced technologies, as well as commercialization of research results will be given to innovative technologies Park. To do this, you must create a clustered autonomous fund to adopt a separate law granting special control mode, providing conditions for the participants.

In order to create an effective system of vocational education, the State should be provided quality programs and refresher training.

With a view to the active involvement of universities in conducting research activities must enter a rating system for evaluating innovative universities. Rating calculation will be based on a comparison of income derived from the provision of educational services and the sale and implementation of scientific developments. Predusmatretpostepenny necessary transition to a system of grants for training in relation to the share of income received from a university research and entrepreneurship.

Will be intensified to participate in international programs of innovative development , innovation forums, innovation and promotion of conducting analytical studies.

Need to continue to work to find and support talented innovators, including through holding various innovative competitions..

Additional measures

For the purpose of qualitative implementation of the above activities must annually allocated public funds to support innovation in a single fund to accumulate within the allocated budget program . In this case, the distribution of these funds to support tools and their use to carry out budgetary procedures on the basis of a joint decision of the Council on Technology Policy of the Government of the Republic of Kazakhstan. However, it is necessary to revise the system of control over the implementation of innovative projects financed from the state budget. To do this, given the special nature of these projects, at the legislative level is necessary to fix a separate procedure for auditing their implementation. In particular it is advisable to practice the introduction of independent verification by accredited non-governmental organizations. At the same time, the implementation of inspections, the monitoring

body must retain the statements inappropriate from themselves innovators or ongoing project participants.

Thus, the basic criterion for the audit will be the end result but not the performance assessment procedures for project implementation. This measure will allow innovators to more actively participate in programs to support innovation projects and operators to adopt more flexible and simple decision-making procedures.

3.1.4 Financial resources. Funding model.

For successful implementation of the Programme of the balanced funding model. Must be a balance between public and private financing, direct investment and loans. The state's role is critical in terms of providing incentives to attract foreign direct investment and ensure long-term and cheap credit resources. Funding for the program depends on the successful recovery of the financial and credit system, capital market development and improve the investment climate.

Need to consolidate the financial resources of the state and the private sector. The state should provide funding system and industry support measures. National holdings “Baiterek” and “Kazagro” should put into practice new financing instruments and actively involve private financial institutions to finance the program.

Need better access to finance for enterprises through the use of STB infrastructure and private leasing companies. SME lending will continue through the allocation of funds due to the STB, interest rate subsidies and loan guarantees. Financial support will be provided as a priority sector enterprises (80% of allocated funds), so other manufacturing sectors (20% of allocated funds). The main criteria for support should be: labor productivity, export orientation and resource.

Should be continued support for carryover projects SPAIID regardless of affiliation to the priority sector to fully implement them.

To finance large-scale industrial projects will be used individual investment agreement with the investor for the risk reduction. Agreements may include the State's obligation to provide financial and non-financial support measures.

Should be possible to use existing infrastructure development institutions. Necessary to optimize the existing support programs through exception inefficient and adding new tools.

The proposed support measures should not contradict the terms of the agreements within the EEA and WTO rules.

You should consider using funds from the National Fund for the financing of manufacturing and focus on priority sectors.

3.1.5 Infrastructure

Transport and logistics infrastructure support manufacturing sectors will be subject to the provisions of the State program of development and integration of transport infrastructure system of the Republic of Kazakhstan till 2020; Energy infrastructure support - subject to the provisions of the Concept of development of fuel and energy sector until 2030.

Objectives of the establishment and improvement of infrastructure support rapid industrialization of Kazakhstan are:

- availability and quality in the field of transport, energy and industrial infrastructure;
- providing electricity needs of the economy and achieving energy independence;
- a highly efficient transport and logistics system in Kazakhstan and ensuring its integration in the international transport system;
- providing reasonable tariff levels conducive to industrial development
- the enactment of the Republic of Kazakhstan “On tariffs”.

Measures of state support for the manufacturing industry will focus on creating transparent conditions for managing infrastructure costs:

- To establish a transparent and clear mechanism for formation of the tariff in the long term for services of natural monopolies, including for the provision of electricity, water and gas, rail transport;
- Establishment of competitive rates for priority sectors of manufacturing industry;
- Simplification of procedures for connecting to additional energy capacity;
- Increased capacity in some areas rail routes;
- Settlement infrastructure for new objects in the priority sectors of the manufacturing industry;
- Ensuring the availability of rolling stock;
- Establishment of regional logistics centers.

3.1.6 Human Resources

Advancing industrial development needs to improve the accessibility and quality assurance human resource requirements to the quality of education. The education system should be aimed at creating the necessary skills , abilities and knowledge. Industrialization is impossible without improving the quality of education and competitiveness of higher education institutions, modernization of technical and vocational education. Should be implemented in the education system of accelerated learning English.

The need for skilled manpower for individual sectors will be provided by the planned issue of vocational education specialists organizations (Table 3.1.6.1).

However, in the steel industry training organizations, education does not cover the need for them. Measures must be taken to eliminate this deficit through training in foreign programs attract professionals from abroad and the creation of additional training places funded by the state educational grants .

Table 3.1.6.1. Issue VET and higher education in the period of the Programme

Name of the industry	Projection employment growth during the operation in comparison with 2012	Issue VET	University issue
Ferrous metallurgy	6 744	1 000	2 103
Non-ferrous metallurgy	- 2 203	1 250	2 103
Petroleum refining	- 2 618	6 000	8 868
Oil and gas chemistry	2 107	6 250	8 868
Food production	1 465	10 000	3 711
Agricultural chemistry	1 537	375	3 885
Manufacture of chemicals for industry	- 929	1 000	-
Manufacture of motor vehicles, their parts, accessories and engines	4 150	6 000	-
Electrics	1 248	5 000	1 228
Manufacture of agricultural machinery	233	2 000	-
Manufacture of railway equipment	1 641	1 250	-
Manufacture of machinery and equipment for mining industry	193	9 000	4 143
Manufacture of machinery and equipment for the refinery. and the oil industry	439	7 000	-
Production of building materials	11 302	750	17 277

The new measure will be the opening line of competence centers, providing additional opportunities mastering basic technical skills and specialties, as well as training. In the system of research training should be provided for a significant expansion of training in technical, engineering, natural ways to reduce the shortage of

personnel for industrial and innovative development. Need to train highly qualified scientific personnel in industrial research based on their own research projects.

Necessary in university curricula to include training in the field of innovation management, transfer and commercialization of technology, theory and practice of legal protection and use of intellectual property, project management.

Production standards should be harmonized with the educational standards, integrated into a single classifier training. You must create CAs based on industry associations of employers to assign skills and institutional mechanisms for the development of vocational guidance, covering all age groups and educational organizations profiling.

Necessary to increase the number of government grants for engineering specialties to meet the demand for personnel in the priority sectors of the industry.

Should be organized seminars and courses to improve English language skills for engineering specialties.

Need to improve internal migration policy for Intercity flow of labor in regions with a greater need for manpower. You must use the resources of the program “Employment 2020” to ensure the needs of the priority sectors.

External migration policy should simplify the procedure for obtaining a permit to attract foreign labor. Should be simplified procedure for obtaining work visas and residence permits in Kazakhstan for highly skilled foreign personnel.

Monitoring system will be improved employment and staffing needs of the program .

To improve the level of protection of labor necessary to implement international standards in enterprises OHSAS 18001.

3.1.7 State and other procurement

Necessary to improve legislation on public procurement, procurement quasi-public sector in terms of the criteria for innovative goods, works and services. Required to develop the mechanism of long-term contracts for the supply of products introduced on the basis of technical memoranda .

In public procurement, procurement of subsoil users and quasi-public sector must be installed in the technical specification requirements of national or non- standards when available to protect against substandard and unsafe products. For this it is necessary to make changes and additions to the normative legal acts regulating quasi-public sector procurement and subsoil, carefully set in the technical specification requirements of national or non-governmental standards, if any.

Need to adopt the Law of RK offset agreements to increase foreign investment in the manufacturing industry of Kazakhstan. Government procurement and quasi-public sector procurement should be used to localize production in Kazakhstan through the use of mechanisms of civil offset .

Government procurement and procurement of national companies should be incentive for the development of small and medium-sized businesses.

3.1.8 Entrepreneurship and small and medium business

Entrepreneurship and SMEs - a determining factor in the process of industrialization. On the basis of SMEs should be developed system of suppliers and service companies involved in the manufacturing industry , including in the priority sectors.

Should be simplified licensing and enforcement system for opening and running a business, subject to the conditions the safety of citizens.

SMEs need to continue to provide access to financial resources through the program “Business Road Map 2020” .

All licensing and approval procedures in respect of entrepreneurs should be done at the local level according to the principle of “one window”.

Need to stimulate domestic demand using financing end users of products produced in Kazakhstan using credit and leasing arrangements.

3.1.9 Promotion of competition

The experience of countries that have implemented successful programs to rapid industrialization, opportunities exist to improve the implementation of industrial development through the development of a competitive environment. Competition limits the concentration of economic power in one center and stimulates the needs of the consumer products cheaper and better quality.

Antitrust regulation should solve the problem of the protection of competition and improve the business climate in the economy. This work should be carried out

with the involvement of the PNP and the Permanent Commission, which include entrepreneurs, representatives of ministries, agencies and development institutions.

State competition policy should contribute to the reduction of barriers to entry in the form of territorial, legal, tariff and other economic constraints.

Quasi-public sector should be reasonably limited its intervention in competitive markets, if it has a negative impact on small and medium businesses. Should be carried out using the principle of privatization and further Yellowpages decision to enter public companies in the industry must be based on this principle.

Should be clear, transparent and fair policy on tariff, especially regarding services of natural monopolies.

Need to improve the legal protection mechanism and protect the economy against abuses and unfair competition. Must be included in contracts entered into with the investors and agreements provide for the possibility of recourse to international arbitration court.

Should fully make the institution of bankruptcy, a key instrument of market relations provided to overcome the crisis while maintaining production, technology, equipment and jobs. In a competitive environment must remain effective financial and sustainable producers.

Need to provide investors with guarantees stability of the legislation in accordance with stability contracts.

3.2 Regional aspects of supporting the development of the manufacturing industry

Aim: to create a competitive regional manufacturing industry through deeper regional specialization and organization of new industries.

Objectives: to accommodate the priority sectors of the manufacturing industry in the regions to ensure their balanced development, taking into consideration the creation of advanced agglomeration growth zones with their centers in Astana, Almaty, Shymkent, Aktobe;

to specialize the regions in the country's manufacturing industries and form competitive clusters (national, regional).

The country's industrial development will be implemented given the growing role and responsibility of regional authorities.

Akimats are responsible for the region's industrial development in accordance with their regional specialization, and their personal responsibility for the results is consolidated. Thus, at the moment the formation of regional specialization is carried out in the sectors of automotive industry and automotive component production in East Kazakhstan and Kostanay regions, railway technology industry in Pavlodar region and Astana, pharmaceutical industry in South Kazakhstan region and Almaty

and other sectors with regard to the specialization of the regions. Regional specialization in the manufacturing industry is given in Subsection 3.2.2.

The Government of the Republic of Kazakhstan will monitor the formation of clusters in regions with regard to their regional specialization.

Regional akimats should play a more active role in creating favorable conditions for industrial development, including the following areas:

- development and implementation of regional strategic documents in the field of socio-economic development, including industry;

- development and adoption of measures aimed at increasing the intensity of local competition;

- support of priority clusters and implementation of priority projects;

- creation of a modern and competitive infrastructure for industrial enterprises;

- development of human resources and education system;

- attraction of foreign investment and export promotion;

- promotion of entrepreneurship and development of small and medium-sized businesses.

As one of the main participants of the planning and implementation of the Policy and monitoring of the Program, the akimats of Kazakhstan regions, Astana and Almaty should ensure the implementation of the Program and Action Plan at the regional level, create plans for the development of the regions in accordance with the provisions of the Program.

