

ANNEX XXV

**Decree
of the President of the Republic of Kazakhstan No. 1096 of 17 May, 2003
On the Strategy for Industrial and Innovation Development of
the Republic of Kazakhstan
for 2003-2015**

With the purpose of ensuring sustainable development of the country on the basis of economy diversification and modernisation, creation of conditions for the production of competitive types of products and growth of export,

I resolve:

1. To approve the enclosed Strategy for Industrial and Innovation Development of the Republic of Kazakhstan for 2003-2015 (hereinafter, the Strategy).

2. To the Government of the Republic of Kazakhstan:

- within two months to elaborate and approve the Plan of activities for implementation of the Strategy for 2003-2015 (phase 1);
- twice a year, before February 1st and August 1st, to report to the Head of the State on the Strategy implementation progress for the recent six months.

See the Action Plan on implementation of immediate tasks of the industrial innovation policy for 2004.

3. To the state bodies directly subordinate and accountable to the President of the Republic of Kazakhstan, to take all measures to implement the Strategy.

4. To the Administration of the President of the Republic of Kazakhstan, to control the implementation of the Strategy.

5. The present Decree comes into force from the date of its signing.

**Strategy for Industrial and Innovation Development of the Republic of Kazakhstan
for 2003-2015**

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STRATEGY OUTLINE

Title	Strategy for Industrial and Innovation Development of the Republic of Kazakhstan for 2003-2015
Rationale	Drafted as instructed by the President of the Republic of Kazakhstan based on the Address to the Nation of Kazakhstan “On the Situation in the Country and on the Main Trends of Internal And External Policies for 2002” and discussions at the 10 th Forum of Entrepreneurs of Kazakhstan.
Drafters	Ministry of Economy and Budget Planning of the Republic of Kazakhstan in conjunction with the Ministry of Industry and Trade of the Republic of Kazakhstan, Ministry of Education and Science, Ministry of Transport and Communications, Ministry of Labor and Social Protection of the Population, Ministry of Energy and Mineral Resources, Ministry of Finance of the Republic of Kazakhstan, Agency for Regulation of Natural Monopolies and Protection of Competition, National Bank, etc.
Goal	Sustainable development of the country through diversification of the sectors of the country’s economy from extraction-based development; preparation of conditions for transition to service and technology based economy in the long term.
Objectives	<p>8.4% average annual growth rates for processing industries; minimum 3 times increase in labor productivity by 2015 compared to 2000; minimum 2 times reduction in power intensity of GDP;</p> <p>Increased productivity of fixed assets in processing industries;</p> <p>Creation of the business environment, outline and content of public institutions encouraging the private sector to produce and improve competitive advantages, develop elements of the value added chain in specific industries targeting the highest value added;</p> <p>Encouraging establishment of science intensive and high-tech export oriented productions;</p> <p>Diversification of export potential of the country targeting</p>

goods and services with high value added;

Transition to the international quality standards;

Enhanced integration into the regional and global economy, involvement into the world scientific, technical and innovation processes.

Implementation period

2003-2015:

1st stage- 2003-2005

2nd stage- 2006-2010

3rd stage- 2011-2015

Required resources and sources of financing

Direct investment costs for the Strategy implementation are estimated to amount to USD 1.2 bln per annum with public expenditures for the Strategy implementation amounting to about USD 260 mln per annum in 2002 prices.

Funding from the Republican and local budgets will be adjusted at formulating the budget for the respective year.

The Strategy activities will be funded from the Development Bank, the Investment Fund, the Innovation Fund. At that establishment of new investment and innovation institutions requires finding significant financial resources as well.

Expected outcomes

Proactive implementation of the Strategy for Industrial and Innovation Development will ensure minimum 8.8-9.2% economic growth rate a year thus increasing the GDP in 2015 in approximately 3.5-3.8 times compared to 2000. Average annual growth rates in manufacturing industries will amount to 8-8.4%, in 2015 labour productivity will increase in minimum 3 times compared to 2000 with energy-intensity of GDP reduced by minimum 2 times.

Given intensive development of oil and gas resources, by 2015 outcomes of the Strategy implementation will not result in drastic change in the structure of the national economy and industrial production.

The Strategy implementation will:

Increase the share of industry in GDP from 46.5% to 50-52% in 2015;

Increase the share of research and innovations in GDP from 0.9% in 2000 to 1.5-1.7% in 2015;

Curtail decline in the share of manufacturing industries in GDP from 13.3% in 2000 to 12-12.6% in 2015 (for comparison purposes: without implementation of the industrial policy the given indicator in 2015 will amount to 10.9%);

Curtail decline in the share of services in GDP from 47.5% in 2000 to 40.6% in 2015 (without implementation of the industrial policy the given indicator in 2015 will amount to 38.2%).

Without implementation of the Strategy the share of value added of the mining sector in industrial output by 2015 may amount to 55-56% including in oil extraction – 50-51% compared to 31.0% and 25.6% respectively in 2000. With the Strategy implemented the share of the extraction sector will amount to 46-47% only, with the share of high-tech productions having increased from 0.1% GDP in 2000 to 1% in 2015.

Qualitative changes will happen in the value added structure of manufacturing industries. The share of metallurgy and metal processing will drop from 40.1% of the total value added in the manufacturing industries down to 27-28%, while the share of processing of farm products will increase from 38.1% to 45-46%, with the share of high-tech productions having increased from 0.6% GDP in 2000 to 9-11%.

INTRODUCTION

Strategy for Industrial and Innovation Development of the Republic of Kazakhstan for 2003-2015 (hereinafter referred to as Strategy) is drafted as instructed by the President of the Republic of Kazakhstan based on the Address to the Nation of Kazakhstan “On the Current Situation in the Country And on the Main Trends of Internal And External Policies for 2002” and discussions at the 10th Forum of Entrepreneurs of Kazakhstan.

The Strategy formulates the state economic policy for Kazakhstan for the period up to 2015 and aims to support sustainable development of the country through non-extraction oriented diversification of the economy.

Production of competitive and export oriented goods and services in processing industries and services is the major focus of state innovation industrial development policy.

Under the existing world globalisation trends the economy of Kazakhstan is confronted with a number of challenges: lop-sided extraction orientation, weak integration into the global economy, weak intersectoral and interregional economic integration within the country, poor demand for goods and services at the internal market (small economy), undeveloped production and social infrastructure, general technical and technological obsolescence of enterprises, lack of efficient connection between science and production, low expenditures for scientific research and engineering works (SREW), inadequacy of management to globalisation requirements and transition to service and technology oriented economy.

To address the problems and to attain goals and objectives of the Strategy in addition to enhancing operations of the Development Bank the Kazakhstan Investment Fund, the Export Insurance Corporation and the Innovation Fund are proposed to be established.

These institutions will invest into creation of new and development of existing productions with high value added, support scientific and technical research and developments based on the comprehensive analysis of perspective sectors, identify their most important elements.

The Strategy provides for proactive state research and innovation policies encouraging research and innovation activity in the country. Attainment of the goals requires further development of the financial market and improvement of fiscal, educational, antimonopoly and infrastructure policies. Standardisation policy will target transition to the international standards in all sectors of economy and management.

Successful implementation of the Strategy should promote qualitative changes in the structure of economy resulting in the sustainable growth based on efficient utilisation of human, produced and natural capital, entry of Kazakhstan to the qualitatively new level of social development and societal formation.

For substantiation of individual proposals aimed to improve methods and mechanisms of the state regulation of the economy appropriate sections of the Strategy share the experience of other countries in implementation of import-substitution and export-oriented policies, including various types of export policy and factors contributing to achievement of competitive advantages at the global markets.

In general, as a result of implementation of the Strategy by 2015 the economy of the country should have been prepared for the transition to service and technological development model.

1. GLOBAL ECONOMIC TRENDS AND COMPETITIVENESS OF THE ECONOMY

1.1 Analysis of Global Economic Trends

After the World War II the global capitalist system transformed and acquired new features of the monopoly or trans-national capitalism.

This transition was characterised by significant growth in global trade, emergence of trans-national companies, marketable increase in foreign investments and trade liberalisation. Such institutions as the International Monetary Fund and the World Bank were established.

A combination of national economies of all the countries of the world in the 50s, in 60s the global economy has started to show trends of corporation on trans-national grounds.

By the 90s goods and services production had become fragmented and scattered all over the world. Financial and industrial capital had acquired trans-national features.

This transformation is of a special importance for developing countries. Traditional relations between developed and developing countries with the periphery supplying raw materials and the centre processing them and sending back to the periphery have significantly changed.

Under the global capitalism developing countries are being involved into the production chain and produce goods with relatively low processing degree and thus with the lowest value added.

Extensive experience has been accumulated globally in implementation of industrial policy. It can be stated, however, that only a few countries succeeded in coping with the monoproduction dependence and in diversifying their industries.

Historically, use of the industrial policy for export diversification purposes in different countries can be explicitly tracked down through import substituting and export oriented policies. The main conclusion, which can be drawn from the review of the Latin American (Mexico and Brazil) and East Asian (South Korea and Singapore) countries, having mainly applied these policies, is that export orientation is the way to sustainable economic development.

Historically both Latin American and East Asian countries went through stages of import substitution and export orientation. Interesting is that at a certain stage East Asian countries shifted from import substitution to export promotion, while Latin American countries retained the import substitution focus.

Success of the export orienting policy can be explained from the economic theory perspective – having exhausted absorption capacity of the internal market countries had to expand externally not to stagnate their economic development. Notably, while promoting import substitution Latin American countries established industries based not on real competitiveness, but rather on man-made administrative and tariff barriers. Having firmed up, these sectors directed their resources to lobbying their interests through the state to further maintaining the import substitution policy instead of modernization and productivity increase. The result was inefficient distribution of resources and loss of international competitiveness of national economies.

In general current trends dominating the global economy and creating new global economic reality can be classified as follows:

- shift from industrial to service and technology economy in developed countries;
- globalisation;
- economic liberalisation;
- increasing global competitiveness and regional integration.

During the last quarter of the 20th century economically developed countries advanced from industrial stage of development to a higher level service and technological economy. The bulk of GDP in these countries is generated in explicitly science- and innovation-based service sectors.

Economically developed countries concentrate intellectual and financial resources while phasing out industrial productions – and capital- and energy-intensive ones especially – to less economically developed countries.

1.2 Diversification of the Kazakhstan Economy

Since independence, Kazakhstan has been perceived globally as a supplier of oil, gas, ferrous, non-ferrous, rare earth and noble metals and uranium products, grain being a potentially exportable agricultural product.

So far Kazakhstan has been developing pursuant to a classical economic scenario due to comparative economic advantage of rich mineral resources endowment.

Intensive raw materials production and export helped the economy to overcome the economic crisis and ensured high rates of economic growth over the recent three years.

Economy of Kazakhstan has been progressing due to the state policy of attracting foreign investments into extraction industries and structural and institutional adjustments in financial sector resulting in increasing living standards and accumulation of financial resources in the long run potentially able to ensure transfer to a post-industrial service and technology based development.

Today Kazakhstan has been acknowledged by the global community as a country with a market economy and is the first CIS country assigned with an investment sovereign rating.

The World Bank has listed Kazakhstan among 20 most attractive countries for investments. Over USD 21 mln has been invested into the country during the independence.

Pursuant to the approved model, strategically Kazakhstan has been developing as a country with an open economy, oriented to export of goods, services, capital and labor based on competition and mutually beneficial cooperation with all the countries of the world.

Over 2001-2002 the annual GDP growth averaged to 11.5%. To double the GDP by 2010 its annual growth should average to 7.2%.

The country's economy successfully started implementation of the strategic plan. In the mid-term accelerated development should be continued with parallel economic and social quality changes.

At the same time, Kazakhstan as a small economy with large fuel and mineral resources is not really attractive for investments into manufacturing industries, which makes the country vulnerable to fluctuations in commodity prices.

International experience shows that some developing countries richly endowed with mineral resources do not achieve sustainable economic development thus remaining significantly dependent on global commodity prices fluctuations.

With considerable proceeds from extracting sectors, neither the state nor the private sector is motivated to develop new sectors. At the same time, countries with insignificant or poor resources just enough for surviving uninterruptedly attempt to develop new sectors of the economy. However, mineral resources are exhaustible in the long run thus jeopardizing sustainable development upon mineral resource deposits having been completely depleted.

In view of the danger of oversaturation of the economy with excessive profits from extracting sectors and foreseeing possible negative implications from sharp downfall of oil prices the National Fund has been established in Kazakhstan to accumulate surplus revenues coming from exceeding the level of world prices for oil and non-ferrous metals over the established optimum ceiling.

This facility would also relieve the currency pressure from the Kazakhstani financial system and maintain the Tenge exchange rate at the level encouraging exports and discouraging imports.

Despite the progress in institutional and structural reforms, increased reliability of the financial sector and accelerated growth in the export potential of the country it should be noted that manufacturing industries, as well as production services providing sectors, have not been developed adequately.