3.2.1. Ensuring balanced development of the manufacturing industry in the regions

The country's industrial policy should take into account the aspects of the key program documents outlining the regional development of Kazakhstan: the Forecast Scheme of the Territorial-Spatial Development until 2020 approved by the Decree of the President of the Republic of Kazakhstan No. 118 on July 21, 2011, the Unified Regional Development Program being developed.

The regional policy in the context of industrialization should be aimed at ensuring the balanced development of the manufacturing industry in the regions.

Currently, work has begun on the formation of the poles of economic growth through the priority development of agglomerations with their centers in Astana, Almaty, Shymkent and Aktobe. These agglomerations allow for the consolidation of economic activity in the country, act as "driving forces" for other territories and provide the integration of the country with regional global markets.

Thanks to its competitive advantages, Astana agglomeration is considered the center of innovation and technology on the basis of Nazabrayev University, the

industrial park as part of “Astana – New City” SEZ, the medical cluster on the basis of the National Medical Holding.

Almaty agglomeration will develop as the trade, logistics and financial center of Kazakhstan (on the basis of the “Korgos” ICBC, G4 City project and other projects), an innovation cluster on the basis of the “Park of Innovative Technologies” SEZ, the center of tourism, sports and recreation services of the international level.

Shymkent agglomeration will be considered the center for processing agricultural products, the center of the consumer and pharmaceutical industries. A set of measures will be taken for the industrialization of large villages surrounding the city of Shymkent, and for the creation of a food belt around it with the intensive industrial development of agricultural production.

Aktobe agglomeration will be considered as the metallurgical, transport and logistics center of the region, the center for chemical processing and construction industry.

In general, measures will be taken for the coordinated development of large cities and their satellite towns and rural settlements while forming the country's economic growth centers.

3.2.2. Specialization of the manufacturing industry in the regions

Regional specialization is given on the basis of the structure of the manufacturing industry with regard to the analysis of statistical data on the following parameters:

The significance of the region's manufacturing industry for Kazakhstan:

the regions share in the manufacturing industry of Kazakhstan (the highest rates – Karaganda, Pavlodar, East Kazakhstan regions; above average (6.25%) – the city of Almaty, Almaty region; below average – South Kazakhstan, Atyrau, Aktobe, Kostanay regions, the city of Astana, Akmola, Zhambyl, West Kazakhstan regions; the lowest rates – North Kazakhstan, Mangistau, Kyzylorda regions).

The significance of the manufacturing industry for the region:

the regions share in the manufacturing industry of Kazakhstan (the highest rates – Karaganda, Pavlodar, East Kazakhstan regions; above average (6.25%) – the city of Almaty, Almaty region; below average – South Kazakhstan, Atyrau, Aktobe, Kostanay regions, the city of Astana, Akmola, Zhambyl, West Kazakhstan regions; the lowest rates – North Kazakhstan, Mangistau, Kyzylorda regions).

The significance of the manufacturing industry for the region:

the share of the manufacturing industry in the structure of the region's GRP (the highest rates – Karaganda, Pavlodar, East Kazakhstan regions; above average – South Kazakhstan, Almaty, Akmola, Zhambyl regions; below average – Kostanay,

Aktobe, North Kazakhstan, West Kazakhstan regions, the city of Almaty, Atyrau region; the lowest rates – Mangistau, Kyzylorda regions, the city of Astana);

the share of the manufacturing industry in the region's industry (the highest rates – East Kazakhstan, Almaty regions, the city of Astana; above average – the city of Almaty, North Kazakhstan, Zhambyl, Pavlodar, Akmola, Karaganda, South Kazakhstan, Kostanay regions; below average – Aktobe, West Kazakhstan regions; the lowest rates – Atyrau, Kyzylorda, Mangistau regions);

growth rates of the region's manufacturing industry in 2013 compared to 2008 (the highest rates – the city of Astana, East Kazakhstan, Akmola regions; above average – Aktobe, West Kazakhstan, Kostanay, Atyrau regions, the city of Almaty, Kyzylorda, Almaty, Pavlodar regions; below average – North Kazakhstan, South Kazakhstan regions; the lowest rates – Zhambyl, Mangistau, Karaganda regions).

The implementation of major investment projects planned for 2015-2019 is provided in the Industrialization Map, "Business Road Map-2020" Program, and business offerings are also considered.

This specialization of the regions can be revised based on the further deepening of regional specialization.

Akmola region

The share of the region in the structure of the country's manufacturing industry is below average, its growth rate for the last five years is among the top three.

The share of the manufacturing industry in the structure of GRP and in the industrial structure is significant (above national average) (Table 3.2.2.1.).

Table 3.2.2.1.Key indicators for the region's manufacturing industry

Indicator	2013
The region's share in the manufacturing industry of Kazakhstan, %	3.4
The share of the manufacturing industry in the structure of the region's GRP, %	14.4*
The share of the manufacturing industry in the region's industry, %	70.6
The growth rates of the region's manufacturing industry in 2013/2008, %	47.9

*Statistical data are given for January-September 2013

Table 3.2.2.2.The specialization of the region's manufacturing industry until 2020

Specialization	Major enterprises	Major investment projects planned for 2015-2019
Food production	JSC "Kokshetauminvody", HSP "Tonkeris", LLP "Agrimer Astyk", LLP "Milk Project"	-
Agricultural machinery manufacture	"Kazakhstan Agro Innovation Corporation" LTD LLP "Combine Plant "Vector", etc.	Belarusian-Kazakhstan Industrial and Technology Park of Agricultural and Municipal Machinery "Kazakhstan Agro Innovation Corporation" LTD
Production of building materials	LLP "Kokshetsement", LLP "BI-Cement", JSC "Tynys", LLP "KazLes", LLP "Kokshetau Zholdary", etc.	Construction of the house-building plant LLP "Region Stroy"; brickworks LLP "Arshaly Brickworks"; production of prefabricated building blocks for construction, including

		housing constructionKAZYNAINVESTCOMPANY
Nonferrous metallurgy	LLP “Altyntau Kokshetau”, JSC “MMC Kazakhaltyn”, LLP “Raygorodok”, etc.	Roasting of pyrite concentrates in order to obtain commercial sulfuric acid and hydrometallurgical processing of the obtained cinders to obtain dore, copper sulphide and zinc carbonate concentrates, LLP “Pyrite Vitriol Plant”
Other		Formation of the mounting center JSC “KAMAZ Engineering” ¹ construction of the plant for dry measuring transformers of 6-10 kV, LLP “Transformer KZ”

ExistingSEZ: SEZ “Burabay”

ExistingIZ: none.

Aktoberegion

The share of the region in the structure of the country’s manufacturing industry is below average, its growth rate for the last five years is above average.

The share of the manufacturing industry in the structure of GRP and in the industrial structure is not significant (below national average) (Table 3.2.2.3.).

Table 3.2.2.3.Key indicators for the region’s manufacturing industry

Indicator	2013
The region’s share in the manufacturing industry of Kazakhstan, %	4.8
The share of the manufacturing industry in the structure of the region’s GRP, %	9.4*
The share of the manufacturing industry in the region’s industry, %	20.8
The growth rates of the region’s manufacturing industry in 2013/2008, %	45.6

*Statistical data are given for January-September 2013

Table 3.2.2.4.The specialization of the region’s manufacturing industry until 2020

Specialization	Major enterprises	Major investment projects planned for 2015-2019
Nonferrous metallurgy	LLP “KazCopper”, LLP “Yubileynoye”, etc.	development and implementation of the collective way of enriching titanium-circonium ores on the field “Shokash”, LLP “Expoengineering”; concentration plant for processing gold ores on the field “Yubileynoye” and construction of a mine of LLP “Yubileynoye”; increase in the capacity of the complex for the production of cathode copper LLP “KazCopper”
Ferrous metallurgy	AFP branch of JSC “TNC Kazchrome”, JSC “ARMZ”, etc.	increase in the production capacity of the new ferroalloy plant (department No.5), JSC “TNC Kazchrome”; construction of the converter department (department No.4), LLP “Aktobe Ferroalloy Plant”; construction of the rail and beam plant, LLP “Aktobe Rail and Beam Plant”
Production of chemicals for the industry	JSC “Aktobe Plant of Chromium Compounds”, LLP “Kazakhstan Center of Comprehensive Utilization of Ammunition “Nitrohim”, etc.	-

Production of building materials	LLP “Bazalt-A”, LLP “Stroidetal”, LLP “Precast Plant-25”, etc.	production of container glass, LLP “Aynek”; processing of marble, LLP “Aktobe-Marble”; production of metal structures, sandwich panels, asphalt and concrete, LLP “Ulan Company”; production of longitudinal electric-welded pipes of circular section, LLP “Aktobe Pipe Plant”; small containers for compressed air from composite materials, rubber products for fiberglass piping systems, polyester and epoxy resins, LLP “BIEPK”
Other		production of complex mineral fertilizers of the DAP/MAP type based on ore deposits on the Chilisai field, LLP “Chilisai Chemicals”; production of potassium fertilizers, LLP “Batys Kali”

Existing SEZ: *none.*

Existing IZ: *none.*

Almaty region

The share of the region in the structure of the country’s manufacturing industry is above average, its growth rate for the last five years is above national average.

The share of the manufacturing industry:

in the structure of GRP – significant (above national average),

and in the region’s industrial structure - significant (ranked 2nd) (Table 3.2.2.5.).

Table 3.2.2.5. Key indicators for the region’s manufacturing industry

Indicator	2013
The region’s share in the manufacturing industry of Kazakhstan, %	8.2
The share of the manufacturing industry in the structure of the region’s GRP, %	16.5*
The share of the manufacturing industry in the region’s industry, %	82.8
The growth rates of the region’s manufacturing industry in 2013/2008, %	30.1

*Statistical data are given for January-September 2013

Table 3.2.2.6. The specialization of the region’s manufacturing industry until 2020

Specialization	Major enterprises	Major investment projects planned for 2015-2019
Food production	LLP “Raimbek Bottlers”, LLP “Raimber Agro”, LLP «Kazros-Broiler”, LLP “Danone Berkut”, JSC “FoodMaster”, etc.	construction of a plant for producing soft drinks LLP “TERRANOVA”; organization of food production “IRTYSH GROUP”; construction of a poultry factory, LLP “Karatal Kus”; construction of a complex for producing and processing milk, LLP “Amiran”; production of milk drinks, LLP “Shin-Line”
Electrical equipment	LLP “Kaynar AKB”, LLP “Zhersu Power”, LLP “Infraenergo”, etc.	the second stage of the modernization of battery production, LLP “Kaynar AKB”
Basic pharmaceutical products	LLP “PFK “Elias”, LLP “Dolce”, LLP “Leovit”, etc.	Production of implants for bone osteosynthesis, rehabilitation and medical equipment, LLP

		“Medical Holding “Sintez-KAZ”; construction of a plant for producing medicines, LLP CPK “Medservice Plus”; construction of a pharmaceutical factory, LLP “Kelun-Kazpharm”; construction of a workshop for producing medical products – express-analyzers and dipsticks for determining the level of glucose, cholesterol and triglycerides in capillary blood, LLP “Axel and A”
Production of building materials	JSC “BENT”, JSC “SAF” GlassCompany”, LLP “KnaufGypsumKapchagai”, etc.	construction of a plant for producing FRP panels, LLP “KEREGEHOMES”; production of building materials out of polymer waste, LLP “TK TuranUniqueProject”; construction of a plant for producing aluminum profile, LLP “AluminiumofKazakhstan”; implementation of the project on the establishment of a house-building complex (RC structures, gas concrete blocks, panels for roadways), LLP “EurasiaRED”
Production of clothing	LLP “Glasman”, LLP “Mediatex-N”, LLP “TF Azhar”	-
Other		serial production of stamp-welded four-wheel trucks for freight wagons with a central load of 23.5 tons, JSC “AHMP”; large-hub assembly of agricultural machinery, JSC “Mekada”; construction of a plant for producing tissue paper and tissue paper products, JSC “Asia Temir Ltd.”