Metallurgy is the only processing industry competitive externally. Some food industry products can compete with imported analogues at the domestic market, while the rest of processed products currently are supported through direct and indirect subsidies manifested in low and economically unjustified electricity, fuel and lubricants, transportation tariffs and protectionist customs duties. Up to 2003 some of industries (textile, apparel, leather and footwear industry, rubber and plastics goods production, machinery building, chemical industry) were granted prolongation in repayment of outstanding arrears to the budget. Till 2002 sales of domestic production of textile, apparel, leather and footwear industries were taxed at 0 VAT rate.

Contemporary Kazakhstan's economy is faced with the following problems:

- Lop-sided extraction orientation of the economy;
- Poor integration into the global economy;
- Poor inter-sectoral and inter-regional economic integration within the country;
- Low productivity of processing industry;
- Low consumer demand for goods and services at the domestic market (small economy);
- Undeveloped production and social infrastructure;
- Increasing depreciation of fixed assets outside of oil and gas as well as mining and metallurgy sectors;
- General technical and technological obsolescence of enterprises;
- Lack of efficient relation between science and production;
- Low allocations for research and engineering works;
- National academia's inability to adapt to the market economy, lack of efficient mechanisms of bringing scientific and technological produce to the level of a good resulting in generally low level of innovation proposals;
- Lack of modern training and re-training system for professional and general labor;
- Lack of incentives for domestic financial institutions to invest into manufacturing;
- Low economic interest of foreign investors in domestic manufacturing;
- Management inadequate to meet the challenges of globalisation and shift to service and technology based economy.

Electricity consumption per USD1 of the GDP is over 7-10 times higher and the labor productivity is over 7-10 times lower in Kazakhstan compared to some industrially developed countries.

Fixed assets of Kazakhstan enterprises are significantly depreciated. At the beginning of 2001 depreciation of fixed assets averaged to 29.7% with fixed assets in some sectors depreciated over 50%.

The existing procedure for accumulation of financial resources for renewal of fixed assets from retained profits does not motivate replacement of obsolete equipment and to a certain extent even constrains its upgrade.

In 1999 the fixed assets replacement rate was 8%, in 2000 – 13.8% with the increase driven by investments in oil and natural gas extraction.

The worst depreciated fixed assets are machinery and equipment - 42.1% depreciation rate in 2000, with vehicles depreciated 41% and facilities – 36.5%.

In sectors outside the oil and metals the depreciation rate was 45-62% over the recent three years with 12% of machines, equipment and vehicles in manufacturing industries completely depreciated.

This results in depreciation and obsolescence of equipment and dergrades competitiveness of the country's economy. In Kazakhstan production of USD1 of GDP costs almost 2.8kWt/h, while in the UK, Germany, Italy and Japan – 0.22-0.3 kWt/h, in the USA, France, Turkey and Korea – 0.4-0.6 kWt/h, in Canada and China – 0.8-1.2 kWt/h.

Industrial Electricity Consumption (kWt/h per USD1 of GDP)

	1995	1996	1997	1998	1999	2000
CIS						
Armenia	4.35	3.88	3.66	3.28	3.09	3.13
Byelorussia	2.36	1.63	1.85	1.54	2.18	2.51
Kazakhstan	4.01	2.80	2.35	2.20	2.82	2.81
Kyrgyzstan	8.24	7.87	7.13	7.07	10.56	
Moldova	0.83	0.83	0.78	0.71	0.94	0.70
Russia	2.55	2.02	1.95	2.98	4.37	3.38
Ukraine	5.24	4.11	3.55	4.13	5.59	
Other countries						
Great Britain	0.30	0.29	0.26	0.25	0.25	0.23
Germany	0.22	0.23	0.26	0.26	0.26	0.27
Italy	0.22	0.20	0.22	0.22
Canada	0.96	0.94	0.91	0.92	0.88	0.82
China	1.44	1.32	1.26	1.17	1.21	1.22
Republic of Korea	0.42	0.44	0.52	0.75	0.66	0.58
USA	0.45	0.44	0.45	0.44	0.42	0.30
Turkey	0.51	0.52	0.54	0.54	0.59	0.56
France	0.32	0.33	0.36	0.35	0.36	0.38
Japan	0.19	0.21	0.24	0.27	0.24	0.22

Sources: 1). The CIS Statistics Committee, 2000-2002; 2). The IMF International Financial Statistics, 2002.

Financial resources are available in Kazakhstan, however banks can not undertake high exposures.

Being a small open economy Kazakhstan has no influence over the global prices and should take them as given. As a result, the country has limited set of tools available for efficient influence on the domestic economy, which further increases the urgency of establishment of high-tech productions to reduce the country's vulnerability to externalities.

The indicator of efficiency of utilization of labor and material resources is the index of the production cost per KZT1 of sales. This index is measured by the ratio of the production cost of sold products (works, services) to proceeds from their sales. The less is this index the higher is the profit of the enterprise.

In the economy of Kazakhstan in 2002 produced and human capital was utilized with high efficiency in oil and natural gas extraction (0.39), in the financial sector (0.48), tobacco products (0.58) and nonferrous metals (0.55) production. The production cost to sales proceeds ratio is low in agriculture (0.91), chemical industry (0.85), electricity, gas and water production and distribution (0.86), construction (0.85), food production including beverages (0.8).

Having deducted taxes, transportation and advertisement costs enterprises in many sectors turn out loss-making.

Profitability of the enterprises Reserves can be increased through introduction of new technologies reducing labor requirements and material and power intensity of production.

Production Costs per KZT1 of Sales Proceeds, 2002

	Production costs of sold products (works, services)	Proceeds from sales of products (works, services)	Production Costs per KZT1 of Sales Proceeds
KZT' mln			
Total	1 970 993.6	3 211 898.1	0.61
Agriculture, hunting, forestry	68 687.6	75 337.2	0.91
Mining	530 423.3	1 185 646.8	0.45
crude oil and natural gas extraction	383 218.9	973 496.2	0.39
Manufacturing	526 538.1	773 500.9	0.68
food, including beverages and tobacco	124 053.5	163 793.1	0.76
food, including beverages	104 989	131 017.6	0.80
tobacco products	19 064.5	32 775.4	0.58
petroleum products	35 920.8	58 423.5	0.61
nuclear materials	10 071.5	12 170.8	0.83
chemical industry	14 138.2	16 582.6	0.85
other nonmetal mineral products	21 016.9	27 411.1	0.77
ferro-alloys	75 957	122 015.4	0.62
non-ferrous alloys	130 453	238 586	0.55
machinery and equipment	19 565.6	24 029	0.81
Electricity, gas and water production and distribution	159 056.9	185 563.2	0.86
Construction	168 742.8	198 873.7	0.85
Transport and communications	314 160.6	476 446.8	0.66
Finance	2 758.6	5 790.5	0.48

Source: Statistics Agency of the Republic of Kazakhstan

2. GOALS, OBJECTIVES AND PRINCIPLES OF THE STRATEGY IMPLEMENTATION

The industrial policy shall mean a set of measures undertaken by the state to create conducive environment and to support businesses in establishing competitive and efficient domestic industry.

The State Industrial And Innovation Development Strategy is expected to ensure achievement of the goals set up in the 2010 Strategic Development Plan and to lay down the foundation for development of service and technology orientation of Kazakhstan's economy in the future.

The main goal of the Strategy is the sustainable development of the country through non-extraction oriented economic diversification; preparation of conditions for the transition to the service- and technology-based economy in the long-run.

Production of competitive and export oriented goods, works and services in manufacturing and service sectors is the main focus of the state industrial and innovation policy.

Competitiveness shall mean ability of the national economy to produce exportable products. In other words, manufactured products should meet the international standards for similar goods and be competitively priced.

Development of extraction sector of economy shall be carried out in accordance with respective branch and sectoral Government programs.

The Strategy targets to:

Ensure 8-8.4% average annual growth rates in manufacturing sectors; increase the labour productivity in 2015 in minimum 3 times compared to 2000; reduce the power intensity of GDP in 2 times;

Increase production of fixed assets in manufacturing sectors;

Create conducive business environment, outline and content of public institutions encouraging the private sector to produce and improve competitive advantages, develop elements of the value added chain in specific industries targeting the ones with the highest value added;

Encourage establishment of science intensive and high-tech export oriented productions;

Diversify export potential of the country targeting production of goods and services with high value added;

Transit to the international quality standards;

Enhance integration into the regional and global economy, be involved into the world scientific and technical and innovation processes.

The state innovative industrial policy should be based on the following principles:

Partnership with the private sector;

Orientation of investment and innovative proposals to increase in competitiveness of goods and services produced in non-extraction sectors;

Financial and other types of state support to implementation of projects promoting industrial modernization, transparency and publicity of procedures for provision such support;

Comprehensive state support to industries developing value added chains;

Ensuring equal flat terms for competition and sound competitive environment;

Elimination of any case-by-case benefits and preferences;

Targeting industrial policy towards creating competitive advantages.

All these tasks accomplished, significant qualitative changes made in the structure of the economy and the economy diversified will ensure sustainable economic development for Kazakhstan.

3. SETTING PRIORITIES FOR INDUSTRIAL AND INNOVATION POLICY

Priorities for the industrial and innovation policy are all potentially competitive and export-oriented non-extracting industries. To meet long-term strategic challenges the special focus should be on creating conditions for development of research-intensive and high-tech productions.

The proposed approach does not prevent entrepreneurs from different sectors from seeking ways for technical and organisational improvement of existing production facilities and creation of new export-oriented products.

Private sector should generate specific proposals, while second-tier banks and state investment and financial institutions being established will review the proposals based on specialised methodology with the view of their potential implementation in partnership with the private sector.

Legislation of countries with market economy – including Kazakhstan – prohibits allocating budget funding for financial and investment support to private companies. Pursuant to the international law, state financial support to specific private companies

should be regarded as the state corruption. This approach has already been proved by practice.

The state neither can nor may provide financial support to specific companies, but it may and must catalyse and initiate competitiveness promotion, encourage modernisation and innovative initiatives of private companies thus creating and improving their production and competitive potential.

3.1 Methods for Setting Priorities for the Industrial and Innovation Policy

The international practice proves that a country with a market economy can co-operate with a private sector in structural adjustments in economy. The most successful examples of such a co-operation are to be found in Japan, South Korea, Malaysia, some other countries having accomplished significant breakthrough in their economic development over the recent thirty years.

The today's China also pursues the policy of co-operation with the private sector in designing strategic industrial development directions.

Study of the World Bank proves that all approaches to the state industrial policy may be put under three broad categories: investment co-ordination, business co-operation development and market substitution.

Investment co-ordination. In underdeveloped markets companies are not able to assess the demand for new better quality products to be produced through expansion of the production facilities. Thus, the state undertakes to co-ordinate those investments, which can be beneficial for companies only if implemented jointly.

This investment co-ordination model suggests certain capacity at state and private institutions – which is not the case in the majority of developing countries.

Business co-operation development initiatives. Proactive state business co-operation policy can be directly targeted to strengthening business contacts under the following categories:

- Specialised groups of buyers formulate new market niches and are a signal information on product standards;
- Suppliers of equipment pass production experience together with it;
- Suppliers of inputs contribute to generating new ideas and production methods, while competitors are a rich source of new ideas.

Groups of companies, buyers, suppliers of equipment and inputs, services, sector associations, engineering and design bureaus and other specialised co-operation institutions work together within one and the same region.

Countries with underdeveloped market may need a catalyst (state or private) to activate the cumulative market extension and business co-operation processes.

Market substitution. This approach is connected with the attempts of the Government to phase the market out completely. To push industrial growth, Government surrenders to temptation to substitute market estimates with information and estimates generated in the Government sector. These attempts very seldom yield good results.

Experience of the Philippines in 70s and 80s demonstrates what can happen when Government is manipulated by influential private groupings.

Partially moved by the desire to create new business opportunities within the country for its allies, in 1979 the Government of the Philippines promulgated new “large industrial projects” Program amounting to USD5 bln (for fund-intensive heavy industries solely). After one year having been pressed by the Programme opponents the Government agreed to economic and financial re-appraisal of all the projects. Political and financial disturbances shortly afterwards also contributed to the process. By the end 1987 5 of 11 initially proposed projects totaling to almost USD4 bln (from the total of USD5 bln) were terminated as unfeasible. Only 4 projects totaling to USD800 mln proved profitable.

Based on the international experience the Strategy implementation should focus at initiatives targeting investments co-ordination and development of business co-operation. Financial support will be provided only through shared participation of development institutions with the private sector – including second-tier banks – undertaking the main risks.

Through development institutions the state will participate in projects targeting establishment of comprehensive production system producing competitive products through consistent development of technological and economic value-added chains. This will support establishment of multi-sectoral enterprises manufacturing finished products adequate to all the parameters of competitive products.

Modern economic practices have worked out and been broadly applied the development strategy review and design methodology based on perception of economic sectors as value-added chains.