ExistingSEZ: SEZ “Khorgos – Eastern Gate”.

ExistingIZ: IZ “Taldykorgan”, IZ “Boraldai”, IZ “Arna”, IZ “Damu”.

Atyrau region

The share of the region in the structure of the country’s manufacturing industry is below average, its growth rate for the last five years is above national average.

The share of the manufacturing industry in the structure of GRP and in the industrial structure is not significant (below national average) (Table 3.2.2.7.).

Table 3.2.2.7. Key indicators for the region’s manufacturing industry

Indicator	2013
The region’s share in the manufacturing industry of Kazakhstan, %	4.8
The share of the manufacturing industry in the structure of the region’s GRP, %	3.5*
The share of the manufacturing industry in the region’s industry, %	6.2
The growth rates of the region’s manufacturing industry in 2013/2008, %	39.6

*Statistical data are given for January-September 2013

Table 3.2.2.8. The specialization of the region’s manufacturing industry until 2020

Specialization	Major enterprises	Major investment projects planned for 2015-2019
Oil and gas chemistry Establishment of a national	“Kazakhstan Petrochemical Industries Inc.”	construction of an integrated gas chemical complex, LLP “Kazakhstan Petrochemical

cluster is planned		Industires Inc.”
Production of chemicals for the industry	LLP “Rauan Nalco”, LLP “Tuz”	construction of a plant for producing chemical agent, LLP “ChemicalSolutions”
Manufacture of machinery and equipment for oil refining and oil extracting industries	LLP “AtyrauNefteMash”, etc.	organization of the assembly of large-size and ultraheavy equipment, LLP “AtyrauNefteMash”; assembly of large drilling systems for drilling oil and gas wells, production of PDC drill bit parts and BHA element parts (bottom-hole assembly), LLP “Zhigermunayservis”
Production of building materials	LLP “ISI Gips Inder”, LLP “Construction KZ”, LLP “Bias Tek”	construction of a house building plant, LLP “Batys Alliance Stroy”; construction of a modular building factory, LLP “Alanbuildingsystems”
Other		reconstruction and modernization of Atyrau Refinery JSC “NC “KazMunayGas”

Existing SEZ: СЭЗ «Национальный индустриальный нефтехимический технопарк».

Existing IZ: *none*.

West Kazakhstan region

The share of the region in the structure of the country’s manufacturing industry is below average, its growth rate for the last five years is above national average.

The share of the manufacturing industry in the structure of GRP and in the industrial structure is not significant (below national average) (Table 3.2.2.9.).

Table 3.2.2.9. Key indicators for the region’s manufacturing industry

Indicator	2013
The region’s share in the manufacturing industry of Kazakhstan, %	2.4
The share of the manufacturing industry in the structure of the region’s GRP, %	4.3*
The share of the manufacturing industry in the region’s industry, %	8.6
The growth rates of the region’s manufacturing industry in 2013/2008, %	41.7

*Statistical data are given for January-September 2013

Table 3.2.2.10. The specialization of the region’s manufacturing industry until 2020

Specialization	Major enterprises	Major investment projects planned for 2015-2019
Manufacture of machinery and equipment for oil refining and oil extracting industries	“Mazhzavod” Consortium enterprises – the operator of LLP “Zenittechservis”; JSC “Uralsk Plant “Zenit”, JSC “ZKMK”, JSC “Instrument Making Plant “Omega”, JSC “Scientific Research Institute “Gidropribot”, LLP “Uralsk Mechanical Plant”, LLP “KazArmaProm”, LLP “Promventilyatsiya”, etc.	Production of a new generation of control valves, high-pressure vessels, JSC “West Kazakhstan Engineering Company”; organization of the assembly shop for the recovery of circulating pumps for oil production, manufacture of gas distribution nodes, organization of laboratory metallographic studies of pipes and mechanical testing of metal, JSC “Uralsk Plant “Zenit”; manufacture of wellhead equipment, high-pressure fitting nodes, LLP “Uralsk Mechanical Plant”; binding vent lines and manufacture of

		nodes, units, LLP "Promventilyatsiya"
Electrical equipment	LLP "Uralsk Transformer Plant", etc.	manufacture of power transforms of 6-10 kV, LLP "Uralsk Transformer Plant"; adjacent parts for JSC "KTZ", JSC "Instrument Making Plant "Omega"
Production of building materials	LLP "Steklo Servis", LLP "Stroykombinat", farm household "URAL-LES", LLP "Altimstroidetal", LLP "SV-plus", LLP "Bolashak-T", etc.	Production of cellular concrete, large-block lime-sand brick, JSC "West Kazakhstan Corporation of Building Materials"
Food production	JSC "Zhelayev Bread Factory", LLP "Svit", LLP "Kubley", LLP "Agroproduct", LLP "Ibrahim", etc.	construction of a pullet factory in Zelenovsk, Terekty regions; an egg factory; a hog farm; establishment of a factory for advanced milk processing; construction of a lamb meat production complex
Other		production of motor fuel of ecoclass K5, JSC "Condensate" (RON92 petrol, straight-run gas oil cut (incl. JIBKO) vacuum gasoil, vacuum residue (tar), fuel gas, calcium sulphate dehydrate); highly-precise castin for mechanical engineering, JSC "KazArmaProm"; development and implementation of metering orifices and manufacture of rubber products, JSC "Scientific Research Institute "Gidropribor"; ship launching, JSC "Uralsk Plant "Zenit"; expansion and renovation of the production of small boats, JSC "Scientific Research Institute "Gidropribor"; establishment of a service center of gas turbine engineering, JSC "West Kazakhstan Engineering Company"1 establishment of a service center, LLP "Zenittechservice"

ExistingSEZ: none.

ExistingIZ: none.

Zhambyl region

The share of the region in the structure of the country's manufacturing industry is below average, its growth rate for the last five years is among top three regions with the lowest rates.

The share of the manufacturing industry in the structure of GRP and in the industrial structure is significant (above national average) (Table 3.2.2.11.).

Table 3.2.2.11. Key indicators for the region's manufacturing industry

Indicator	2013
The region's share in the manufacturing industry of Kazakhstan, %	3.1
The share of the manufacturing industry in the structure of the region's GRP, %	13.1*
The share of the manufacturing industry in the region's industry, %	75.4
The growth rates of the region's manufacturing industry in 2013/2008, %	14.8

*Statistical data are given for January-September 2013

Table 3.2.2.12. The specialization of the region's manufacturing industry until 2020

Specialization	Major enterprises	Major investment projects planned for 2015-2019
Production of chemicals for the industry	LLP "Kazphosphate", LLP "TalasInvestCompany", SEZ "Chemical Park Taraz"	-
Agricultural chemistry	LLP "Kazphosphate", LLP "EuroChem Fertilizers", SEZ "Chemical Park Taraz"	production of complex mineral fertilizers, ammophos, LLP "Kazphosphate"; glyphosate, LLP "United Chemical Company"; mineral fertilizers, LLP "EuroChem Fertilizers"
Production of building materials	JSC "Zhambylgips", LLP "BinomStroyDetal", LLP "AlinaHolding", LLP "ACIG", LLP "Gypsum Plant", etc.	construction of a complex for producing dry building mixes, finely ground filling materials and gypsum, LLP "AlinaHolding"
Food production	LLP "Lugovskoy stud farm", LLP "Kulikovskiy Dairy Product", LLP "Ta-Mak", JSC "Merken Sugar Factory", LLP "Kaz-Ir-Argo", etc.	modernization of a fish processing plant, LLP "Myn-Aral Company"
Manufacture of leather and related products	LLP "TarazKozhObuv", etc.	
Other		expansion of ferroalloy production and its raw material base, LLP "Taraz Metallurgizal Plant"

Existing SEZ: SEZ "Chemical Park Taraz".

Existing IZ: none.

Karaganda region

The region is the leader according to its share in the structure of the country's manufacturing industry, however, its growth rates for the last five years are low.

The share of the manufacturing industry:

in the structure of GRP - significant (ranked 1st),

in the region's industrial structure –significant (above national average) (Table 3.2.2.13.).

Table 3.2.2.13. Key indicators for the region's manufacturing industry

Indicator	2013
The region's share in the manufacturing industry of Kazakhstan, %	16.3
The share of the manufacturing industry in the structure of the region's GRP, %	30.1*
The share of the manufacturing industry in the region's industry, %	68.6
The growth rates of the region's manufacturing industry in 2013/2008, %	-10

*Statistical data are given for January-September 2013

Table 3.2.2.14. The specialization of the region's manufacturing industry until 2020

Specialization	Major enterprises	Major investment projects planned for 2015-2019
Ferrous metallurgy Establishment of a national cluster is planned	JSC "ArselorMittal Temirtau", LLP "Building Company "STROYKOMLEKT-A", etc.	increase in steel production, JSC "ArselorMittal Temirtau"; phase 1 construction of a complex alloy plant, LLP "Karaganda Plant of Complex Alloys", a plant for producing and processing

		polymer-coated steel, LLP “ConstructionSteel”
Nonferrous metallurgy	LLP “Kazakhmys Corporation” etc.	reconstruction of Zhezkasgan Smelter LLP “Kazakhmys Corporation”l construction and operation of a mining and processing complex on the basis of the Koktaszhal field, LLP “Altai-Polymetals”; construction of an industrial complex for processing barite ores, LLP “GlobalChemicalsIndustries”;
Production of chemicals for the industry	JSC “Temirtau Electro-Metallurgy Plant”, LLP “Maxam Kazakhstan”, etc.	Construction of a plant for producing modifiers, hydromatic welders, LLP “VMTSintes”
Manufacture of machinery and equipment for the mining industry	JSC “KazBelAz”, Karaganda foundry and machine-building plant	
Electrical equipment	JSC “KAZCENTRELECTROPROVOD”, JSC “Karaganda Plant of Electrical Equipment”, etc.	a plant for producing cable and wire products, LLP “SibKazKabel”
Production of building materials	LLP “Central Asia”, LLP “Karcement”, LLP “KKK Beton”, etc.	
Food production	LLP “Karaganda Melkombinat”, LLP “Nomad”, etc.	construction of a poultry factor, LLP “Healthy Foods”; reconstruction of a poultry factory for commercial egg production, LLP “Karagandy Kus”
Other		production of brake systems for railway rolling stocks, LLP “JV “RITM KZ”, construction of a plant for producing rail, freight cars, LLP “FTDFahrzeugtechnik”, construction of a plant for producing plastic pipes, LLP “BukharZhyrauPlastic”.

Existing SEZ: SEZ “Saryarka”.

Existing IZ: *none*.

Kostanay region

The share of the region in the structure of the country’s manufacturing industry is below average, its growth rate for the last five years is above national average.

The share of the manufacturing industry:

in the structure of GRP—not significant (below national average),

in the region’s industrial structure –significant (above national average) (Table 3.2.2.15.).

Table 3.2.2.15. Key indicators for the region’s manufacturing industry

Indictor	2013
The region’s share in the manufacturing industry of Kazakhstan, %	3.8
The share of the manufacturing industry in the structure of the region’s GRP, %	10.4*
The share of the manufacturing industry in the region’s industry, %	41.5

The growth rates of the region's manufacturing industry in 2013/2008, %	39.7
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**Statistical data are given for January-September 2013*

Table 3.2.2.16. The specialization of the region's manufacturing industry until 2020

Specialization	Major enterprises	Major investment projects planned for 2015-2019
Food production	JSC "Bayan Sulu", JSC "Kostanay Melkombinat", etc.	-
Manufacture of motor vehicles	LLP "Saryarka AutoProm", JSC "Agromash Holding", etc.	manufacture of cars by CKD assembly, including welding and painting of car bodies, LLP "Saryarka AutoProm"
Manufacture of agricultural equipment	JSC "Agromash Holding", LLP "Agrotechmash", LLP "Dormash"	launch of manufacture of agricultural equipment (balers, mowers, seeders, sowing machines), LLP "KazNIIMESKH"; establishment of a joint venture with the Republican unitary enterprise "Gomselmash" (Belarus) on the basis of JSC "Agromash Holding"
Ferrous metallurgy	JSC "SSGPO", LLP "EurasCaspianStal", etc.	construction of a plant for producing metalized products, KSC "SSGPO"; production of hoops with various profiles, LLP "TRANSSFERA-JV", Kostanay mill LLP "EurasCaspianStal"
Nonferrous metallurgy	JSC "Varvarinskoye", etc.	Construction of a plant for the extraction of gold, LLP "METAL-TRADING"; research and industrial extraction and processing of ore with the production of a finished product – dore, LLP "BRENDT"

Existing SEZ: none.