The concept means that every sector can be viewed as a chain of productions, each of them consecutively adding value to the finished product.

The value-added chain review methodology distinguishes two main types depending on determinants driving or dominating the chain, thus structurally classifying value-added chains as vertical and horizontal.

As a rule, economic activity in vertical value-added chains is limited to one company only. For example, one and the same company produces and processes raw materials, manufactures component parts and assembles the product.

In horizontal value-added structures economic activity is evenly distributed across numerous economic entities: one company(s) designs the product, others manufacture component parts, third – assemble them.

As a rule, value-added chains dominated by manufacturers are vertically structured, while value-added chains dominated by buyers are structured horizontally.

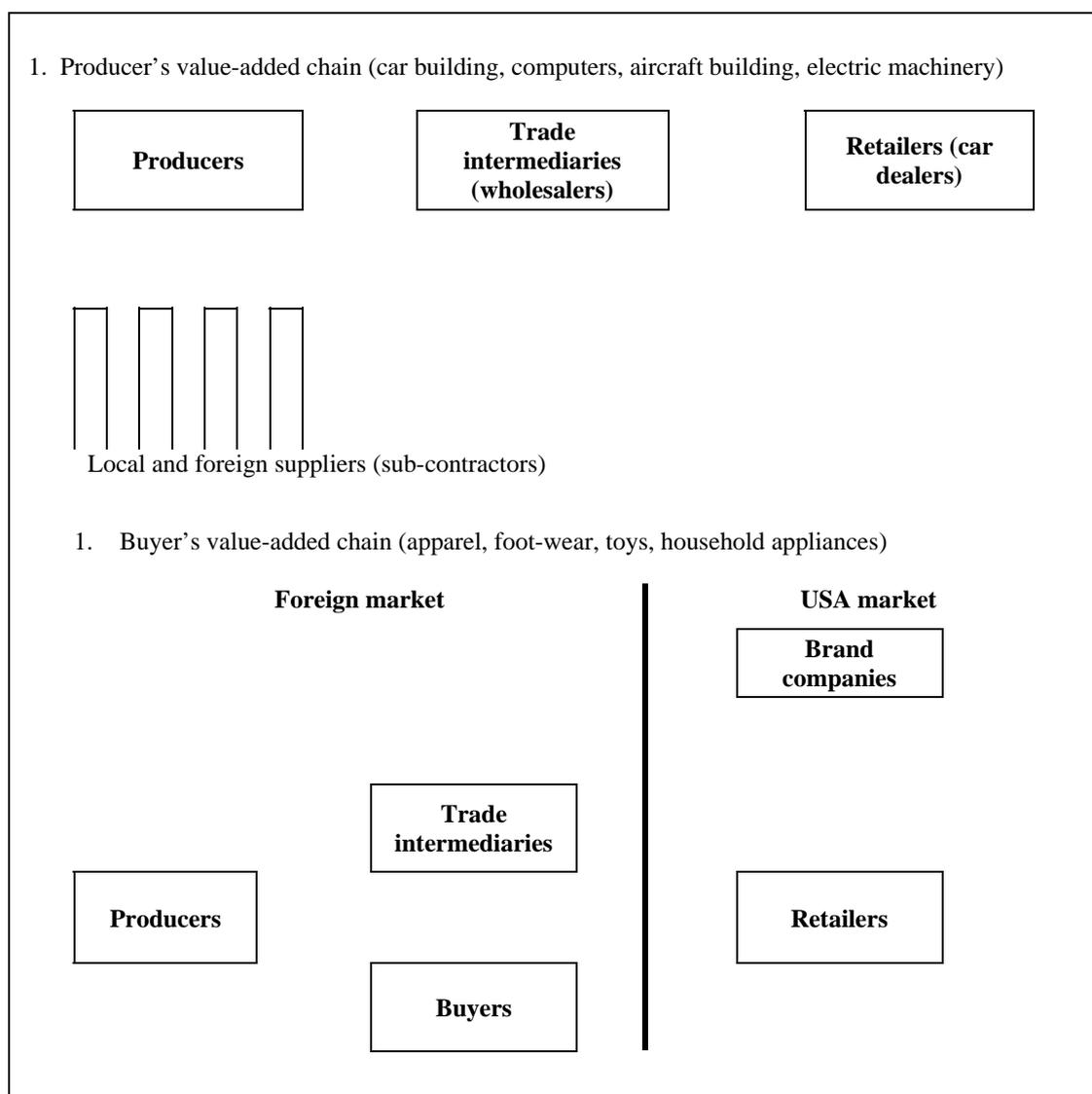
In general, the maximum dominant in the chain gains the maximum added value.

The modern car building value-added chain consists of manufacturers of component and assembly parts for cars, car designers, assemblers and distributors with car assemblers dominating the chain mainly in the form of gaining the maximum value added.

Apparel manufacturing value-added chains is a conspicuous example of buyer-dominated value-added chain, constructed with designers, wholesalers, retailers, weavers, raw materials producers and processors, apparel factories with designers and wholesalers playing an exceptional role in this chain since they gain the maximum value added and determine what to produce.

In some countries growth in incomes of the population, toughening environmental and other requirements for producers affect significantly distribution of value-added. For instance, despite significant increase in wages in Hong-Kong resulting in loss of city's competitive advantage in apparel and foot-ware production it did not drop out from the value-added chain due to the experience and necessary connections of local companies to obtain quotas for supply of garments and foot-ware to the USA. Should the US Government eliminate quotas, Chinese companies most probably would deal with the direct supplies.

PRODUCER'S AND BUYER'S VALUE ADDED CHAIN



In Kazakhstan good examples of a vertical value-added chain are the “Kazakhmys” OJSC and the “Kaztink” OJSC with ore mining and dressing, primary and secondary metal production, by-production (gold, silver, rare earth metals) included under their structure. However, here the chain breaks. Further the products are processed in companies of other countries with no official involvement of the above-mentioned enterprises, which reduces significantly their value added.

The “KazakhstanTractor” OJSC is an example of irrational production. The enterprise is organised to buy main units for assembling caterpillar tractors from outsiders –

competitors. As a result, the final price for a tractor is normally higher than at their competitors.

During the implementation of the industrial and innovation strategy production arrangements in many processing industries should be reviewed for the purpose of identifying potentially competitive productions including export-oriented ones and producing economic value-added chain with consideration of world market trends and private sector initiatives.

At the same time Kazakhstan should study global and regional markets more intensively with the view to position itself in sector value-added chains, the task being significantly complicated by entering the global economy – including the extraction sector – from the scratch.

Apparently there is no necessity to encourage reproduction of the entire value-added chain, but rather to focus on elements with the highest value added or those ensuring access to global markets and further progress to economic activities with higher value added.

In this context the state should rather support comprehensively all the key value added chain elements than some separated elements as it is currently the case. In other words, to support not individual enterprises or industries, but rather all – or key – enterprises even from different industries, but connected within one value-added chain. This will be a manifestation of the co-ordinating and planning function of the state.

For review of economy sectors and various productions with consideration of value-added chains the Marketing and Analytical Research Center shall be established. It is preconditioned by the fact that emergence and formation of domestic consultancy services market in the sphere of marketing and profound markets study is at its initial stage, the expenditures on analytical research are high and private sector feels a need for analytical market surveys performed at the international level. Through establishment of the Center the state pushes dynamic development of this sector. In the course of growth and development of the domestic advisory services market operation of the Center as a state one shall turn inexpedient and it shall be privatised in mid-term perspective of 3 to 5 years.

3.2 Using Investment And Production Potential of Fuel And Energy Complex and Other Fundamental Sectors of the Economy to Determine Priorities for Industrial Modernisation

The field or base for development and establishment of competitive export-oriented value-added chain-based productions should be industries having accumulated major investment projects and producing technologically multiple-convertible products with value added increasing at every conversion.

Almost all oil-exporting countries are concerned with diversification of their economy, with certain experience in this area already available internationally.

With a view to mitigate the impact of fluctuations in global oil and petroleum products prices over the recent ten years the largest oil exporting countries have been improving the production structure of the economy through redistribution of oil export revenues. At the same time capital has been exported to other countries to gain profits from developed economies.

Investments into oil and gas sector increasing every year in Kazakhstan nourish diversification of the economy.

In this context one of the main driving engines of industrial development is the development of Kazakhstan sector of the Caspian Sea (KSCS). The most significant growth of hydrocarbon extraction should be expected due to resources of Kazakhstan sector of the Caspian Sea with the hydrocarbon resources estimated to total of 8.0 bln tones. In the future the off-shore oil extraction may amount to 150-200 mln. tones for 25-30 years onwards.

Subsalt deposits in Northern part of Caspian Sea are characterized by high solute gas content in oil – about 60%. Resources of extractable gas in oil of the Kashagan field are expected to turn equal to the resources of the Karachaganak field.

In general, mid- and long-term development of the fuel and energy complex of Kazakhstan will be determined by the development of Kazakhstan sector of the Caspian Sea since after 2006 there won't be any significant growth of on-shore extraction.

Caspian region will experience a boom of investment and production activity significantly affecting general economic trends in Kazakhstan due to growth of hydrocarbons extraction, construction of oil-trunk pipelines, including export oil and gas pipelines, sea ports and port facilities for storage and trans-shipment of cargos, bulk oil and gas loading railway terminals, commencement of new capacities in power industry and telecommunication infrastructure.

Development of hydrocarbon extraction at the Caspian Sea will create conditions for formation of local raw material base for petrochemical industry. Construction of petroleum chemical complex on processing of accompanying natural gas is planned near the industrial zone of the Kashagan deposit with expected involvement of major investors. The complex will produce a wide range of liquid components and primary petrochemical products – ethane, propane, butane, hexane, ethylene, propylene, acetylene, benzol, xylol, etc. and manufacture plastics and elastomers from these products.

In the nearest fifteen years investors are planning to invest more than USD80 bln into oil extraction. These funds will be utilized to create production, infrastructure and social facilities to support operations of newly commenced enterprises.

The above investments will generate demand for a broad range of partially temporary goods and services, while another part of investments will support establishment of productions demanded both internally and externally even upon exhaustion of oil reserves.

For instance, development of the Caspian coastal infrastructure will create pre-conditions for the recreation industry, sea-ports – for lowering cargo transportation costs, machinery-building factories – for production of barges, cargo, fishing and military ships, broad range of equipment and household appliances, etc.

Increasing degree of strategic raw materials processing looks promising from the value-added chain perspective.

Increasing degree of processing will allow for producing over 200 types of polymer ware for both industrial (all sectors of country's economy) and household consumption. Development of value-added chain in this area will create conditions for establishment of a multi-sectoral transnational corporation.

Metallurgy is another promising area for value-added chain development with over 100 elements from the periodic table contained in mineral ores on the territory of Kazakhstan. During the Soviet Union 74 of those elements were extracted. Ferrous products from Kazakhstan were used in science intensive and high-tech productions – space apparatuses and equipment and electronic appliances.

Inflow of large investments into Kazakhstan will generate demand for sanitary engineering, ironmongery, furniture accessories, dyes, paints, etc. All these items can be produced in Kazakhstan through increasing degree of processing of oil, gas and metals, with these products being able overtime to find their niche at the global market.

Kazakhstan is one of large grain producers in the world. Increasing degree of grain processing can become a starting point for a multi-sectoral value-added chain. This chain can be developed through deepening technological grain processing, production of fodder, livestock, meat and dairy products. The value-added chain may include grain storage facilities, producers of agricultural machinery and mineral fertilizers, natural food dyes, pharmaceutical products, biotechnologies, etc.

The above directions of economic diversification and export orientation in Kazakhstan may potentially be priority areas. However, final decision on providing the state support to implementation of the proposed projects may be made only upon detailed review of competitive advantages in developing deeper value-added chain-based processing technologies for the above products.

To determine the priority economy areas based on the value-added chain will require economic co-operation with regional representatives of transnational companies in establishment of productions providing for further development of value-added chains.

3.3 Potential Priorities for Establishment of Science Intensive and High-Tech Productions

One of the major characteristics of the modern economic development is its volatility due to regular replacement of technologies based on the most advanced research and developments for the certain state. At the point of technology transformation countries having lead during the previous technological period are faced with devaluation of capital and loss of qualification of workers involved into previous productions, while countries having established foundations for the new production technology system become the centres of gravity for the capital fleeing traditional productions.

The innovative industrial policy being currently developed aims to strengthen research and technological, innovation and production capacity in promising directions of post-industrial development thus contributing to future critical competitive advantages.

The main directions should be:

1. Assistance with establishment of high-tech productions including effective systems of both international and intersectoral technology transfers;
2. Establishment and support to modern scientific and innovation infrastructure institutions (technology parks, national research centres, research and technology zones) on the basis of existing centres in the cities with a network of research and industrial institutions and enterprises with high research and technological potential;
3. Utilization of the existing research and technological capacity to develop advanced – from the post-industrial economy perspectives – sectors.