Existing IZ: none.

Kyzylorda region

The region is ranked last by its in the structure of the country's manufacturing industry, its growth rate for the last five years is above national average.

The share of the manufacturing industry in the structure of GRP and in the industrial structure is not significant (second to last) (Table 3.2.2.17.).

Table 3.2.2.17. Key indicators for the region's manufacturing industry

Indicator	2013
The region's share in the manufacturing industry of Kazakhstan, %	1.1
The share of the manufacturing industry in the structure of the region's GRP, %	2.5*
The share of the manufacturing industry in the region's industry, %	4.9
The growth rates of the region's manufacturing industry in 2013/2008, %	31.1

**Statistical data are given for January-September 2013*

Table 3.2.2.18. The specialization of the region's manufacturing industry until 2020

Specialization	Major enterprises	Major investment projects planned for 2015-2019
Production of building materials	JSC "Kurilis", LLP "Kuat", LLP "KNK-Chemical", LLP "Kazprom-Kyzylorda Company", etc.	construction of a plant for producing flat glass, LLP "Samruk-Kazyna Invest"; a cement plant, LLP "JV "Kyzylorda Cement"
Ferrous metallurgy	LLP "Balausa Company", etc.	The second and third stages of the project on the

		autoclave processing of black shales on the Balausasandyk field, LLP “Balausa Company”
Food production	LLP “Araltuz”, JSC “RZA”, GP “Abzal and K”, etc.	The second stage of the project on milk production, LLP “RZA”; production of tomato paste, LLP “Tatu Agro”; modernization of edible and industrial salt production, JSC “Arap Tuz”
Other		Establishment of an enterprise for the SKD assembly of electric submersible installations, LLP “KazPump”; modernization of production of chemical agents, LLP “Hua Yu International”; construction of a polymer-pipe plant JSC “NC “SEC Baikonur” and LLP “Tekhin Mobil”

ExistingSEZ: none.

ExistingIZ: none.

Mangistau region

The region is second to last by its share in the structure of the country’s manufacturing industry and its growth rate for the last five years.

The share of the manufacturing industry:

in the structure of GRP—very low (among the last three),

in the region’s industrial structure—very low (ranked last) (Table 3.2.2.19.).

Table 3.2.2.19. Key indicators for the region’s manufacturing industry

Indicator	2013
The region’s share in the manufacturing industry of Kazakhstan, %	1.6
The share of the manufacturing industry in the structure of the region’s GRP, %	2.8*
The share of the manufacturing industry in the region’s industry, %	4.1
The growth rates of the region’s manufacturing industry in 2013/2008, %	9.8

*Statistical data are given for January-September 2013

Table 3.2.2.20. The specialization of the region’s manufacturing industry until 2020

Specialization	Major enterprises	Major investment projects planned for 2015-2019
Agrochemical industry	LLP “KazAzot”, etc.	-
Ferrous metallurgy	LLP “Aktau Foundry Plant”, etc.	construction of an electric steel making complex, LLP “AKTAU FOUNDRY PLANT”; construction of a plant for producing welded steel pipes, LLP “SERVICEPIPEHOLDING”
Oil refining	LLP “Joint Venture “CASPIBITUM”, etc.	-
Other		production of coating materials out of limestone, LLP “Gimarat”; a plant for producing and repairing pipes and production of composite reinforcement, LLP “Profkomlekt Company”

Existing SEZ: SEZ “Seaport Aktau”

Existing IZ: *none*.

South Kazakhstan region

The share of the region in the structure of the country’s manufacturing industry is below average, its growth rate for the last five years is below national average.

The share of the manufacturing industry:

in the structure of GRP– significant (ranked 4th),

in the region’s industrial structure –significant (above national average) (Table 3.2.2.21.).

Table 3.2.2.21. Key indicators for the region’s manufacturing industry

Indicator	2013
The region’s share in the manufacturing industry of Kazakhstan, %	6.1
The share of the manufacturing industry in the structure of the region’s GRP, %	17.2*
The share of the manufacturing industry in the region’s industry, %	65.1
The growth rates of the region’s manufacturing industry in 2013/2008, %	17.8

*Statistical data are given for January-September 2013

Table 3.2.2.22. The specialization of the region’s manufacturing industry until 2020

Specialization	Major enterprises	Major investment projects planned for 2015-2019
Food production	JSC “Shymkentmay”, LLP “Aray”, LLP “Rakhat-Shymkent”, LLP “Barys-2007”, LLP “FoodMaster-Shymkent”, etc.	construction of an egg and pullet factory, LLP “Kazygurt Kus Onymdery”, production of iodized and industrial salt “Tagai Ata”, poultry complex farm “Kudayberdy”
Oil refining	LLP “Petro Kazakhstan Oil Products”, LLP “HILL Corporation”, LLP “Bitum”, etc.	modernization and reconstruction of Shymkent Refinery LLP “Petro Kazakhstan Oil Products”, production of base oils, LLP “HILL Corporation”
Production of textiles	LLP “SouthTextiline KZ”, etc.	Organization of modern textile production, JSC “Utex-KZ”
Production of clothing	LLP “Garment Factory “Gauhar”, LLP “Arayly”, LLP “Sewing and Knitting Factory “Saule”, LLP “SABTEX”, LLP “Sewing and Knitting Factory Turkestan”, LLP “AGF Group”, etc.	
Basic pharmaceutical products	JSC “Chimpharm”, LLP NGO “Zerde”, LLP “SPC “Rauan”, etc.	production of medical solutions, LLP “Renovation”, construction of a pharmaceutical plant for producing medicines, LLP “NGO “Zerde”

Production of building materials	LLP “Standard Cement”, JSC “Shymkentcement”, LLP “SAS-TOBE Technologies”, LLP “Bereke A Corporation”, LLP “Stroy Yug Group”, LLP “ART-Kurylys”, LLP “Nur-Stroy Ltd.”, etc.	expansion of the plant for producing clinker and cement, LLP “Standard Cement”; modernization of the cement plant, JSC “Shymkentcement”; construction of a house-building plant, LLP “ART-Kurylys”; establishment of a house-building plant, LLP “Modern Building Products”; production of heat-insulating basalt fiber; a plant for producing slate, LLP “TectumEngineering”; construction of a plant for producing ceramic face brick, LLP “RET Company”; production of glass containers, LLP “Glass Factory “Darkhan”
Ferrous metallurgy	LLP “Ferrum-Vtor”, LLP “Shymkent Steel Production Plant”, LLP “Nuran”, etc.	construction of a metallurgical plant, LLP “Ferrum-Vtor”
Nonferrous metallurgy	JSC “Industrial Corporation Yuzhpolimetall”, LLP “Altyn-Tas”, LLP “TRAFO.KZ”	production of aluminum profile, “GoldAluminium”
Electrical equipment	JSC “Kantau Transformer Plant”, LLP “Plant Electroapparat”, etc.	commissioning of a transformer plant “AziaTrafo” (production of three-phase oil-immersed power transformer of 2,500-250,000 kV, class 110-220 kV).
Manufacture of agricultural equipment	LLP “YUKMZ”, LLP “Kardan-Val”, LLP “Lenger Machine Building Plant”, etc.	production of equipment for agriculture and water industry (pumping machines for irrigating distant-pasture cattle tending), JSC “YUKMZ”
Other		production of cardboard out of recycled paper, LLP “Kazbiolife”, production of roll paper out of waste paper, LLP “KagazShaharySEZ”

ExistingSEZ: SEZ “Ontustik”.

ExistingIZ: IZ “Ontustik”, IZ “Kantau”, IZ “Turkestan”.

Pavlodar region

The region is among top three by its share in the structure of the country’s manufacturing industry, its growth rate for the last five years is above national average.

The share of the manufacturing industry:
in the structure of GRP– significant (among top three),
in the region’s industrial structure –significant (above national average)
(Table 3.2.2.23.).

Table 3.2.2.23. Key indicators for the region’s manufacturing industry

Indicator	2013
The region’s share in the manufacturing industry of Kazakhstan, %	16.3

The share of the manufacturing industry in the structure of the region's GRP, %	29.9*
The share of the manufacturing industry in the region's industry, %	71.9
The growth rates of the region's manufacturing industry in 2013/2008, %	29.3

*Statistical data are given for January-September 2013

Table 3.2.2.24. The specialization of the region's manufacturing industry until 2020

Specialization	Major enterprises	Major investment projects planned for 2015-2019
Ferrous metallurgy	Aksu Ferroalloy Plant – branch of JSC “Kazchrome”, LLP “Casting”, LLP “KSPSteel”	establishment of industrial production of aluminum ferrosilicon in the Republic of Kazakhstan, LLP “KSPSteel”
Nonferrous metallurgy Establishment of a national cluster is planned	JSC “Aluminium of Kazakhstan”, JSC “Kazakhstan Electrolysis Plant”	production of aluminum wheels, LLP “ALTECH”; phase 3 construction and commissioning of aluminum production, JSC “Kazakhstan Electrolysis Plant”; construction of Bozshagol mining and processing works, LLP “KazakhmysBozshakol”; a plant for producing copper by selective extraction and electrolysis (SX-EW) with heap leaching, LLP “EurasiaCopperOperating”
Oil refining	LLP “Pavlodar Petrochemical Plant”	modernization of LLP “Pavlodar Petrochemical Plant”
Manufacture of railway equipment	LLP “Kazakhstan Wagon Construction Company”, LLP “Prommashkomlekt”, LLP “FormatMachCompany”	Construction of a complex for producing wheels for railway, LLP “Prommashkomlekt”; manufacture of railway axles and formation of wheelsets, LLP “R.W.S. Wheelset”; manufacture of equipment and consumables for soldering rail electroconnectors, LLP “PZSO “Svarko”
Production of chemicals for the industry	JSC “Caustik”	production of hydrogen peroxide, zirconium oxychloride, aluminum oxychloride, expansion of the existing production of chlorine and caustic soda, JSC “Caustic”
Other		production of polymer products, LLP “Nephtechim Company Ltd.”, reconstruction of a poultry farm, LLP “Kyzylzhar-Kus”

Existing SEZ: SEZ “Pavlodar”.

Existing IZ: none.

North Kazakhstan region

The region is one of the three smallest regions by its share in the structure of the country's manufacturing industry, its growth rate for the last five years is below national average.

The share of the manufacturing industry:
in the structure of GRP – not significant (below national average),
in the region's industrial structure – significant (above national average)
(Table 3.2.2.25.).

Table 3.2.2.25. Key indicators for the region's manufacturing industry

Indicator	2013
The region's share in the manufacturing industry of Kazakhstan, %	2.0
The share of the manufacturing industry in the structure of the region's GRP, %	8.3*
The share of the manufacturing industry in the region's industry, %	75.6
The growth rates of the region's manufacturing industry in 2013/2008, %	21.6

*Statistical data are given for January-September 2013

Table 3.2.2.26. The specialization of the region's manufacturing industry until 2020

Specialization	Major enterprises	Major investment projects planned for 2015-2019
Manufacture of machinery and equipment for oil refining and oil extracting industries	JSC "PZTM", JSC "Munaymash", etc.	Technological modernization of production, JSC "PZTM"; construction of a foundry plant, a works for producing piston and plunger pumps for oil extracting and mining industries (pressure of up to 10MPa and flow rates of up to 1.5 m ³ /min), expansion of production capacity for spare parts with the creation of electroplates and rubber products, LLP "Venture Company "Poisk"; development and creation of a new elevator installation on the basis of WRU-40 (well repair unit) products, creation of a mobile drilling unit with a top drive for drilling water and artesian wells, creation of a mobile drilling complex with a loading capacity of 160 tons, JSC "PZTM"
Food production	LLP "Asyl-Dan", LLP "Astyk Esil", JSC "Sultan EMMK", LLP "Molochny Soyuz", LLP "Molprodukt", "Zenchenko and K", etc.	Construction of a grain and mill complex, LLP "IKEA TAS-GROUP"; construction of an elevator, feed-milling and butter-making factory, LLP "Kahalong Kazakhstan"
Other		development and production of a promising model of a gondola wagon and a load carrier with an increased overhaul operation time, JSC "ZIKSTO"; construction of a mining and metallurgical plant for producing metallic tin, JSC "Syrymbet"; modernization of concrete product plant, LLP "Edinstvo"; construction of a branded service center for the JohnDeere agricultural machinery park, LLP "EurasiaGroupKazakhstan"

Existing SEZ: none.

Existing IZ: none.

East Kazakhstan region

The region is among top three by its share in the structure of the country's manufacturing industry and its growth rate for the last five years.

The share of the manufacturing industry:

in the structure of GRP– significant (among top three),

in the region's industrial structure –the leader (Table 3.2.2.27.).

Table 3.2.2.27. Key indicators for the region's manufacturing industry

Indicator	2013
The region's share in the manufacturing industry of Kazakhstan, %	14.2
The share of the manufacturing industry in the structure of the region's GRP, %	21.0*
The share of the manufacturing industry in the region's industry, %	83.2
The growth rates of the region's manufacturing industry in 2013/2008, %	70.9

*Statistical data are given for January-September 2013.

Table 3.2.2.28. The specialization of the region's manufacturing industry until 2020

Specialization	Major enterprises	Major investment projects planned for 2015-2019
Nonferrous metallurgy Establishment of a national cluster is planned	LLP "Kazzinc", JSC "Ust-Kamenogorsk Titanium Magnesium Plant", JSC "Ulba Metallurgical Plant", branch of LLP "Kazakhmys Corporation" – LLP "Vostoksvetmet", etc..	construction of a new plant for producing titanium slabs, LLP "POSUK TITANIUM"; construction of Aktogy mining and processing plant, LLP "Kazakhmys Aktogay"; construction of a mining and processing plant for producing copper concentrate and cathode copper, LLP "GRK MLD"; construction of a nickel plant on the basis of the existing deposits of nickel-cobalt ores, LLP "KAZZINC"; construction of a metallurgical plant on the Gornostayevskoye field of cobalt-nickel ores for producing commercial ferronickel with the use of Vanyukov smelting technologies, JSC "SAT&Company"; construction of a metallurgical plant and development of an underground mine, LLP "BAKYRCHIK MINING VENTURE"
Manufacture of motor vehicles, their parts, accessories and engines	JSC "Asia-Auto", etc.	construction of an integrated automobile plant including welding, painting and assembly, JSC "Asia Auto Kazakhstan"; manufacture of compressed natural gas buses DAEWOOGDW 6126 HG, LLP "DaewooBusKazakhstan"
Manufacture of agricultural equipment	LLP "Semaz"	production of tractor-mounted and trailer-mounted agricultural machinery on their own production sites, LLP "Semaz"; development of a wheel tractor of drawbar category 1.4, LLP "SKB Arlan"
Electrical equipment	JSC "KEMONT", JSC "Ust-Kamenogorsk Capacitor Plant"	a plant for producing power-traction batteries, LLP "Semey Splav"; construction of a plant for producing technical equipment, LLP "Ust-Kamenogorsk Technical Equipment Plant"; production of new energy-saving equipment: capacitive voltage transformers, high-power capacitors, LLP "Ust-Kamenogorsk Capacitor Plant"
Manufacture of machinery and equipment for oil refining and oil extracting industries	JSC "Ust-Kamenogorsk Valve Plant"	-
Production of building materials	JSC "Bukhtarma Cement Company", LLP "Semey Cement Plant", LLP "Kazakhcement", LLP "Silicate", LLP "Vostok Universal", etc.	construction of a plant for producing bentonite powders out of bentonite clays, LLP "Bentonite and K"

Food production	JSC “Ust-Kamenogorsk Poultry Plant”, LLP “Semeykus”, LLP “Vostokselkhozprodukt”, e tc.	-
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Existing SEZ: *none.*

Existing IZ: IZ “Ondyrys”, IZ on Mashinostroiteley st.

The city of Astana

The share of the region in the structure of the country’s manufacturing industry is below average, and it takes the leading position by its growth rate for the last five years.

The share of the manufacturing industry:
in the structure of GRP– minimal (ranked last among the regions),
in the region’s industrial structure –significant (among top three)
(Table 3.2.2.29.).

Table 3.2.2.29.Key indicators for the region’s manufacturing industry

Indicator	2013
The region’s share in the manufacturing industry of Kazakhstan, %	3.7
The share of the manufacturing industry in the structure of the region’s GRP, %	2.5*
The share of the manufacturing industry in the region’s industry, %	82.7
The growth rates of the region’s manufacturing industry in 2013/2008, %	83.2

*Statistical data are given for January-September 2013

Table 3.2.2.30.The specialization of the region’s manufacturing industry until 2020

Specialization	Major enterprises	Major investment projects planned for 2015-2019
Food production	LLP “April”, LLP “Tsesna-Astyk Concern”, LLP “Tatym”, LLP “Tsesna Astyk Bread-Baking Plant”, LLP “Tselinnaya – Dainties Factory”, LLP “Agrocom”, LLP “Tsesna – Mak”, LLP “Samen”, etc.	-
Manufacture of railway equipment	PC “Tselingidromash”, JSC “Akmola Car Repair Plant”, LLP “Kamkor Locomotive”, JSC “Locomotive Kurastyru Zauyty”, LLP “Tulpar Talgo”, LLP “Electrovoc Kurastyru Zauyty”, etc..	GEVO diesel engines JSC “NC “KTZ” together with “General Electric” (USA) and OJSC “Transmashdiesel” (Russia)
Electrical equipment	LLP “Astana Solar”, LLP “LED Solution”, etc.	establishment of production of LED products, LLP “LED System Media”
Production of building materials	JSC “Stroykonstruktsiya”, LLP “Tsentr Beton” Company”, etc.	construction of a house-building plant in the city of Astana, LLP “GLB”

Existing SEZ: SEZ “Astana – New City”.

Existing IZ: Industrial park No.1.

The city of Almaty

The share of the region in the structure of the country's manufacturing industry is above average, its growth rate for the last five years is above national average.

The share of the manufacturing industry:

in the structure of GRP– not significant (below national average),

in the region's industrial structure –significant (above national average) (Table 3.2.2.31.).

Table 3.2.2.31. Key indicators for the region's manufacturing industry

Indicator	2013
The region's share in the manufacturing industry of Kazakhstan, %	8.2
The share of the manufacturing industry in the structure of the region's GRP, %	4.3*
The share of the manufacturing industry in the region's industry, %	78.4
The growth rates of the region's manufacturing industry in 2013/2008, %	31.4

*Statistical data are given for January-September 2013

Table 3.2.2.32. The specialization of the region's manufacturing industry until 2020

Specialization	Major enterprises	Major investment projects planned for 2015-2019
Food production	JSC "Rakhat", LLP "Agroprodukt", etc.	-
Electrical equipment	LLP "Elektrokabel" Plant", LLP "Almaty Electromechanical Plant", etc.	construction of a plant for producing cable and wire products with XLPE insulation and voltage of 220kV, LLP "KMK construction"; commissioning of a plant for producing dry measuring transformers with a voltage of 6-10 kV, LLP "Transformer KZ"; production of ASTRA diesel generators, LLP "MachineryServiceLtd."
Manufacture of machinery and equipment for oil refining and oil extracting industries	JSC "Kirov Machine-Building Plant", JSC "Munayaspap", etc.	construction of a new production complex, JSC "AZTM"
Manufacture of machinery and equipment for the mining industry	JSC "Kirov Machine-Building Plant", JSC "AZTM", etc.	production of mine booster fans, mine electric drives for improved fire protection systems, energy-efficient motors with an external rotor, LLP "Almaty Fan Plant"
Production of building materials	LLP "Kazstroisteklo", LLP "PVC Dryblend", LLP "Asphaltobeton", LLP "KSMK", etc.	construction of a plant for producing foamed glass, LLP "KiKo Stroy Service"
Production of basic pharmaceutical products	JSC "Novel AFF", LLP "AbdiIbrahimGlobalFarm", etc.	establishment of a new pharmaceutical plant, JSC "Nobel AFF"
Other		construction of a plant for producing welded steel pipes, LLP "SERVICEPIPESHOLDING"; production of tractor trailers with a load capacity of 4 and 6 tons, LLP "KazAgroTechSnab"

Existing SEZ: SEZ "Park of Innovative Technologies"

Existing IZ: *none.*

3.2.3. Formation of national and territorial clusters in the manufacturing industry

The cluster policy will focus on the transition of the country's economy to a new technological platform, the formation of industries with high productivity, added value and the degree of redistribution of goods and services.

Cluster is a geographically concentrated group of interrelated and complementary specialized companies and organizations that includes the producers of final and intermediate goods and services, the suppliers of parts, specialized services, equipment manufacturers, the suppliers of specialized infrastructure, scientific and research organizations, universities, vocational education institutions, etc.

Given the lack of preparedness for the clustering of Kazakhstan's economy, it is necessary to create a critical level of enterprise specialization in specific regions. To this end, under the "BRM-2020" program, more attractive conditions will be created to support enterprises operating in the manufacturing industry and running business in the regions in accordance with regional specialization.

3.2.3.1 National clusters

The goals, objectives and directions of the development of national clusters based on "Strategy Kazakhstan-2050": a New Political Course of the Established State" have been defined by the Concept of forming promising national clusters of the Republic of Kazakhstan until 2020 approved by the Government of the Republic of Kazakhstan on October 11, 2013 No.1092 (hereinafter – the Concept of national clusters).

National clusters that will be supported by the state, are defined in a group of main sectors associated with the processing of natural resources and large-scale production of industrial commodities, the development of which will be coordinated at the level of central authorities and relevant development institutions. They will develop on the basis of existing and emerging clusters that mainly use the potential of natural resources through the optimization and extension of production chains, their localization, as well as through cooperation development.

To implement the potential of a cluster, it is possible to use tax and customs exemptions and other preferences, including the provision of infrastructure facilities provided by the participants of special economic zones.

Under the Program, 5 national clusters that have the greatest potential for development will be supported, and these include:

1) in the metallurgy sector – Karaganda cluster of steel and nonferrous metal processing (SEZ “Saryarka”), East Kazakhstan polymetallic cluster, Pavlodar aluminum cluster (SEZ “Pavlodar”);

2) in the oil and gas processing sector – Atyrau oil and gas processing cluster of extracting, processing, petrochemical industry (SEZ “National Industrial Petrochemical Technopark”), oil and gas machine building (SEZ “Seaport Aktau”);

3) in the chemical sector – Zhambyl chemical cluster (SEZ “Chemical Park “Taraz”).

The list of national clusters may be revised based on the predictions of the country’s further development.

To maintain each national cluster, special control structures (cluster council) will be created as a platform for coordinating the vision, plans and programs of cluster members, as well as strategies of its development.

Councils of national clusters will be headed by the National Chamber of Entrepreneurs of Kazakhstan.