Currently there is a certain research base available in Kazakhstan for development of science intensive productions based on domestic developments in:

- Biotechnology (new varieties and gene types of agricultural crops and animals, bacteria strains, etc.);
 - Nuclear technologies;
 - Space technologies;
 - Creation of new materials, chemical products.
4. Creation of necessary conditions for research in modern scientific and technological areas:
 - New materials and chemical technologies;
 - Information technologies.
 5. Improvement of the legal framework aimed at encouragement of innovation activity of scientific and technological and production organizations and enterprises, attraction of investments in science and innovations and at expedition of innovations' introduction into industries and services.

4. STATE DEVELOPMENT INSTITUTIONS

One of the important tasks of the Innovative Industrial Strategy is to ensure implementation of targeted investment and technological research programmes, investment regulation and innovations promotion through revision and certain adjustment of the existing state system for managing innovative industrial development.

For attainment of the goals set in the Strategy it is necessary to establish new and strengthen the existing state development institutions namely: Kazakhstan Investment Fund, Kazakhstan Development Bank, Kazakhstan Innovation Fund, Export Insurance Corporation.

In general, development institutions will form up a unified **system** with its sustainable development based on decentralisation, specialization, competition and transparency.

Decentralization Principle stands for availability of numerous sources of support to private sector initiatives, including financial support. In practice it means that the state shall not focus financial and information sources in only one development institution. This will provide a chance to:

Avoid potential system errors in decision making;

Lay the foundation for competition and, as a result, for more open policy in provision of support.

Carry out deeper analysis of private sector initiatives, e.g. if a promising investment project did not get support from one development institution, there is a chance to get it from another one.

Specialization Principle stands for specialization of development institutions in specific operations and/or activities, e.g. Kazakhstan Development Bank specializes in financing projects through bank crediting; Kazakhstan Investment Fund finances projects through share holding (non-controlling) of authorized capital; Innovation Fund provides support through grants, including the ones given to scientists and research institutions, and share holding. The specialization principle does not mean that development institutions shall **only** undertake the operations and activities within their specialization. They can perform other types of operations (activities) which are not their major ones. In view of that the limits for carrying out minor operations and activities shall be established.

Competition Principle stands for carrying out activities by the development institutions on competitive basis. This need is related to the fact that at the current stage the development institutions have to simulate market ones, which are missing at the given stage of development. Considering the market nature of simulated institutions it is necessary to build their activity on market, i.e. competitive basis. The competition principle grants an opportunity to appraise the results of institutions' activity.

Transparency Principle stands for establishment of transparent system of corporate management of state development institutions ensuring managers' accountability and responsibility, appropriate control of targeted and effective use of financial resources. The state should protect the activity of development institutions from any pressure for the purpose of proper fulfilment of the tasks set before them. The institute of independent directors (with involvement of highly professional foreign managers having perfect

business reputation) and other modern corporate management tools are going to be intensively applied for execution of the above principle.

4.1. Kazakhstan Investment Fund

The main purpose of establishment of the Kazakhstan Investment Fund (KIF) is to provide financial support to private sector initiatives in non-extraction sectors through non-controlling share holding of the authorized capital of the enterprises both in Kazakhstan and abroad.

The need in establishing KIF is preconditioned by underdevelopment of stock market, low capitalization of domestic companies and by unavailability of adequate market mechanisms encouraging flow of investments into manufacturing industry in the domestic market. Establishment of KIF shall become a signal for financial sector on the need to move to qualitatively new level of performance. KIF partnership with banks and other financial institutions shall push development of new productions and stock market.

Along with emergence of private investment funds the role of KIF as a state financial institution shall be decreasing, it shall be privatised after emergence of 3-5 equal ranking private investment funds.

The decision on provision of financial support shall be implemented after complex analysis based on value-added chain methodology and after identification of the key elements of the chain. If the results of analysis show the need in establishing a range of value-added chain productions, the establishment of all the key productions shall be encouraged. At that one of the primary criteria for projects evaluation shall be their commercial payback. The other criteria shall be export orientation or focus of the project on import substitution. All the private sector initiative referred to non-extraction sector of economy shall be subject to analysis.

To facilitate financing of the projects in case of deficiency of funds in private sector KIF shall carry out co-financing through minority share holding of the authorized capital (equity purchase). Moreover the provision should be set that the state holding of shares shall be sold after project implementation.

This will allow KIF to encourage both establishment of new productions, including high-tech ones, and stock market development.

KIF should fully cooperate with Kazakhstan Development Bank, these two institutions should complement each other in financing projects through crediting and initial capital distribution.

In the nearest and mid-term perspective the issue of engaging foreign specialized financial institutions in KIF activity shall be considered. Cooperation shall be carried out

both in the form of attracting foreign specialists and share holding of KIF authorized capital.

4.2. Kazakhstan Development Bank

The main objective of the Kazakhstan Development Bank will be to support private sector and state initiatives (in particular in the sphere of infrastructure projects) through provision of long term and medium term credits with low interest rate, including export ones, and through issue of indemnity bonds on loans and credits granted by other credit institutions.

Kazakhstan Development Bank's performance is preconditioned by inability of the financial system to provide long term and low interest rate credits due to significant risks and by the need to lower interest rates within the banking system. When private sector is able to fully ensure execution of this function Kazakhstan Development Bank will mainly focus on infrastructure, social and regional projects.

The decision on provision of such financial support shall be implemented after complex analysis based on value-added chain methodology and after identification of the key elements of the chain. Value-added chain analysis should also be carried out in technological and other aspects important for the project. At that one of the primary criteria for projects evaluation shall be their commercial payback.

In the nearest future institutional strengthening of Kazakhstan Development Bank will be carried out providing for increase in authorized capital, possibility of establishing associated specialized financial institutions, in particular leasing ones. Besides Kazakhstan Development Bank will be probably authorized to finance the projects outside the Republic of Kazakhstan.

4.3. Innovation Fund

The Innovation Fund is meant for encouraging venture function of market economy, which is fully represented not in all the developed countries. This function is of special importance for creation and development of high-tech industries such as information sector, electronics, biotechnology and others. Thus, the main objection of the Fund activity shall be assistance to growth of innovation activity, development of high-tech and science intensive productions in the Republic of Kazakhstan.

Establishment of the Innovation Fund should solve the system problem of deficiency of effective market mechanisms for introducing innovations which is characteristic of all the post-Soviet countries.

The given problem lies in two planes, firstly, this is the need to introduce already developed innovations, secondly, it is financing of applied scientific research and experimental design activities for developing innovations.

For solution of the problem the major efforts of the Innovation Fund shall be focused on stimulation and development of venture funding in the Republic of Kazakhstan coming from private sector and establishment of innovation infrastructure. At the initial stage of its operation the Innovation Fund together with domestic and foreign partners will finance innovation projects and establish venture funds.

In the course of emergence and growth of domestic venture capital the Innovation Fund shall decrease its activity on financing venture projects and focus on strengthening innovation infrastructure and financing applied scientific research.

The main objectives of the Innovation Fund will be:

- Participation in establishment of innovation infrastructure (technology cities, technoparks, information and analytical centers, etc.)

- Establishment of venture funds together with domestic and foreign large venture investors of international level;

- Share holding of the authorized capital of the established and existing enterprises for the purpose of producing high-tech and science intensive output, development of new technologies;

- Grant financing of some scientific research and experimental-engineering works aimed at creation of new technologies, goods, services, which are promising from the point of view of commercial effect and technological development of economy.

The decision on assignment of grants by Innovation Fund shall be executed only after holding independent scientific and technical examination with involvement of foreign scientists. Scientific research activities selected for financing should in general comply with the projects funded under KIF and Kazakhstan Development Bank.

Considering that venture institutes in the country are underdeveloped at the first stage of Program implementation it will be necessary to elaborate and adopt adequate legislation framework for encouragement and regulation of venture activity.

International experience proves that in the system of new knowledge generation all the types of scientific research have the same significance and it is not expedient to give a priority to applied research only. Besides increase of labor and capital productivity, and hence competitiveness of economy, is impossible without establishment and strengthening own scientific and technical potentials.

On that reason basic scientific research will be funded from the state budget.

Innovation Fund will undertake its activities within the framework of the state scientific and technical and innovative policy.

4.4.Export Insurance Corporation

The main objective of the Export Insurance Corporation will be direct assistance to the export of goods and services of Kazakhstani producers through insurance and reinsurance of political and regulative risks. Export Insurance Corporation will carry out marketing studies for promotion of Kazakhstani produce export, will undertake surveys with further dissemination of information on potential markets. The given tool is widely recognized and aims at facilitation of export transactions from financial and administrative angles.

As the domestic insurance market grows and gets ready for insurance against risks related to export and import transactions the Export Insurance Corporation will concentrate on insuring against political risks and dissemination of commercial information on international markets.

5. TRADE POLICY

5.1 Trade Liberalisation

The sphere of trade should become a major ground, which will foster industrial and innovative development. Due to that trade policy of the Government of the Republic of Kazakhstan shall be aimed at creation of conditions for development of competition, which is the main mechanism of market economy self-regulation.

Further protection of the market from imports leads to hopeless lagging of domestic manufacture goods behind their foreign analogues in terms of both price and consumer characteristics.

In the globalisation era a closed – and especially small – economy may remain in the early capitalism forever (as it is currently the case in many Central Asian Countries). And consequences of the closed economy will be much worse than what Kazakhstan experienced in early 90s.

The policy of competition and export promotion will come to replace import substitution policy.

The main objective of the Government trade policy will be to establish common economic area in Eurasian region with the closest partners from CIS. At that the guiding line will be transformation of the country into a regional high-tech, export-import, investment, financial and trading center.

Great experience in creation of export-oriented economy models was accumulated in the world.

The following five types of export orientation can be distinguished: commodity exports, inward processing zones, export of component parts, finished consumer goods and export of finished brand products.

Commodity exports is the main type of export in developing countries. In African countries (except for the SAR) these exports account to 90% of the total exports, in Latin America and South-East Asia – about 30-60% with only few countries – such as China, South Korea and Singapore – having an insignificant proportion of commodity exports.

Inward processing zones emerge in the countries with cheap labor and in the sectors requiring significant labor costs for assembly of unsophisticated items. As a rule, enterprises producing such products are owned by foreign investors. The state extends certain preferences to promote investments into such zones to provide employment for the local population and to earn foreign currency.

Inward processing zones are a first step in the export industrialisation of developing countries. First of such zones appeared in 1960s in Asia and Mexico. At present inward processing zones are predominantly located in countries with extremely low wages – i.e. in China and South-East Asia. Africa in general is lagging behind the other “third-world” countries due to undeveloped infrastructure (especially transport), shortage of concentrated cheap human resources and cultural barriers to foreign investments. In Latin America inward processing zones are common mainly due to cheap labor and proximity to the largest market of the USA.

Export of component parts means production and export of component parts for such high-tech industries as car-building and electronics. Component parts are exported mainly by new industrial countries (South Korea, Singapore, Taiwan). Finished items are assembled in developed countries. Export of component parts is characterized by transnational control over enterprises on the territory of new industrial countries,

Finished consumer goods are exported by local companies, while design, marketing, whole- and retail sale controlled by large foreign companies from developed countries. Finished consumer goods export is dominated by new industrial countries – e.g. in 1980 the share of exports from Hong Kong, South Korea and Taiwan accounted to 72% of the total finished consumer goods exports of developing countries. It should be noted, that only East Asian countries managed to create auxiliary industries necessary for viable finished consumer goods export.

Export of finished brand products is a final goods exports more advanced than finished consumer goods export when producers come to foreign markets with their own brands. A conspicuous example of finished brand products exports is South Korea with local companies present at foreign markets with their own brands of cars and electronics.

In general, the finished brand products export is a standard to measure success of export policy of any specific country. Table 1 reviews the global profile of exports.

Table 1: Global Profile of Exports

	<i>Commodity exports</i>	<i>Inward processing zones</i>	<i>Component parts exports</i>	<i>Finished goods exports</i>	<i>Finished brand products exports</i>
East Asia	X	X	X	X	X
South-East Asia	X	X	X		
Latin America	X	X	X		
South Asia	X	X			
Africa	X	X			

Despite diverse export profiles of developing countries, categories 2 to 5 are a result of one specific mechanism:

Seeking cheap labor, large transnational companies were placing commercial orders in East Asian countries with the latter, in their turn – with increasing costs of domestic labor – on-placing the orders to the countries with the labor remaining cheap. Important for this process is that developing countries of Easter Asia were enabled to enhance their industrial capacity through commercial orders from companies from developed countries, and through improving their industrial capacity developing countries strengthened their positions and advanced to new types of exports.

Due to certain reasons many countries of the world were not given this opportunity to establish new industries through commercial orders. In other words, transnational companies helped certain East-Asian countries to enter into the global economy and then – into rich markets of developed countries.