The functions of the Council include:

1) development and adoption of a strategy of the development of national clusters and detailed road maps;

2) coordination of cluster member activities;

3) assistance for cluster members in obtaining state and other support;

4) monitoring of the effective use of funds allocated for the implementation of cluster programs and projects.

The integrators are leading manufacturing companies or several companies that ensure the development of a cluster, including outsourcing, crowdsourcing.

The partners of cluster integrators are the National Chamber of Entrepreneurs or industry business associations – business consolidation coordinators for participation in clusters.

The financial agent will be JSC “National Holding “Baiterek” (hereinafter –JSC “NH “Baiterek”) that provides state support under the laws of the Republic of Kazakhstan.

To develop national clusters, state support for the co-financing of cluster initiatives will be provided in accordance with the approved Development road maps of each cluster specified in Section 3.2.3.2.

3.2.3.2 Territorial clusters

Territorial clusters will be formed based on the current regional specialization of the manufacturing industry development.

State support will be provided to the territorial clusters of all manufacturing industries, primarily those defined as priorities in the Program.

Objectives:

competitive state support for the development of territorial cluster manufacturing industries based on the regions' industrial and socio-economic potential;

creation of favorable conditions for the development of cluster initiatives;

competitiveness of small and medium-sized businesses in the regions;

coordination of the various policies of central and regional authorities and business efforts aimed at developing territorial clusters.

The main **principles** of state support for the development of territorial clusters are:

1) taking into account sectoral priorities –selection out of all manufacturing industries, primarily defined as priorities in the Program;

2) compliance of the regional specialization determined by the Unified Regional Development Program and the Forecast Scheme of the Territorial-Spatial Development until 2020 approved by the Decree of the President of the Republic of Kazakhstan No. 118 on July 21, 2011;

3) rational use of the available resource, human and infrastructural potential of the regions based on the Scheme for the rational allocation of production capacity in the coming period;

4) minimization of costs for the development of territorial clusters with the purpose of achieving clearly defined maximum efficiency results;

5) wide use of public-private partnership mechanisms;

6) common criteria for the competitive selection of territorial clusters;

7) equal access to information on the conditions, criteria, stages of competitive selection and measures of supporting territorial clusters.

Regional business associations and local executive bodies will play a key role in the development of territorial clusters. The development of sectoral clusters in the regions and solution of tasks on their infrastructure and staffing should be the responsibility of regional authorities. The assessment of the impact of local government offices on the development of cluster initiatives in the regions will be reflected in the annual ranking of regional local executive bodies.

The main center for the development of cluster initiatives in the regions will be cluster associations with their members represented by manufacturing enterprises, service companies, research institutes, higher and secondary vocational education institutions, consulting companies, engineering enterprises. At the initial stage, the initiation of creating clusters and applying to the competition can be regional chambers of entrepreneurs, socio-entrepreneurial corporations, SEZ management companies.

The main criteria for the competitive selection of territorial clusters that will receive state support, will be:

1) the level of the development of the cluster formed – availability of:

a concentrated group of interrelated and complementary specialized companies and organizations that includes the producers of final and intermediate goods and services, the suppliers of parts, specialized services, equipment manufacturers, the suppliers of specialized infrastructure, scientific and research organizations, universities, industry associations, etc.,

developed projects aimed at lengthening the process chain,

business investment in the development of the cluster;

2) conditions for the further development of the cluster in the region:

necessary raw materials and natural resources (land and water);

availability of human resources with the required level of qualification;

production capacity of enterprises for the creation of a process chain and necessary related services;

development of energy infrastructure;

development of transport infrastructure;

development of innovation infrastructure (technology parks, technology transfer centers, etc.);

educational infrastructure (universities, vocational education institutions, training centers);

financial resources (investors, long-term contracts).

3) importance of cluster development for the region and the industry (based on the current data and the dynamics of previous years):

high significance of the cluster for the region it is located in, in terms of employment, production volumes of cluster enterprises and export volumes of all enterprises

high significance of the cluster for the industry it is related to, in terms of employment, production volumes of cluster enterprises and export volumes of all cluster enterprises

4) prospects of cluster development – market prospects, economic effect of cluster development, including increased production volumes in the main activity; increased employment in the main activity and related industries.

The stages of competitive procedures for the selection of territorial clusters:

At the preparatory stage (2014) the following has been performed:

the criteria and procedures for the competitive selection of territorial clusters have been determined, as well as the order of providing the winners with state support;

changes and amendments have been made to the Regulations on the Commission on Industrial Development in terms of its powers to conduct the competitive selection of territorial clusters;

educational programs have been organized for all members of the cluster process;

the foundations have been laid for the creation of cluster associations as organization that unite and protect the interests of all cluster members,

methodological and informational support has been provided to all cluster members, including support on the development of Concepts, Strategies and Road Maps of regional clusters;

the first competition has been announced for the selection of pilot territorial clusters that will receive state support.

State support measure:

organization of training for all cluster process participant in order to stimulate interest in the cluster policy, and subject training for cluster managers at all levels (state and local executive bodies, SPE, business communities);

learning about experience on the development of clusters, incl. on a grant basis;

methodological and informational support through the preparation of guidance documents and newsletters, through consulting at service centers for entrepreneurs.

In 2015, the testing of the competitive selection system will be held. Out of territorial clusters formed in the regions, developed pilot clusters (3-5) that will receive state support will be selected.

In 2016, the active stage of the development of territorial clusters will begin using a complete set of support tools:

annual competitive selection of territorial clusters that will receive state support;

continuation of the informational and methodological support for the development of territorial clusters. As part of this support, specialized training centers for the cluster process participants will be organized. A web site highlighting the problems of territorial cluster development, cluster initiative implementation will be created;

analysis and evaluation of the economic effect of territorial cluster development, and based on its results suggestions for their further development and state support measures will be made. To do this, the state body ensuring the coordination and practical implementation of the cluster policy will monitor the development of the clusters.

Competition procedures will be conducted in two stages.

At the first stage of the competition (the applications are submitted by regional chambers of entrepreneurs, socio-entrepreneurial corporations, SEZ management companies, business associations), the following will be conducted:

an examination of the Concepts on the Industrial Development of Territorial Clusters based on the above criteria for competitive selection;

at a meeting of the Commission, the presented Concepts will be reviewed and the winners of the first stage selected.

State support measures:

the winners of the first stage will receive financial support for the development of the Strategy and the Road Map of cluster development and creation of cluster associations in the form of reimbursement.

At the second stage of the competition (the applications will be submitted by cluster associations), the following will be conducted:

an analysis of the Strategies and Road Maps presented by cluster associations participating in the second stage of the competition that determine the economic effect of cluster development and specify actions to achieve it. At the same time, the cluster associations that did not take part in the first stage of the competition will be allowed to participate in the second stage if they have Development Strategies and Road Maps.

final results will be announced and the winners of the competition selected.

State support measures for the development of each particular cluster in accordance with the submitted Road Maps will focus on the co-financing of cluster initiatives for:

1. support and development of cooperation and collaboration of cluster members. The main goal is to identify the strengths and weaknesses of the cluster and ways to improve its competitiveness:

organization and implementation of strategic sessions for cluster members identifying ways to develop the cluster;

formation of a common base of suppliers and information platform for the collective purchase of raw materials and components by cluster companies, research organization and partners;

2. development of cluster human resources. The main goal is to develop a set of skills available to cluster members and professionals:

development of a training program with the joint participation of companies, universities and vocational institutions in the cluster;

development of a management training program for the managers of cluster companies;

organization of retraining and refresher courses and in accordance with the needs of cluster companies;

organization of job fairs for university students and students of other educational institutions;

establishment of training and retraining centers for cluster companies;

establishment of new schools and modernization of the existing schools in accordance with the needs of the cluster;

3. expansion of the cluster. The main goal is to increase the number of cluster members:

- creation of a business incubator for projects;
- organization of meetings and seminars with foreign investors;
- awareness and advertising campaigns at an international forum to attract new members;

4. development of innovation and technology. The main goal is to develop product, process and service innovation:

- creation of specialized engineering offices;
- development of joint R&D projects of cluster members (with the involvement of research institutes, educational institutions and enterprises);
- provision of services for patenting inventions;
- organization of meetings between the representatives of the companies' development departments and research organizations;

5. creation of a business climate and infrastructure. The main goal is to improve conditions for running business in the cluster:

- joint construction of public facilities, such as a logistics loading complex of collective use, specialized equipment;
- joint construction of a logistics loading complex of collective use;
- establishment of laboratories for product certification;
- establishment of test bases, in order to ensure compliance with the technical regulations of the Customs Union;
- construction of a data center for storing information,
- implementation of infrastructure projects;

6. other particular measures specific to this cluster,

as well as the use of the potential of the existing infrastructure in special economic and industrial zones, technology parks, engineering offices, business incubators and other business facilities.

In order to implement these particular measures for developing the cluster, the necessary budget funds will be identified and provided, including those on a grant basis or by particular budget applications. Besides, the funding for a number of development measures will be balanced and provided from different sources. The implementation of cluster initiatives will be ensured through the active use of public-private partnership tools, foreign investment and private investor funds.

The main financial agents for the development of territorial clusters will be JSC "NH "Baiterek", JSC "National Management Holding "KazAgro".

At all stages and on a common basis, the company members of cluster associations will be provided with the opportunity to obtain state support tools

intended for the subjects of industrial innovation activities in accordance with various programs.

3.3 Support for enterprises of priority and other industry sectors.

Under the differentiated and individual approach, direct support measures will be implemented in the following manner: for enterprises and projects of priority sectors – 80% of the budget; other sectors of the manufacturing industry – 20% of the budget.

Direct support measures for enterprises and projects consist of the following tools: interest reimbursement on loans and leases, preferential loans, equity participation, loan guarantees, risk insurance, reimbursement, grants, tax and customs preferences, and information and analytical support. All enterprises, regardless of the size and form of their property, may qualify for any of these tools. The total amount of state support will affect the decision on its allocation.

Support for enterprises and their projects will be implemented in accordance with the following approaches:

1. The standard approach – provision of a standard package of tools. The object of the support - small and medium enterprises implementing projects in manufacturing industries will be supported in a systematic manner using standard financial and service tools under the “Business Road Map 2020” Program. The decision is taken by JSC “EDF “Damu”.

Criteria: (a) the number of employees of up to 250 people, (b) requirements for the applicant and the project in accordance with the program criteria, (c) consideration of the regional specialization principle, (d) the aggregate amount of state support of up to 1 billion tenge.

To support SMEs in the manufacturing industry under the BRM 2020 program, it is necessary to provide more attractive conditions of support than under the program for enterprises running business in accordance with regional specialization.

Under “**BRM 2020**”, a list of tools to support entrepreneurs will be provided within the following areas: support for new business initiatives, reduction of currency risks of entrepreneurs and strengthening of entrepreneurial potential. In the standard approach, all support tools provided by the BRM, one-company town development programs and small town development projects will be accumulated using the logistics of providing financial and service support measures and the common business infrastructure of JSC “EDF “Damu” (service and support centers for entrepreneurs).

The system of SME financial support tools under the “BRM 2020” program is based on providing enterprises with the sponsorship of part of the interest rates and providing partial guarantees on STB loans. Sponsorship is carried out for loans aimed at implementing new and modernizing and expanding existing production, as well as for exporting enterprises that have currency earnings.

The main forms of SME service support under the program include: support for business start-ups; training of SME top managers; establishment of new business contacts, acquisition of new experiences and acquaintance with advanced technologies.

The toolkit of financial support will be expanded by incorporating the microlending tool (up to 10 million tenge). Throughout the country, the conditions for sponsoring interest rates will be delineated and defined in the priority sectors of the economy, except for one-company towns and small towns where there will be no sectoral restrictions. Simplified requirements will be set to guarantee loans on projects implemented in Semey, Turkestan, one-company towns and small towns.

To improve tools of non-financial business support, Centers of Business Competences will be established with the provision of all “one stop shot” tools of financial and service support. This mechanism will provide comprehensive support for entrepreneurs on all measures implemented under the Program and organize consultations on administrative, control and permitting issues (GASK, Land Committee, Tax Committee, etc.) of activities. The Center of Competences will be provided with a multilevel support infrastructure including 16 regional business service centers, 27 stationary support centers in one-company towns, 14 mobile district support centers.

To strengthen the entrepreneurial potential, special training programs for local executive bodies and SEC will be organized, as well as special programs increasing the potential of microlending organizations. Affiliate SME development programs will be implemented for large companies.

2. The differentiated approach – the provision of a differentiated package of tools. The object of the support – medium and large industrial enterprises in 14 priority sectors through the provision of financial and service support measures (grants) under the “Productivity 2020” Program. The decision is taken by the Commission on Industrial Development.

Criteria: (a) activities in 14 priority sectors, (b) labor productivity, energy efficiency, export orientation; (c) the aggregate amount of state support of up to 20 billion tenge, (d) compliance with the program requirements, (e) compliance of the products with the internationally recognized industrial standards, (f) the level of production localization.

These operating enterprises can use both the standard package of tools and differentiated support measures.

Financial tools will be provided in accordance with the internal regulations of JSC “NH “Baiterek” (lending, leasing, equity participation, etc.).

Service measures include grants and reimbursement that may be in the form of cash, services, technology and equipment of up to 2 billion tenge.

The amount of grants and the mechanism of their allocation will be defined for each grant separately, and the decision on their allocation will be taken by the Commission on Industrial Development based on the examination involving an internationally recognized and independent third party.

For this purpose, the **“Productivity 2020” program** will be reconfigured to a greater emphasis on the efficiency of the enterprise, including labor productivity, resource and energy efficiency.

The preferential leasing channels should be expanded through the use of private leasing companies, concessional lending should be provided through STBs by sponsoring interest rates.

Service support should be provided through grants and reimbursement of costs for improving the efficiency of production, through the introduction of management and production technology, energy conservation principles and the adaptation of imported technology, grants for the implementation and certification of ISO 50001.

In addition, under the differentiated approach, support in the following areas will be provided.

Innovation development.

The main support tools in innovation development and new technology introduction will be innovation grants, technological business incubation services, industrial engineering offices, regional technology parks, technology transfer centers, organization of innovative project competitions.

The conditions and mechanisms for the allocation of grants implemented by JSC “NATD” will be improved. Innovation grants should be directed to commercialization divided into three stages, and targeted technology programs (TTP).

Stimulating investment activities. To implement start-up projects, the Foundation for Start-up Projects (FSP) will be established. FSP will provide services on the structuring of projects and recommendations on the best financing options, on the search for strategic and financial investors, on the interaction with various state bodies promoting the projects, on the minimization of the impact of various bureaucratic procedures.

Implementation of large investment projects. The scale of the financial support of JSC “KDB” will be expanded. The share of loans for priority sector projects should be increased. New tools of JSC “KDB” will focus on the co-financing of STB loans, provide mezzanine financing and organize syndicated lending. Consulting services will be provided for capital projects to reduce capital costs (up to 20-30% according to world experience) and for the implementation of the project in the given timeframe.

3. The individual approach will be used for large enterprises implementing large-scale projects in the priority sectors of the manufacturing industry. The decision on the use of this approach is taken by the Government of the Republic of Kazakhstan.

Criteria: (a) activities in 14 priority sectors, (b) labor productivity, energy efficiency, export orientation; (c) the aggregate amount of state support of up to 20 billion tenge, (d) compliance with the program requirements, (e) compliance of the products with the internationally recognized industrial standards, (f) the level of production localization.

Enterprises can use all the existing tools of the differentiated approach and obtain more state support measures on an individual basis, in accordance with the investment contract in the manner prescribed by the Law of the Republic of Kazakhstan “On Investments”.

The complexity and scale of investment projects implemented by medium and large businesses requires an integrated approach to their planning and implementation.

The tool for individual approach implementation will be **the Industrialization Map**. The goal of **the Industrialization Map** is to develop the priority sectors of the manufacturing industry by supporting projects that provide a significant contribution to the achievement of SPAAID strategic goals.

To achieve the goal, the following tasks of **the Industrialization Map** are being formulated:

- monitoring and control of projects providing a significant contribution to the strategic goals of SPAAID;
- incorporation of state nonfinancial support tools based on the “one stop shop” principle;
- coordination and cooperation between government agencies, public and private sectors.

The Industrialization Map of Kazakhstan for 2015-2019 is a list of major investment projects in 14 priority sectors forming new industries and developing clusters.

The process of selecting projects for **the Industrialization Map** is an iterative, and the list of projects included in **the Industrialization Map** may be supplemented with new projects at least once a year upon receipt of applications and appropriate consideration.

The procedure for selecting projects for **the Industrialization Map** will be determined by the Government of the Republic of Kazakhstan in accordance with modern international practices on the evaluation of investment project efficiency. The principles of project selection **the Industrialization Map** will be based on include:

- industry priorities – the Industrialization Map should comply with the SPAAID industry priorities, in accordance with the list of 14 priority sectors;
- the scale of the project – the Industrialization Map includes only large-scale projects that require coordination and support at the national level, with a total investment of over 20 billion tenge;

- contribution to the achievement of SPAAID strategic goals – the implementation of the project should have a direct impact on the SPAAID results by achieving SPAAID targeted indicators.

The decision to incorporate projects in the Industrialization Map is taken by the Commission on Industrial Development in accordance with the developed and adopted laws and regulations approved by the relevant resolutions of the Government of the Republic of Kazakhstan. Monitoring of project implementation is conducted by the Commission on Industrial Development.

The “one stop shop” principle will be implemented within the Program Management Office at the National Institute of Development in the field of industrial development:

- a plan for the state nonfinancial support of the project (a portfolio of necessary nonfinancial support tools should be developed in collaboration with the project applicant);
- monitoring of project implementation;
- identification and provision of recommendations to eliminate administrative barriers during project implementation;
- selection of a project manager assigned to the project for immediate cooperation with the project applicant;
- identification of problems in project implementation and solutions to these problems through interagency coordination mechanisms;
- assistance from industry experts in project planning and implementation;
- interaction with national institutes of development on project implementation.

To solve the assigned tasks of the Industrialization Map, it is necessary to expand and provide the National Institute of Development in the field of industrial development with the necessary powers:

- to initiate interagency meetings and create working groups to address project implementation problems;
- to oblige Kazakhstan public authorities that must solve the identified problem to include their representatives of the relevant level in working groups and meetings;
- to implement the recommendations on addressing problems of certain projects in the system of public administration;
- within the Secretariat of the Commission on Industrial Development, to establish the Program Management Office, whose task will be to maintain and manage projects and interact with their applicants.

If necessary, on the initiative of the applicant, an investment contract will be concluded in accordance with the Law of the Republic of Kazakhstan “On Investments”.

During 2014, the transition of the Industrialization Map to new approaches of its formation will be conducted. The current projects of the national and regional industrialization maps will be evaluated according to the new criteria for the selection of projects for the new and unified Industrialization Map. The projects that will not be included in the Industrialization Map will be considered at the regional level in order for them to be included in the regional project portfolio. The Commission on Industrial Development will be responsible for the criteria, selection and implementation of projects, while akimats will be responsible for the Regional Project Portfolio.

The Regional Project Portfolio is a list of projects of regional entrepreneurial initiatives that will be implemented in accordance with the mechanisms of implementing the region's territorial development program.

To form *the Regional Project Portfolio*, the Akimat performs the procedure for selecting projects that consists of two stages.

The first stage:

To receive support, the applicant submits a package of documents consisting of a formal application and a feasibility study performed according to the state standard to the Akimat.

Akimat experts analyze the feasibility study and render an expert opinion on the prospects of the project under the region's development.

The second stage:

If the project potential is highly evaluated in the context of the region's development, the second stage of the evaluation is conducted. With the involvement of independent experts, the significance of the project in the context of achieving the objectives of the region's industrial development is evaluated. The evaluation of projects is conducted on a competitive basis using the attractiveness-feasibility matrix.

At the regional level, Project Management Offices should be affiliated to the Akimats. If necessary, methodological support for selection criteria and state support mechanisms will be provided by the National Institute of Development in the field of industrial development. Details on the regional project portfolio will be submitted by the applicants to the national IAPMS "Project Office", the akimats will confirm the data submitted in the same system for adjusting measures for the implementation of these initiatives. Also, this system will include the detailed information on the Industrialization Map projects.

4 MECHANISM, CONTROL AND MONITORING OF THE PROGRAM IMPLEMENTATION

4.1 Mechanisms of the Program implementation

To increase the efficiency of the Program implementation, it is necessary to adopt a series of acts of the Government of the Republic of Kazakhstan complying with each other on the expected results:

1) Action Plan for the Program implementation (hereinafter – the Action Plan) detailing the specific actions aimed at achieving the goals and objectives of the program and specifying deadlines, performers, completion forms, necessary implementation costs;

2) Strategic plans of the central executive bodies of the Republic approved by the Government of the Republic of Kazakhstan;

3) Programs on the development of territories and action plans on their implementation approved by the Maslikhats and Akims of the regions respectively;

4) Strategies and plans for the development of national holdings and national companies, other state-controlled joint stock companies and associations involved in the program implementation;

5) Strategies and plans for the development of national institutes of development, other state-controlled joint stock companies and associations involved in the program implementation.

Amendments and additions to the listed acts of the Government of the Republic of Kazakhstan will be made when necessary to correspond with the current situation of the period.

This procedure for the development and adoption of the above acts of the Government of the Republic of Kazakhstan will increase the efficiency and transparency of the program implementation at the vertical and horizontal levels, ensure the consistency and synchrony of the events.

The essential thing is the lack of special industry programs being developed under the Program. It is important to observe a clear relationship between the Program and the above acts of the Government of the Republic of Kazakhstan on the expected actions in their development and introduction of amendments and additions.

Also, in the development of the Action Plan, the need to improve legislation affecting the industrial policy in the manner prescribed by law will be addressed.

4.2 Management of the Program implementation

To ensure the transparency of the Program implementation management, a clear allocation of responsibilities and institutional mechanisms for its implementation, monitoring and funding is conducted.

The President of the Republic of Kazakhstan approves the Program and makes key decisions on its implementation.

The main participants of the Program planning, implementation, adjustment and monitoring will be:

1) the Administration of the President of the Republic of Kazakhstan – coordination and adoption of the Program and coordination of the Action Plan;

2) the Government of the Republic of Kazakhstan – approval and control of the Action Plan implementation, including the use of budgetary funds; interagency coordination of central authorities for the implementation of actions; preparation of reports on the Program implementation; control of the compliance of the acts adopted by the Government of the Republic of Kazakhstan, central and local authorities with the Program; collection and analysis of proposals on amendments and additions to the Program and the Action Plan;

3) ministries and other central authorities – development of Strategic plans of government bodies, their implementation and reporting; performance of measures for the implementation of the Program and the Action Plan;

4) the Akimats of the regions of the Republic of Kazakhstan and the cities of Astana and Almaty – implementation of the Program and the Action Plan at the regional level, development of plans for the development of territories in accordance with the provisions of the Program;

5) national holdings and national companies, other state-controlled joint stock companies and associations involved in the program implementation – development of relevant strategic documents and development plans; statutory activities for the implementation of actions; state support of industrial innovation activities;

6) National Chamber of Entrepreneurs – participation in the discussion and development of relevant strategic documents and development plans being developed for the program implementation, active participation in the development of national and territorial clusters;

7) national institutes of development – development of relevant strategic development plans; statutory activities for the implementation of action; state support of industrial innovation activities.

Of great importance is the Commission on Industrial Development of the Republic of Kazakhstan (hereinafter – the Commission) formed in order to develop proposals in the field of the industrial development of Kazakhstan.