Legislative basis will be thoroughly analysed for the purpose of creating competitive environment with elimination of all the barriers to passing of goods and services interfering in establishment of healthy competition at Kazakhstani market.

A strategic area of the trade policy should be a gradual complete trade liberalisation. This policy should be implemented in the shortest possible timeframe through partial redistribution of extraction revenues to the benefit of further value added chain development and setting up new productions based on research and innovations.

5.2 WTO Accession

Accession to the WTO is an urgent necessity for Kazakhstan for implementation of the Strategy for Industrial and Innovation Development.

Through accession to the WTO Kazakhstan aims to create conducive environment for sustainable economic growth through external trade and complete restructuring of domestic goods and services production structure in accordance with rules, standards and mechanisms of this institution.

Having acceded to the WTO the Kazakhstan will have to:

- prevent discrimination of exports from Kazakhstan;
- strengthen the international image of Kazakhstan as a country with an open market economy accepting rules and principles of civilised international trade;
- develop regional integration processes within the Eurasian Economic Commonwealth and the CIS;
- advance to creation of a real feasible customs union and the common market;
- proactively confront engagement of special protectionist, antidumping and compensation policies in mutual trade;
- develop and implement efficient measures to promote exports including export risks insurance.

Addressing these tasks through the WTO measures and mechanisms is especially relevant for the transfer to finished goods exports with the market over saturated and extremely competitive.

At present Kazakhstan is trading with 135 from the total 144 WTO member countries. Accession to the WTO will enable Kazakhstan to trade with these countries pursuant to unified rules and mechanisms.

The WTO membership promotes introduction of modern technologies and production methods in industry, boosts competition at the internal market, improves competitiveness of domestic products at external markets and increases foreign investments urgently needed in manufacturing industries and innovations-oriented enterprises especially.

Average weighted import rate in Kazakhstan is approximately 8.6% - that is almost equal to the average WTO rate (6-7%). Items eligible for 0-15% rate account to 95% of all commodity items. So, there is no grounds for concerns about weakening of the internal market in general.

Kazakhstan should synchronise its accession to the WTO with its main trade partner Russia.

6. INVESTMENT POLICY

The objective of the state investment policy in the context of innovative industrial development will be to identify the sources of funding and appropriate mechanisms for support and attracting investments in the niches not possible for the private sector without the state intervention.

The state investment policy will combine comprehensive encouragement of private investments with the public investment programmes aiming to develop non-extraction industries.

The Strategy for Industrial and Innovation Development envisages application of all public investment policy mechanisms available.

6.1. Creating Conditions for Private Investors

During the recent three years total from USD68 mln to USD130 mln was being invested annually into machinery building, light industry, furniture production, pharmaceuticals, paper industry and other manufacturing sectors (excluding metallurgy and food and beverages production) compared to from USD1.773 bln to USD2.3 bln a year invested into oil extraction industry.

Investments Into Industrial Construction

	1999			2000			2001		
	KZT, bln	USD, mln	%	KZT, bln	USD, mln	%	KZT, bln	USD, mln	%
Industry Total	190.7	2 435.7	100.0	299.4	2 505.1	100.0	440.0	3 090.1	100.0
Extraction	150.8	1 926.1	79.1	252.5	2 112.7	84.3	355.1	2 493.4	80.7
Incl. oil extraction	138.8	1 773.0	72.8	228.3	1 910.3	76.3	330.3	2 319.2	75.1
Manufacturing	29.3	374.4	15.4	31.4	262.4	10.5	61.2	429.9	13.9
Incl.:								0.0	
Metallurgy	12.2	155.4	6.4	16.7	140.0	5.6	34.7	243.6	7.9
food and beverages	9.5	121.5	5.0	6.6	54.8	2.2	8.1	56.9	1.8
other sectors	7.6	97.5	4.0	8.1	67.6	2.7	18.4	129.4	4.2
electricity, gas and water production and distribution	10.6	135.2	5.6	15.6	130.1	5.2	23.7	166.8	5.4

Source: Statistics Agency of the Republic of Kazakhstan

A considerable proportion of private investments are investments into the subsoil use potentially able to produce a multiplicative effect to development of other sectors. In order to achieve such effect, at the point of signing contracts with subsoil users investors should be requested to undertake to invest a proportion of profits into establishment and development of allied processing industries and to order supply of equipment and spare parts from domestic producers.

The Program of attracting direct investments into the Republic of Kazakhstan for 2003-2005 shall be elaborated to ensure balanced economic development through the growth of direct domestic and foreign investments in priority activities one of its main directions being manufacturing industries development.

Manufacturing industries as such – including innovative ones – remain unattractive for private investors. In this regard the mission of the state is to create conducive investment environment for attracting private investments into manufacturing industries.

Investment tax preferences, state in-kind grants and a number of guarantees provided in the Law of the Republic of Kazakhstan “On Investments” to investors investing into fixed assets of enterprises in the priority sectors will be used as economic leverages to encourage private investments. The preferences provided in the Law, however, will not be able to effect to a desired extend the development of innovative industrial sector due to inadequacy of the suggested preferences compared to commercial unattractiveness of the sectors concerned. Therefore, they should be complimented with fiscal measures.

Economic leverages should be accompanied with institutional measures. The amount and quality of the information on investment opportunities in the Republic of Kazakhstan and its regions affects significantly the investment decision making. Therefore, presentation of investment opportunities should emphasise innovative industrial development. Local information and consultation centres will be established helping both potential investors to find feasible projects as well as enterprises themselves to identify and design investment projects potentially interesting to a private investor.

To compliment information and presentation activities more active dialogue should be initiated with investors – and with transnational companies specifically – on joint implementation of large innovative industrial projects.

Additionally, to increase investment attractiveness of priority industries the state will take measures aimed at:

- Increased protection of minority shareholder’s rights and enhancement of corporate management effectiveness;
- Introduction of a simplified company’s registration system;
- Introduction of a transparent system of licensing activities;
- Expedited transfer of companies to international financial reporting standards.

6.2 Public Investments

Public investments into innovative industrial development will come from the Republican and local budgets, as well as from the state-controlled entities (state financial development institutions, national companies, state-owned enterprises).

Investments into the sectors laying intellectual and infrastructure foundation for development of industrial innovations should remain among the priorities of the budget investment policy. That is, budget investments will be targeted to build up necessary basic and social infrastructure, which is an essential contribution to establishment of high-tech productions facilitating the business and investment activity in the regions.

Budget investments will be directly channelled to innovative industrial sector through both existing and newly established state financial development institutions with the core mandate to attract resources from internal and external credit resource markets and institutional investors to finance projects in priority sectors.

The public investment policy in the innovative industrial sector will be mainly implemented through existing and planned state financial development institutions the main activity of which is attraction of funds at both external and internal loanable funds market and also the funds of institutional investors for financing investment projects in priority economy sectors.

Upon identification of the potential for each of the types of production the investment policy should focus on a narrower segment of the non-extraction sector of the Kazakhstan economy. Only in this case a number of powerful industries will emerge able in the long run to build up the foundation for the Kazakhstan economy jointly with the extraction sector.

In other words, investment and administrative resources of the state are limited and overspreading the resources over a large array of sectors can only result in emergence of a number of mid-developed sectors with high value added, but with relatively low international competitiveness.

National companies should become another instrument for implementation of the public investment policy in the innovative industrial sector. Owing large national companies in the strategic sectors of the economy, the state should actively get them involved into high-tech productions in non-extraction sectors both as investors and as consumers.

7. MEASURES ON INCREASING PRODUCTION FACTORS COMPETITIVENESS

7.1. Labor

7.1.1. Labour Resources

Implementation of the Strategy directly depends on supply of highly qualified professionals adequately responding to challenges of innovative development of

industrial production. It is equally true to engineering and technical, research and designing staff and managers.

To respond to this challenge, a dedicated programme will be developed for training specialists in different professions (occupations) required for developing the industry and high technologies.

Employment is another important social and economic issue directly addressed in the Strategy. Accelerated development of manufacturing with high value added will on the one hand increase employment and inter-sector flow of labour, while on the other hand innovative development will bring employment down in certain sectors – especially among low-skill workers.

The latter problem will be mitigated through inter-sector flow of labour and inter-regional migration of labor with increasing its mobility. This will require professional training and re-training (including for worker's professions) through both public and private network of development of labour and housing markets, social and living conditions, local production infrastructure, etc.

Currently the domestic labour and employment market is tangibly pressed by the inflow of specialists and workers from abroad imported by foreign companies operating in Kazakhstan.

The companies have a choice:

- Either to employ foreign specialists within the quota fixed by the Government of the Republic of Kazakhstan; or
- To employ local specialists with the same skills but at significantly lower costs.

At the second stage of Strategy implementation the Government of the Republic of Kazakhstan will consider the issue of improving the mechanism of attracting foreign labor.

7.1.2. Education and Professional Training

An integral pre-condition for success of the innovative industrial strategy will be availability of the **high-quality human capital**.

Education is one of the pivotal “fulcrum” ensuring sustainable economic development in any country.

In the context of globalisation economically developed countries put pooling the most promising scientists and high-skilled professionals on the top of their policy agenda.

“Brain drain” has become one of the major constraints to the economic development in post-Communist countries. Without stabilising this situation and without increasing the overall level of education in the country Kazakhstan will never be able to decently position itself in the world.

In the modern world economic growth is associated with scientific and technological progress and with professional quality of labour primarily.

Education system in Kazakhstan should develop dynamically and respond adequately to accelerating globalisation and informatisation trends. The clear-cut state reform policy is required for education and professional training, especially in the part of vocational training and innovation management.

The work in this direction shall be systematized based on study of the developed countries’ experiences in close cooperation with employers. In some countries, Germany for example, all the businesses have to be the members of organizations engaged in training and retraining of workers in accordance with the demand for labor. Each member of such an organization is to pay a membership fee and submit applications on the worker professions he needs.

As international experience shows the innovation activity requires adequate higher education complemented by post-graduate studies for obtaining master’s and doctor’s degrees.

Education reforms should be cut-through and cover all the levels and areas of professional training.

The state education and professional training reform policy should address objectives as follows:

- Putting specialists’ training for innovation activity at the top of education development agenda;
- Establishment of vocational and technical training, attestation and retraining institutions for worker and technical professionals with both public and private participation;
- Improvement of physical and methodological base for all types of education;
- Development and introduction of education standards adequate to international requirements;
- International cooperation in training and attracting to Kazakhstan qualified professionals to operate newly established production facilities;
- Establishment (based on international experience) of new or re-profiling of operating higher education institutions into specialized institutes (universities) for training specialists in high-tech production;
- Training specialists in professions required for development of innovation activity in the republic, such as: innovation projects managers and experts; specialists in

international marketing and patent law, assessment of potential risks of investment projects and the ways of mitigating it, specialists in venture financing, etc.

7.1.3. Health Care Development

The situation with people's health predetermines the level of socio-economic, cultural and industrial development of any country.

Health care is one of the major priority sectors in the country from the view point of sustainable and stable growth of population's well-being.

Within the Strategy framework the main objective of health care is creation and establishment of domestic scientific and innovation potentials.

Therefore to achieve new and reinforce the already attained levels it is necessary to create conditions for dynamic development of health care system with consideration of domestic and international experience.

Along with such traditional trends as development and execution of measures on state medical-social and legal support to health care, improvement of physical and technical base of health care institutions the state health care policy shall direct health care at introduction of modern medical technologies including application of clinical diagnostic and treatment protocols with focus on resource conserving, cost-effective methods enhancing population's access to medical care.

The other trends in development of health care sector will be as follows:

- Enhance competitiveness of health care services, ensure priority development of medicines production on the basis of scientific research undertaken by Kazakhstani scientists;
- Support domestic developments in treating socially significant diseases and new medicines, including preventive ones;
- Develop modern information and innovation technologies in health care;
- Develop international cooperation in health care.

7.2. Capital

7.2.1. Financial Market Development

Monetary Policy

The monetary policy will target low inflation supporting high economic growth rates, creating conducive competitive conditions for domestic producers and supporting the

national balance of payment, promoting further increase in banks' lending to the real economy sector through encouragement of lowering the banks' interest rates.

For 2003-2004 the monetary policy will primarily focus on curtailing the average annual inflation rate to 4-6%, reducing it to 3-5% by 2005 and to 2-4% onwards.

The main monetary policy instruments will be open market transactions such as REPO operations, short-term NBK notes issue and bill rediscounts. The National Bank will continue increasing the regulating role of its official rates – such as REPO rates and bill discount rates – and will maintain them slightly positive in real terms. This will serve as a basis for inflation targeting of the monetary-and-credit policy requiring establishment of a mechanism ensuring strict fulfilment of the obligations on attaining the set objectives thus increasing confidence in the monetary-and-credit policy pursued.

In terms of payment system arrangements, the NBK's efforts will focus on introduction of the National interbank payment chip-based cards system.