The main task of the Commission is to make recommendations and proposals on:

1) the identification of priority industrial sectors for the industrial development of Kazakhstan;

2) the improvement of the competitiveness and efficiency of Kazakhstan's industry;

3) conceptual approaches to the implementation of state policy in the manufacturing industry, including that of a cluster initiative;

4) the criteria for the selection of territorial (regional, interregional) clusters and investment projects;

5) the initiation of interagency meetings and the formation of working groups addressing the implementation of certain projects;

6) the obligation of Kazakhstan public authorities that must solve the identified problem to include their representatives of the relevant level in working groups and meetings;

7) the implementation of recommendations on addressing problems of certain projects in the system of public administration;

8) the establishment of the Institute of Project Managers at the Program Management Office whose task will be to maintain and manage the projects and interaction with their applicants.

To coordinate activities on the development of industries, adjust the system of support through the institutes of development at the National Institute of Development in the field of industrial development, it is necessary to continue to form a center of competences in the industrial policy with the main areas of activities: information and analytics support of the country's industrial development; monitoring of the Program implementation; development of a program for improving productivity; development of a system of suppliers and their integration in global industry chains; coordination of state policy for cluster support; development of road maps to reduce administrative barriers; accompanying of the Industrialization Map; operational and analytical support of the Commission, etc.

4.2 Monitoring of the Program implementation

One of the system lessons learned during the implementation of SPAAID 2010-2014 are flaws in the system of its implementation and monitoring. To coordinate, monitor and improve the availability and quality of immediate (annual) data on the implementation of the Program, as well as of the Action Plans of ministries and institutes of development involved, a system of monitoring and evaluating its implementation will be improved.

The key mechanism in the system of monitoring the Program implementation should be an assessment based on facts, and financing of the performers depending on the results achieved. The introduction of this approach will require further improvement of the system of state planning, which should be primarily reflected in new kinds of analysis and evaluation – such as pre-evaluation of programs and projects, evaluation of their results with respect to the public funds spent.

In accordance with the world's best practices in program management, for the effective interagency coordination of its implementation, it is planned to establish the Program Management Office (hereinafter – PMO) at the National Institute of Development in the field of industry. It will assess the performance of target indicators, the degree of implementation of certain actions. The monitoring of the

Program implementation will detect deviations and propose an action plan to address them, and the Program will be adjusted on its basis.

5 STAGES OF THE PROGRAM IMPLEMENTATION

These goals and objectives will be implemented in two stages:

- 1) preparatory stage (2014);
- 2) initial stage (2015);
- 3) implementation stage (2015-2019).

The first stage includes activities on the development of 3-5 clusters based on the main resource sectors of the economy, 3-5 clusters based on the market-oriented sectors of the economy, two innovation clusters based on the sectors of the “new economy”. To support industrial development in the priority sectors, pilot industrial support tools will be implemented

At the implementation stage, the whole set of support tools in the priority sectors will be involved. Measures for the development of priority clusters based on the main resource sectors, market-oriented sectors and innovation clusters will be carried out. The system of institutes of development will be updated. Also, if necessary, the Policy will be actualized, and at the final stage the third five-year program of Kazakhstan’s industrial development will be developed. In addition, for the clusters based on the main and market-oriented sectors, and for the innovation clusters based on the sectors of the “new economy”, it is necessary to achieve international competitiveness in the macroregion that includes CIS and Central Asia countries.

To ensure that the Policy complies with the changing external conditions, it will be revised. Besides, strategic plans, the five-year and three-year (considering the budget cycle) action plans of ministries, as well as development strategies, the five-year and three-year (considering the budget cycle) action plans of institutes of development involved in the Policy implementation will be updated.

At the final stage of implementation, a comprehensive assessment of the Policy results will be carried out. Along with this, the third five-year program of Kazakhstan’s industrial development for 2020-2024 will be developed.

6 NECESSARY RESOURCES

In the second five-year period, the state’s role in the financing of industrialization remains critical. It is necessary to consolidate the financial resources of the state and the private sector and focus them on providing support measures, including infrastructure projects.

Total costs associated with investments in fixed assets and SPAIID-2 development programs for 2015-2019 will amount to 8,587 billion tenge and be provided from the following sources (Table 6.1).

Table 6.1. Investments in fixed capital by the source of funding, billion tenge

Sources of funding	2015	2016	2017	2018	2019	Bcero
Republican budget	309	291	400	371	346	1,717
Extrabudgetary sources	1,235	1,163	1,601	1,486	1,386	6,870
- direct investments	725	683	941	873	814	4,036
- borrowed funds	509	480	660	613	572	2,834
Total	1,543	1,454	2,001	1,857	1,732	8,587

Under the state support measures for 2015-2019, **1,873.4 billion tenge** from various sources (private funds, state budget, funds of national management holdings, national holdings, national companies and other organizations with the involvement of the state), including support measures aimed at:

attracting investments – 22.4 billion tenge, including investments for the service support of investors;

innovation – 36.6 billion tenge;

promoting exports – 38.3 billion tenge, including funds for assistance in promotion of exports of Kazakhstan goods to foreign markets;

solving the problems of the lack of funding for the development of production – 1,565.1 billion tenge, including funds for financing and lease financing of non-oil sector of the economy;

developing small, medium and large businesses – 211 billion tenge, including sponsoring of interest rates on loans, support of business start-ups, allocation of funds of JSC “EDF “Damu” in second-tier banks to finance SMEs in the manufacturing industry, actions under the “Productivity-2020” Program.

The mechanism of state support for the above actions will be governed by laws of the Republic of Kazakhstan.

Provision of the missing infrastructure facilities on the territory of SEZ

To provide the missing infrastructure in special economic and industrial zones in the period from 2014 to 2019, an additional **284.5 billion tenge** will be required, including funds for the infrastructure:

1) for NIPT (karabatan, technopark), Burabai, PIT, Astana-New City, Saryarka, Seaport Aktau, Pavlodar, Ontustyk, Khorgos-East Gate, Chempark Taraz, in the period from 2014 to 2019, an additional 263 billion tenge will be required.

2) for the engineering and transport infrastructure of the industrial zone in Alatau district of Almaty and separately for the construction of LRT (light-rail transit), in the period from 2014 to 2019, an additional 21 billion tenge will be required.

Formation of national and territorial clusters

Formation and financing of the infrastructure of national clusters, as well as provision of state support measures will be carried out by integrators, financial agents within the Council of clusters based on the strategies of their development and road maps.

For the organizational support of the formation of a territorial cluster policy in the regions for 2015-2019, about **1.04 billion tenge** will be required, including funds for:

the activities of the Commission on the competition of territorial clusters – 339.3 million tenge;

partial reimbursement of certain expenses – 640 million tenge;

informational support of the formation and further development of territorial clusters – 55.9 million tenge;

In addition, given that territorial (regional, interregional) clusters will receive financial support on a competitive basis, the volume of the funds for the provision of infrastructure facilities will be determined annually during the budget process.

7 EXPECTED RESULTS OF INDUSTRIAL DEVELOPMENT OF THE REPUBLIC OF KAZAKHSTAN UNTIL 2020.

As a result of the Program implementation, the country's economy will reach a sustainable and balanced growth through the development of a competitive manufacturing sector. According to the second five-year industrialization plan, the added value and efficiency of resource sectors will improve, and due to that the foundations for economic diversification will be laid. High integration with the macroregion countries will give more opportunities for exports, which encourages enterprises to invest in new technologies and processes for the purpose of developing promising markets.

Further reformation of the public administration system in conjunction with a favorable macroeconomic environment will create conditions for attracting long-term investments of the leading multinational corporations, and contribute to the influx of highly qualified personnel to the country. The accompanying transfer of technology and knowledge, the activity of entrepreneurship and small and medium businesses in innovative industries will lead to structural changes in the economy towards production in the most converted value chains.

The unified coordinated system of effective state support tools and measures will optimize the mechanism of public-private partnership in order to achieve the goals and objectives of industrialization. Limitations in the use of support tools associated with Kazakhstan's participation in international integration organizations will lead to the distribution of tools allowed. In particular, the development of basic public infrastructure, an increase in the quality of human capital, the activation of R&D, the promotion of R&D commercialization, the establishment of the national test and certification base in the priority sectors will create the preconditions for the emergence of competitive advantages of the domestic industry.

Through improving the competitiveness of the priority sectors, developing infrastructure for R&D commercialization, promoting entrepreneurship and small and medium businesses, favorable conditions and mechanisms of the formation of industrial and innovation clusters will be created. The cluster approach that combines competition and cooperation between the participating firms should lead to a positive synergetic effect.

The important qualitative results of the Program will be the growth of labor productivity, the increased export orientation of the manufacturing industry, the reduced energy intensity of the economy, employment in the manufacturing industry, the development of the national ecosystem of suppliers, innovation system, further diversification of the economy, strengthening of the role of small and medium businesses, rational regional location of the production factors in the manufacturing industry, the increased quality of human capital.

8 TERMS USED:

Additive technologies – a group of technologies where a detail is formed by building up a material, rather than by removing it from the intermediate, as in traditional technologies.

Dutchdisease – a state of the economy which is characterized by two symptoms. The first symptom is boosting production and exports of raw materials. The second one is the decrease in domestic industrial production volumes. The emergence of the second symptom is inextricably linked with the first one. In other words, “Dutch disease” is a state of the economy where the exports of raw materials dampens the development of the national economy.

Businessclimate – a wide range of political, economic, legal and financial factors that determine the advantages of the country for foreign investment, as well as the tendency of all national companies to invest in development.

Diversification – allocation of the capital among various objects in order to reduce economic risks.

National Institutes of Development – legal entities, half or more of the voting shares of which (shares in the authorized capital) are directly or indirectly owned by the state, and these entities are authorized to implement state support measures for industrial innovation activities.

Internalization – technological development techniques that simplify the adaptation of the product to the linguistic and cultural peculiarities of the region different from the one where the product was developed.

Cluster – a geographically concentrated group of interrelated and complementary specialized companies and organizations that includes the producers of final and intermediate goods and services, the suppliers of parts, specialized services, equipment manufacturers, the suppliers of specialized infrastructure, scientific and research organizations, universities, vocational education institutions and other organization that have a specific industry specialization.

Commodities – actively exported goods of mass production, the quality characteristics of which are homogeneous, comparable for extended periods of time, and individual lots are interchangeable, which allows to sold them according to their descriptions and samples.

Middleincometrap – situations in economic development where the country that reaches a certain income, “gets stuck” at this level.

Localization – accommodation of production of foreign origin in the country.

Macroregion – a region that consists of five levels, depending on the degree of integration with the Republic of Kazakhstan.

The first level includes the border regions of the Russian Federation: Astrakhan, Volgograd, Saratov, Samara, Orenburg regions, the Republic of Bashkortostan, Chelyabinsk, Kurgan, Tyumen, Omsk, Novosibirsk regions, Altai Krai, Altai Republic.

The second level includes all the regions of the Russian Federation, Ukraine and Belarus.

The third level includes all the western regions of China that border with the Republic of Kazakhstan.

The fourth level includes all the regions of China, Uzbekistan, Tajikistan, Turkmenistan, Kyrgyzstan.

The fifth level includes Turkey, Iran, Iraq, Azerbaijan.

Methodoflean production – a concept of managing a manufacturing enterprise based on the constant desire to eliminate all kinds of losses.

Yellowpagesprinciple– the state should not take part as a business player in the sectors where there is a sufficient concentration of private business.

Industry– a set of enterprises (plants, factories, mines, power stations) engaged in the production of tools for both the industry and other sectors of the econonmy, as well as in the extraction of raw materials, fuel, energy production, timber harvesting and further processing of products obtained in the industry or produced in agriculture (Big Encyclopedic Dictionary).

Multinational company – a company that owns manufacturing units in two or more countries, and a company, the foreign assets of which account for about 25-30% of their total volume.