In the coming years jointly with central banks of the EurAsia Economic Commonwealth member countries the National Bank of the Republic of Kazakhstan will continue restructuring of the common payment system for the EAEC member countries alongside with other areas of integration of financial markets.

The monetary policy will contribute to sustainability of the financial market, further development of the insurance and securities markets, strengthening of the banking system, creation of conditions for further increase in banks' lending to the real sector, and to improving the pension accumulation system”.

Currency Liberalisation

Limitations and barriers established by the existing currency legislation of the Republic of Kazakhstan are typical to the majority of countries developing market relations.

The current objective is to phase out certain limitations for currency transactions, to introduce other ways to regulate the currency transactions consistent with the modern requirements and international practices.

Exchange rate policy will be aimed at supporting manufacturing and export-oriented industries.

By 2007 the currency regime is expected to be completely liberalised. To improve competitiveness of domestic goods and services the National Bank of the Republic of Kazakhstan will gradually decrease the degree of currency control in regulating the exchange rate. The presence of foreign banks at the domestic financial market is proposed to expand.

Strategically, Kazakhstan is being established as a small open economy oriented at export of goods, services, capital.

Under economic globalisation large developing markets are more concerned with search for investments rather than for goods and services, which gives them an opportunity to create new sources of long-term income. Involvement of domestic financial resources in development of such large markets as China and Russia will create a sustainable and reliable source of income for entrepreneurs.

Institutional Development of Actors of the Financial Market

In 2004 a single independent financial market supervisor is proposed to be established responsible for the efficient control over all financial institutions and comprehensive protection of investor's rights and interests.

Banking Sector

One of the main directions for development of the banking sector will be establishment of the three-level lending system: (i) banks; (ii) institutions providing certain banking services and (iii) micro-credit institutions.

First level – to ensure further development of the banking sector introduction of the corporate management and risk management systems into second tier banks and further improvement of the current supervision methods is proposed including consolidated supervision consistent with the Main Principles And Standards of the Basel Banking Supervision Committee.

Attractiveness of the domestic banking sector for foreign financially sustainable banks will continue to be increased.

Additionally, specialised banks will be established in Kazakhstan to offer a certain set of banking services. In particular, it may be rational to establish housing savings and specialised mortgage banks.

Second level – credit partnerships type of financial institutions will be more actively developed with the majority of borrowers being small and middle-sized.

Functioning of the third level of the proposed lending system will be directly connected with institutions providing only micro-credits from their capital, grants and contributions from participants of programmes for individual entrepreneurs.

Insurance Market

The modern insurance industry will be established actively using insurance as an efficient mechanism for protecting interests of economic entities and individuals from various risks and as a sources of long-term domestic investments. Capacity of the insurance

system will be used as one of the tools for sustainable development of the country's economy.

Mandatory types of insurance – including mandatory social and health insurance, environmental insurance, etc. – will be introduced and efficiently enforced.

The insurance market infrastructure will continue to develop along with intensification of operations of its professional participants (insurance brokers, actuaries, authorised auditors) and appropriate development of risks insurance for various categories of professional actors at the securities market.

To protect interests of clients of insurance contracts the Insurance Indemnity Guarantee Fund will be established to guarantee payment of insurance indemnities to insured (insured, beneficiaries). At the first stage main types of mandatory insurance will be guaranteed, at a later stage the guarantee expanded to other types of insurance including voluntary insurance.

Protection of rights and legitimate interests of creditors of insurers (reinsurers) will remain one of priorities at liquidation of these institutions pursuant to financial and civil norms.

Securities Market Development

The main areas of the securities market development for the period up to 2010 will be:

- Development of domestic institutional investors;
- Improvement of the quality of securities and derivatives, introduction of new financial instruments;
- Improving protection and rights of investors, ensuring safety of pension and reserve assets;
- Development of the technical infrastructure for the securities market;
- Further development of the two-tier securities market regulating system.

Second-tier banks having concentrated the largest amount of resources and insurance institutions (with the development of the insurance market) will be developing as large institutional investors. In line with the development of insurance institutions, in 2003 the market evaluation of their reserves will be unified under the single standard with the pension assets evaluation.

Development of broker/dealers, portfolio managers, other professional actors at the securities market will be improved through increasing as from 2004 their capitalisation level.

An important task is to increase investment attractiveness of domestic shares and bonds with the special focus on compliance with the corporate governance standards, strengthening principles of protecting the rights and interests of minority shareholders,

payment discipline and transparency in joint stock companies, improvement of tax legislation related to taxation of income from securities”.

7.2.2. Fiscal Policy

Accelerated economic development is associated with creation of incentives for companies and institutions, connected to a certain extent with improving the tax regime.

Shift from survival to sustainable accelerated development requires to improve the mechanisms regulating re-distribution of gained profits among the state, the population and enterprises, especially with the economic growth driven by sectors of extraction and primary processing of raw materials accounting to over 70% of the country’s production output and exports.

Additionally, over half of domestic production of goods and services of other sectors of the economy is driven by the demand for goods and services from extraction sectors, which affects negatively the sustainable economic development of Kazakhstan since sharp downfall in global oil, metals and grain prices may ruin the majority of the domestic companies and reduce significantly the state budget revenues.

To mitigate the country’s dependency on the global prices for main export items conditions should be created to encourage production of products with high value added. To this end, special procedures for corporate income tax and VAT need to be introduced for enterprises selling their own products with high value-added.

Intensification of innovations and shift to an innovative economy is one of the factors of the country’s sustainable development. Practical implementation of this objective, however, is complicated by the lack of efficient motivation mechanisms for innovations, innovation infrastructure and specialised entities dealing with innovation.

One of the organisational forms designed to promote accelerated attraction of investments into non-extraction sectors is establishment of special economic zones with a special free customs area regime.

To develop special economic zones encouraging various high-tech types of activities (such as information technologies, bio-technologies, nuclear technologies, radio-electronics, communications, etc.) requires creating conducive economic environment. Corporate income tax discounts, property tax and land tax exempts for special economic zones are proposed to be legislated for the period of commercialisation of innovations.

At the same time, the special regime within certain restricted territory hampers full-fledged attainment of the objective of equal and efficient development of all sectors and regions.

Additional proposals are to be considered with regards to tax encouragement of scientific and innovative activity.

Alongside with introduction of tax preferences innovations should be supported by the state through financing research and innovation infrastructure.

Additionally, one of the main policies for increasing investments into new science-intensive and high-tech productions is encouragement of upgrading of obsolete fixed assets envisaged in the legislation on the state support to investments.

Fixed assets upgrade will be encouraged through providing investment tax preferences in the form of investment tax preferences allowing additional deductions from the taxpayer's aggregate annual income, the property tax exempt for newly commenced fixed assets and land tax exempt for land plots acquired and used for implementation of a specific investment or innovative project.

Alongside with the above, the problem of physical depreciation and obsolescence of fixed assets persists reducing productivity, increasing materials and energy consumption thus reducing competitiveness of domestic production. Currently fixed assets in the country are from 50% to 75% depreciated depending on the economic sector.

One of the incentives to the fixed assets upgrade will be a possible revision of depreciation standards based on comprehensive assessment of existing fixed assets.

The above preferences aim to encourage business activity in the priority sectors and upgrade of fixed assets while not disturbing the principle of equality of taxation.

7.3. Technologies

7.3.1. Development of Science

Low innovative activity in industry resulting from the lack of demand for research outcomes is caused by underestimation of the role of the science in economic reforms, while productivity of production factors can be increased exactly through scientific, technological and innovation progress.

Compared to industrially developed countries development of science in Kazakhstan does have its own principle specific features. Developed countries increase funding for of fundamental and applied research every year, expedite commercialisation of innovations through encouraging integration between the science and the private sector, support with all means available establishment and development of the corporate sector within the science, direct their scientific and technical capacity towards the most burning economic and social issues.

In particular, in 2000 national research expenditures amounted in the USA to USD246.2 bln (2.9% of GDP), in Japan - to USD94.2 bln (3% of GDP), in Germany - to USD45.8 bln (2.35% of GDP), in France - to USD28 bln (2.25% of GDP), in Sweden - to USD7.6

bln (4% of GDP). It should also be noted that the European Union recommends all its members to increase allocations for science **to 2.5% of GDP**.

In Kazakhstan during the recent 5 years about 0.2% of GDP has been allocated for funding the science and research, which is not sufficient. Strategic interests of Kazakhstan require to increase gradually allocations for science up to 2% of GDP by 2010 and up to 2.5-3% - by 2015.

Insufficient or discontinued funding for many research themes resulted in outflow of young researchers and scientists and deepening technical obsolescence and physical degradation of the physical base of science and research.

The state policy should focus on the following main areas of science development:

- Rating the science as one of the main strategic development priorities of socio-economic development;
- Promotion of research aimed at development of science-intensive, resources conserving and ecologically pure productions oriented at export of high-tech produce;
- Creation of mechanisms and incentives encouraging practical application of scientific achievements;
- Comprehensive encouragement of economy sensitivity to new developments (demand encouragement) and creation of conditions for their build-up by domestic scientific and technical capacities (proposals encouragement);
- Strengthening the physical base of research;
- Conservation and development of cadres, training and certification of highly qualified scientific cadres in priority trends of scientific and technological development;
- Development of system of certifying and accrediting scientific institutions for the purpose of enhancing effectiveness and quality of scientific research;
- Formation and development of non-governmental sector of science, creation of state mechanisms for its support;
- Support of young talented scientists;
- Specialists' practice in the best international scientific centers;
- Establishment and improvement of grant-based financing mechanisms for scientific research;
- Integration of the Kazakhstan science into the global science and technology community;

Execution of the proposed measures will allow to provide adequate scientific backup to industrial and innovative policy.

7.3.2. Research And Innovation Policy

Innovations play a key role in the overall system of economic relations since their ultimate results – increased production efficiency, greater labour and capital productivity, production of high-tech products – determine economic might of the country.

In industrially developed countries new knowledge materialised into technologies, equipment, personnel training, production set-up account to 80-95% of GDP gain. In these countries introduction of new technologies has become a key factor of the market competition, the main vehicle to increase efficiency of production and to improve quality of goods and services.

The current important strategic task of the economy of Kazakhstan is to develop domestic high-tech production, design and commercialisation of new information technologies targeted to competitiveness and ensuring national economic safety through preserving and developing industrial, scientific, research and technological potential of the Republic.

Research policy in Kazakhstan should aim intensification of innovation process, introduction of new technological formations, new processing degrees in manufacturing industries, more active involvement of national scientific and technological capacities, bridging the gap between the science and production, encouragement of innovations, ensuring effective transfer of advanced foreign technology, introduction of international standards.

Innovations are impossible without entrepreneurship in science and technology. Over the recent years the share of small businesses in industrial output and in the total number of employed practically has not been changing remaining at the level of 2.8-3.2% and 12.0-14.0% respectively, which is several times lower compared to industrially developed countries.

The main constrains to development of small innovation businesses is the general incompetitiveness of small businesses production vis-à-vis large enterprises.

Cooperation between small and large businesses will require a mechanism for transfer of non-core service functions of natural monopolies to a competitive small business environment. Conditions need to be created for development of innovative and high-tech small businesses including through leasing schemes for technology and equipment and broad scale development of franchising schemes in relationships between small and large businesses.

Local producers lack the experience of commercialisation of research findings, high-skilled managers, marketing and analysis specialists. Therefore Kazakhstani specialists shall be sent to the leading foreign scientific-research institutes and companies for practice and highly qualified international specialists will be attracted into the country to train domestic professional cadres.

For current situation in Kazakhstani science a great number of completed developments which are not in demand on the part of production is typical. This presents a significant potential and its utilization should be targeted by innovation activity development.

Protection and utilisation of intellectual property is becoming increasingly important for the country. Efficient economic turnover of intellectual property through appropriate

balance of rights and legitimate interests of entities can harmonise demand and supply of intellectual property, promote research activities and their commercialisation, production and consumption of new competitive goods and services.

The foundation of innovation development base model is represented by relation between internal (build-up) and external (transfer) sources of innovation. The strategy of innovation build-up is typical to leading countries (USA, Germany, England, Japan) which improve their technologies based on domestic basic and applied research. Technology transfer strategy is implemented in the countries which do not have domestic basic and applied developments and are constrained in resources to be allocated for those purposes.

Thus the trends in the state research and innovation activity should be as follows:

- Establishment of specialized venture funds with the state participation; attracting venture capital for research and innovations.
- Development of forms and methods of state support to innovative activity entities;
- Formation of innovative infrastructure, including establishment of specialized innovative activity entities of state, intersectoral, sectoral and regional nature;
- Training and retraining of personnel to work in innovative environment.
- Formation of new technological regimes in the base industrial sectors;
- Encouragement of foreign technology transfer through creating conditions for civilized technology market – i.e. through recognition of all international conventions on copyrights, patents and brands.
- Promote transfer of domestic producers to quality standards consistent with the best international practices.
- Mobilisation of grants from international donor agencies, financial lending institutions and economic entities concerned.

7.3.3. Standardisation and Certification Policy

The state Strategy for Industrial and Innovation Development will be implemented through integration of Kazakhstan into the global trade system with unified standards, metrology and certification requirements.

To improve state standardisation and certification systems and to harmonise them by the year 2010 with European and international requirements it is proposed to:

- Establish the technical regulation and technical schedules systems; shift from mandatory standardisation to voluntary one;
- Create new technical committees including at the international level, standardisation and metrology systems in specific sectors, enterprises; strengthen and improve the structure of the authorised standardisation, metrology and certification body;
- Develop an information centre to liaison with the WTO in standardisation, metrology and certification issues;

- Develop and introduce at the domestic enterprises quality and environmental management systems consistent with the ISO 9000 and ISO 14000 international standards;
- Implement the state policy aiming to motivate domestic producers through competing for the “Best Product of Kazakhstan” and “For Achievements in the Sphere of Quality” Prizes awarded by the Government of the Republic of Kazakhstan to the best quality products;
- Promote recognition of a body for international accreditation of Kazakhstan;
- Improve the state produce quality supervision based on the international experience.

By 2007 education, financial, social, health, tourism, etc. sectors should complete transfer to international standards in accordance with their programmes.

Increasing international cooperation in standardisation envisages:

- More active cooperation with international, regional and national institutions;
- Accession by 2010 to the Metric Convention, International Electrotechnical Commission (IEC), International Testing Laboratory Accreditation Association (ILAC), International Accreditation Forum (IAF);
- Ensuring participation of Kazakhstani representatives in the work of technical committees of international institutions first of all in ISO and IEC; in management bodies of international standardisation, metrology and certification organisations including the ISO Secretariat.

Implementation of the above will contribute to improving quality and competitiveness of domestic products at internal and external markets, to increasing the economic potential of the country.

7.4. Infrastructure

Competitiveness of industry and other sectors of the economy significantly depends on the development of industrial and social infrastructure.

Efficient economic development necessarily requires adequate quality of information, telecommunication and transport infrastructure. Consistency of these infrastructure elements with international standards is by itself an essential competitiveness factor in the modern world. With increasing globalisation and global competition business success is based on the ability of economic entities to respond timely and efficiently to the challenges of the global market.

Domestic availability of developed information and telecommunication infrastructure is one of the main driving factors for the growth of the national economy, increasing business and intellectual activity in the society and witness the authority of the country in the global community. Today none of the businesses will develop efficiently without a high quality system of both internal and external communication.

Transport and communications complex should be developed consistent with their development programs.

7.4.1. *Electric-power Policy*

As a result of reforms undertaken in the power generation there has been established a successful competitive wholesale electricity and power market based on free consumer's choice of electricity supplier, on non-discriminative access to gridlines.

Further reforms in power generation will be targeted to deepening market transformations, establishment and development of exchange trading of electricity, broadening the range of electricity-related services.

Support of the reforms undertaken and further development of the sector requires increasing investments into modernisation of equipment of electricity producers and transporters.

Encouraging investments into electricity gridlines requires introduction of new progressive methodologies allowing for mid-term stabilisation of tariffs for natural monopoly services, protection of investments and targeting them to reduction of excessive losses. Implementation of new tariff methodologies will increase the tariffs thus necessitating simultaneous support to low-income groups of population.

Additionally, new flexible tariff methodology is needed based on downward coefficients applied to tariffs for electricity transmission services with increasing amount of electricity transmission being one of the major criteria.

Downward coefficients will support competitiveness of domestic producers and export-oriented enterprises.

Regulation of tariffs for electricity and thermal energy should take into account the following factors:

1. Low electricity tariffs block resolution of one of the most important problems of the economy – i.e. reducing energy-intensity, which remains 3-4 times higher compared to developed countries. Nobody saves cheap resources.
2. The analysis proves, that today, on the one hand, the budget through low tariffs benefits from lower spendings of budgetary institutions for services of natural monopolies, but on another hand, the budget gets less in taxes.

Thus, tangible increase in electricity tariffs is necessary to force the enterprises to reduce energy-intensity of production and to push modernisation.

Clearly, growing tariffs will increase prices for a number of consumer goods and utility tariffs thus increasing the corresponding household expenditures. Therefore, simultaneously low-income groups of population will have to be supported either through raising the subsistence level, minimum wage and minimum pension rates, or through targeted financial support to the poorest.

Thus, increasing tariffs for services of natural monopolies – and for electricity in particular – is unavoidable and justified not only from the natural monopolies perspective, but for the entire economy in general. At the same time, justification of both structure and amount of production costs of these companies needs to be monitored.

7.4.2. Information Policy

The main objective of the information technology (IT) sector is to phase in the National Information Infrastructure as a part of the Global Information Infrastructure (GII) implemented by the global community based on the open system concept and to promote software products and software technologies development.

The information technology development should take into account, that with the prices for computer hardware going down the bulk of profits will be concentrated not in the production of the computer hardware, but in the area of steadily increasing users' spendings – i.e. in the software resources, services and consultations.

By 2008 the global demand for IT services is estimated to amount to USD1 trillion (from USD327 bln in 1997). In Kazakhstan the IT sector may develop into a quite significant sector of the economy, otherwise the IT products will become a significant import item. Moreover, being in general a catalyst for qualitative changes in the national economic sectors, IT play a decisive role in development of telecommunications in the country.

The state IT policy should aim to:

- Create transparent sound legal framework and standards promoting development of the scientific and technical information;
- Ensure universal access to the scientific and technical information for the population, economic entities, public organizations and public administration in the Republic of Kazakhstan;
- Design and introduce the E-Government including establishment of portals of Government bodies, Government databases and document turnover procedures;
- Standardisation, unification and certification of the state informatisation media and systems;
- Promotion of broad scale introduction of E-commerce allowing for maximum utilisation of new internal and external market capacities;
- Introduction of E-auctions and E-tenders into the state procurement system;
- Increasing the public awareness through supporting establishment of E-training facilities and libraries;

- All the possible support to development of the national software products and software technology industry.

7.4.3. Telecommunications Development

Innovative industrial policy in the telecommunication sector – one is the most fast-growing and promising sectors – should aim to support development of the most advanced means of communication and to ensure their maximum affordability to domestic businesses and the general public.

Kazakhstan can not afford to abstain from the on-going global revolution in telecommunications. Currently new telecommunication technologies are being developed and introduced all over the world – such as a broad-band communications creating new tremendously expanded opportunities for mobile telephone communications, Internet and data transfer, new third generation technologies for mobile telephone communications.

Currently Kazakhstani telecommunication companies have to rent satellite resources from foreign and international satellite companies. Therefore the capacity of space communication has to be utilised to diversify and enhance capacity of communication channels, to establish communication with remote and scarcely populated areas, create conditions for the TV broadcast across the entire country.

Accelerated development and digitalisation of ground telephone lines need to be continued along with construction of fibre-optic communication lines. Stimulation of competition and sector transformation into fully market one will encourage enhancement of telecommunications network.

7.4.4. Transport Development

The main objective for the transport sector is to expand and to improve the cargo and passenger flows in line with fast economic development of the country to avoid the transport infrastructure becoming a constrain for development. Another important objective is to maximum develop transport potentials of the country.

The main advantage of development of transit traffic through the territory of Kazakhstan will be the tangible distance reduction. Even under the best circumstances transportation of cargoes from Berlin to a Chinese port Lyanyungan takes 20 days while the railroad will cut this time to 11 days through halving the transportation distance.

Economic globalisation necessitates establishment of international transport corridors for mutually beneficial trade between countries, providing access to global transport communications for all states and entities. For Kazakhstan it is extremely important to become an integral important link into already established and elaborated transportation system.

The modern concept of development of the international transport corridors network transiting through Kazakhstan is based on three priority directions:

- Russia, Europe and Baltic countries;
- China, Japan, South-East Asia;
- Central Asia, Trans-Caucasus, Iran, Turkey.

In each of the above directions there are international transport corridors already established encompassing a complex of land and water main routs. They are equipped with modern technique and designed for concentration of transit traffic.

There are 6 railway, 6 car and 72 air corridors transiting through the territory of Kazakhstan. The Trans-Asia-European fibre-optic communication line starting from the Pacific coast and advancing far to Europe crosses the country. South-North digital main line has already connected it to the Trans-Siberian optical line.

Two junctions located on international transport corridors play a special role in the transport and communication complex of the country: *Druzhba* railroad pass at the East and the *Aktau* sea-port at the West of the country.

The objective of the transport complex development is to ensure efficient delivery of domestic exports to external markets and to offer a broad range of transportation services to their users.

Priorities for the development of the sector are establishment of efficient and technologically upgraded transport complex; realisation of the transit potential.

Up to 2015 the transportation system will be adjusting to the needs of the country, including:

- Improving configuration of railroad network including construction of new railway lines, development of industrial base for production and repair of the rolling-stock, improving the tariff system;
- Designing new export pipe-lines for oil and gas transportation, expansion of existing pipe-line systems, establishing new export oil-trunk pipe-line, which is perceived necessary after 2010;
- Construction, rehabilitation and expansion of car road network;
- Developing air transportation including promoting competition and active attraction of foreign investments; international transport corridors and encouraging transit including entering into international agreements on transport cooperation; multi-module transportation systems; developing the sea (on the Caspian Sea) and river transport.

Railroad transport. The railroad network covers the entire territory of the country, but needs to be developed and completed. Thus, construction of the Altynsarino-Khromtau line has started to connect the North and the West of the country. Given the key

positioning of the Druzhba railway station in Kazakhstan and the Alashankou station in China on Trans-Asian and Euro-Asian main lines Kazakhstan pays significant attention to reconstruction and development of the station. In the coming years capacity of the station is planned to be increased.

Car transportation complex plays an important role in functioning of the country linking different types of transport and goods transportation both within and outside Kazakhstan.

Car roads transporting the bulk of cargo and passengers are of tremendous importance for the Republic of Kazakhstan. Therefore increasing the cargo traffic will require improvement of the rout networks, development of service infrastructure of international car corridors, introduction of new technologies into international cargo and passenger transportation systems.

Air transport. A network of Trans-Asian air routs transits through the air space of the Republic – mainly those connecting Europe to South-East Asia. Existing demand for the air space of Kazakhstan requires improving the air traffic management, navigation and communication technical means.

The Aktau sea-port is an important structure element of the **water transport** with modern upgraded infrastructure facilities available in the port: railways, car roads, underground communications, moorage and mobile cranes, etc. Development of the Aktau sea-port together with implementation of other projects – including the Special Economic Zone project – is one of the most interesting directions for increasing transit traffic through Kazakhstan. Successful development of the port due to increased cargo traffic will encourage investments. With the view to develop sea transportation the “Kazmortransflot” National Sea Shipping Company has been established thus laying foundations for development of the own sea trade fleet in Kazakhstan.

7.5. State Regulation

7.5.1. Tariff Policy and Competition Protection

7.5.1.1. Protection of Competition

Competition is a main vehicle for efficient development and functioning of the economy. Ensuring efficient and protection of fair competition should contribute to implementation of major objectives of the state industrial and innovation policy – i.e. economic diversification and industrial modernisation.

Competitive environment at commodity markets should be created through the sound investment policy and exchange trade.

The state competition support policy targets prevention of non-fair competition, excessive concentration and restrictive practices with the main focus on the following:

- Prevention of abuse on the part of entities dominating the market through preventing monopolies from setting up monopoly prices, unjustified downturn in production and supply of monopoly goods and services, inclusion of discriminative terms and conditions into contracts, blocking entry to financial and other markets for other enterprises, controlling establishment, reorganisation and liquidation of entities at the market and their conglomerations, acquisition of shares (equities) in authorised capital of market entities;

- Prohibition of unfair competition and anti-competition agreements aiming at preventing or restricting competition through discontinuing non-agreed actions of competitors; at establishing agreed prices and tariffs; territorial division of the market; blocking potential competitors from entering the market; or through collusion between competitors;

- Prevention of unjustified interference of Government bodies into business activities. Deterring actions of Government bodies aiming to restrict competition through extending preferences to individual companies or instructing economic entities to deliver goods and services on a priority basis to certain buyers or customers.

7.5.1.2. Tariff Policy

Successful implementation of the industrial strategy will require the existing policy of artificial detention of tariffs to be replaced by flexible tariff regulation policy aiming at balancing interests of all the actors in the natural monopoly zones: both natural monopolies themselves and consumers of their services.

Nowadays industrial development is impossible without accelerated growth of natural monopolies, which is the infrastructure of economic development.

Currently natural monopolies are characterised with the high degree of depreciation of fixed assets and equipment, the degree of depreciation and obsolescence having reached the critical line in practically all the segments.

Use of obsolete equipment brings down the amount and quality of services provided, increases probability of accidents.

Additionally, shortage of working capital constrains adequate investments into replacement of equipment. Upgrading fixed assets is one of the major factors of their efficient utilisation, improving quality of services provided and – ultimately – of the economic growth and sustainable industrial development of the country.

Modern tariff regulation should ensure creation of conducive environment for attracting investments into natural monopolies and achieving accelerated growth of this particular sector of the economy based on production modernisation.

Therefore, sustainable industrial development, sustainable functioning of natural monopolies, improvement of their services quality, reduction of production costs and tariff stability require further improvement of tariff policy through:

- Introduction of new tariff methodologies encouraging investments and ensuring stability of tariffs for the mid-term;
- Introduction of international accounting standards and separate accounting by types of services and elements of the cost structure;
- Establishment of the database for reviewing the natural monopoly's impact on consumers.

Full-fledge implementation of these measures complemented by new tariff methodology is expected to encourage investments into natural monopoly enterprises ensuring their modernisation, introduction of new resource-saving and cost-effective technologies, their recovery and stability of tariffs for 5 years.

7.5.2. *Environmental Policy*

The state environmental policy will target to environmentalise the industry.

Environmental protection is a strategic objective affecting all the sectors of the economy and political and social situation in the country. Success of all social and economic transformations directly depends on the state environmental protection and reasonable natural resource use policies.

The status of environment in the country remains unsatisfactory with air, soil and water pollution being a major factor affecting adversely the public health. All these factors are aggravated by increasing accumulation of industrial and household waste and wastewater.

Existence of productions equipped with obsolete technologies suggests no reduction in pollutant emissions in the coming future.

Rehabilitation and development of economic sectors should be accompanied by stabilising pollutant emissions and discharges at a given level. Therefore drafting of any sector industrial development, city development or any other broad-scale programmes should necessarily assess the environmental impact. Thus, the economy should be environmentalised to improve the environmental management.

To stabilise the quality of environment and to regulate the natural resource use in line with the public needs the amount of emissions, discharges and waste accumulation should be stabilised with increasing production output. In the future specific environmental rehabilitation measures should be implemented pursuant to the above principle on rehabilitation of environmental objects. This will clearly require

harmonisation of the existing environmental protection legislation in line with international requirements.

To integrate to the maximum possible extent mutual interests of economy and environment requires revision of the export policy, development of high-tech productions, establishment of productions consuming less natural resources and bringing the minimum damage to the environment.

To address comprehensively environmental safety problems requires introduction of the ISO 14000 and ISO 9000 "Quality Management Systems" international standards alongside with institutionalisation of mandatory environmental audit for enterprises exceeding the environmental pollution standards.

ISO 14000 environmental management system will contribute to improving the environmental legislation, encourage reasonable utilisation of natural resources, promote compliance with environmental liabilities and ultimately facilitate the WTO accession, which will resolve many import-export related problems.

Economic development based on productions of high-tech products, goods and services will reduce the burden on the environment.

All economic activities should pursue the principle of rational use of natural resources. The state should encourage use of wasteless technologies.

Ambient air. High degree of urban ambient air pollution in the country is caused by hazardous emissions of pollutants by metallurgical, oil-refineries and chemical enterprises, by car and railroad transport exacerbated by climatic conditions not conducive for dissipation of contaminants.

The car transport contributes significantly to urban ambient air pollution in the Republic.

To prevent and to liquidate the adverse anthropogenic effect to ambient natural environment and to create a normal habitat first and foremost requires reliable, objective and timely assessment of the environmental situation in the country. Such assessment is the sole justification for decision-making related to environmental quality regulation.

Security considerations of global social nature have been the most conspicuous in oil refining. By beginning of 1999 the humankind had already burned about 90 bln tons of oil. Important to note: oil refining uses only non-renewable sources of raw materials, which adds to heating of the surface Earth atmosphere, contributes to the green-house effect, depletes the ozone layer protecting the Earth bio-sphere from excessive solar energy.

To address this problem requires, first of all, deepening the degree of processing resulting in more rational use of raw materials. Ratification of the Kyoto Protocol will open for the

country an opportunity to trade quotas for GHG emissions, which is quite realistic currently.

Water resources. Quality of all water resources in the country remains unsatisfactory with the bulk of pollution coming to water reservoirs with waste waters from petroleum, machinery building and non-ferrous metallurgy industries.

Given urgent need in neighbouring countries for the resources available in Kazakhstan and the transit potential of the country a comprehensive trade-off solution should be sought for the problem of transboundary water use.

River waters come to our country from China, Kyrgyzstan, Uzbekistan already polluted. None of these countries has acceded to the Convention on Transboundary Water Pollution. These issues are not appropriately reflected in by-lateral agreements with the above countries either, provisions for joint monitoring and prevention of pollution of transboundary water resources needing to be included into the above agreements.

Return waters is the main source of pollution for natural water and environment pending resolution of the problem of their management and treatment. About 4 km³ are being returned with only 2 km³ actually coming back to the water source and remaining discharge dissipating or lost.

Preservation and rational use of water resources requires to:

- Use advanced foreign and local technologies and practices in treating polluted water, in preventing water depletion, contamination and pollution;
- Employ the existing economic, human, design and research capacities;
- Restrict pace and amount of development of water-intensive productions in areas with acute water shortage;
- Introduce universally water-saving technologies, turnover and closed water-use systems;
- Reduce the industrial water consumption per produced unit;
- Reduce operational losses of water in water resource use; equip the water facilities with modern water meters and regulators;
- Develop indicators for water use and waste discharge with strict rationing and following-up move from rationing to elimination. All new enterprises should be constructed with zero polluted water discharged into water reservoirs.

Waste Management. Natural resources of the country are utilised extremely inefficiently.

Practically there is no industrial and household waste management system in place – including for hazardous and nuclear, imperfect household wastes collection, storage, utilisation and processing system resulting in environmental pollution.

This will require monitoring of industrial and household wastes and assessing the impact of storage of hazardous wastes on the environment.

Resource- and energy-saving technologies should be actively introduced along with encouraging waste processing and utilisation.

Environmental certification programmes for the product life cycle should be formulated and implemented; payment systems should be improved.

Creation of closed technological cycles with comprehensive utilisation of raw materials and wastes will enable production of competitive products, utilisation of valuable components at the same time relieving the burden on the environment.

8. MECHANISMS OF INTERRELATION BETWEEN THE GOVERNMENT AND PRIVATE SECTOR

As was already mentioned based on international experience the major focus in implementing the Strategy will be on undertaking the initiatives on coordinating investments and developing business cooperation. Financial support will be provided only in line with equity (minority) participation principle via development institutions with private sector, including second-tier banks undertaking the major risks.

Interrelation between the state and private sector shall be based on partnership principles, equity access to state support and transparency. Seminars, forums and conferences will be conducted on a regular basis to establish and support the consistent dialogue between the state and private sector concerning the course of Strategy implementation and development of proposals on its improvement with organizers of such events being first of all the development institutions.

The state will also encourage operation of public associations of entrepreneurs, which are an intermediary between the Government and entrepreneurs.

Functioning of the state bodies and development institutions will be fully targeted at implementation of the Strategy and provision of high quality services within their competence.

9. STAGES AND MECHANISMS OF STRATEGY IMPLEMENTATION

9.1. Stages of Implementation

In general, the Strategy will be implemented in three stages: first – 2003-2005; second – 2006-2010; and third – 2011-2015.

First Stage of Strategy implementation (2004-2005) will be the preparation stage requiring to amend appropriately the existing legislation of the Republic of Kazakhstan, to draft new laws, to establish state institutions ensuring state involvement into investment and innovation projects, to train specialists in the value-added chain analysis, to identify efficient projects to be implemented with the state involvement.

Within the given period it is planned to introduce amendments into existing legislation of the Republic of Kazakhstan with respect to significant bringing down the tax burden, Kazakhstan's accession to Metric Convention and accession to International Electrotechnical Commission (IEC), etc.

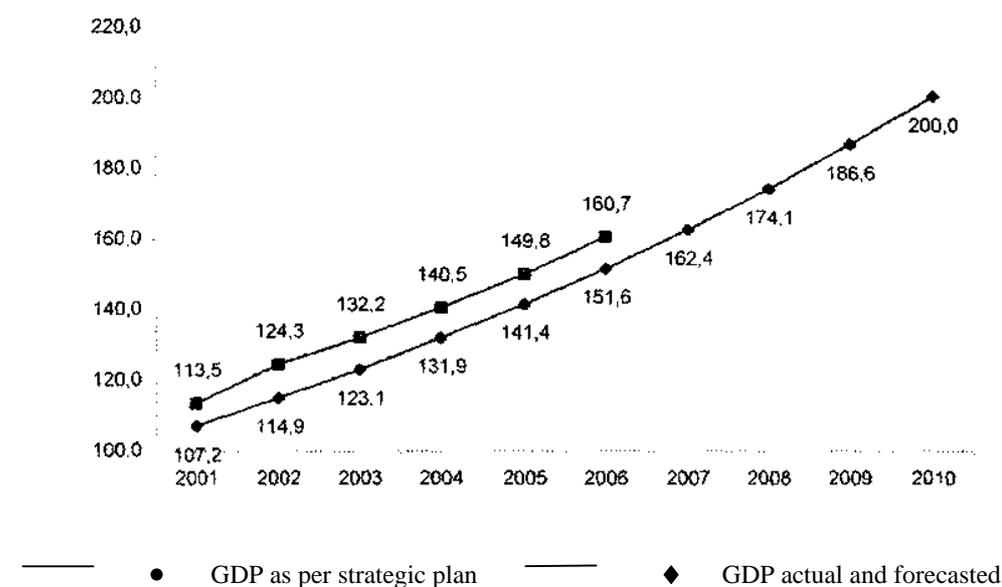
At this stage capitalization of the funds proposed to be established should be finalized, the Development Bank capitalization should be increased and the state project investment system should be significantly improved.

The reforms are expected to be started in science development, education and professional training with orientating those at industrial and innovative development; standardisation and certification improvement, as well as accession to the WTO are expected to be completed.

Economy will develop over this period as forecasted in the indicative plan.

According to the 2003-2005 estimates and given the actual GDP trends over the previous years the strategic target of doubling the GDP will be attained.

Forecasted GDP Doubling by 2010 (% of 2000)



Source: the Ministry of Economy And Budget Planning of the Republic of Kazakhstan; the Statistics Agency of the Republic of Kazakhstan

Alongside with quantitative growth in production of traditional goods and services for both export and internal consumption in the planned period foundation should be build up to ensure sustainable development of the economy through industrial and agricultural modernization, drastic revision of the entire investment and construction cycle.

In the mid-term institutional restructuring of the science, education, health and remuneration system in the civil service and in the budgetary institutions should be continued alongside with development and liberalization of financial sector. The foundation for innovative infrastructure is to be laid.

Similar to the recent years, goods and services output will grow due to increasing development of the mining sector and primarily oil and gas extraction. In this situation the macroeconomic policy should target low inflation, encouragement of exports and inflow of direct investments into the country's economy.

In accordance with the above, the monetary policy should target from 5.5% to 4% annual average inflation rate with the KZT to USD devaluation rate ranging from 4.5% to 3% a year under oil prices favourable for Kazakhstan.

The second stage (2006-2010) will be a period of active implementation of the Strategy activities in all the sectors allowing for comprehensive capacity building based on scientific and technological achievements and consistent with international standards, as well as for training of required specialists.

Scientific and innovative infrastructure will be mainly established.

Financial resources of the private sector, foreign investors, state budget and state financial institutions will work together and address comprehensively the issues of infrastructure development, reconstruction, expansion of existing enterprises and establishment of new productions while ensuring proportional development of large, medium and small companies.

Given construction standards, some enterprises will already see the first benefits of implementation of the Strategy for Industrial and Innovation Development.

At the second stage implementation of many projects focused on industrial modernization and economic diversification will start.

Despite certain progress in economic diversification, economic development will be mainly driven by increasing oil and gas extraction and exports.

The strategic objective of doubling the GDP in 2010 compared to 2000 is estimated to be achieved also through increased development of oil and gas extraction.

The third stage (2011-2015) will be the most productive for implementation of the Strategy for Industrial and Innovation Development with operationalisation of commenced capacities and development of value added chains in new spheres and markets. Goods and services output growth rates will be higher than oils and gas extraction growth rates. The structure of sectors of the country's economy and exports will be diversified.

9.2. Implementation Mechanisms

The Strategy will be implemented through action plans developed – taking into account the mid-term planning requirement legislated in the Republic of Kazakhstan for programmes developed – and approved by the Government of the Republic of Kazakhstan for the three-year period.

The action plans will reflect qualitative features of each of the stages of the innovative industrial development of the country and provide specific measures for the Strategy provisions implementation. Separate (sector) programmes will be developed for priority areas of industrial development identifying specific implementers and timeframes, estimated amounts and sources of funding by years.

Programmes will be developed involving research institutions and other organisations irrespective of their form of ownership and departmental affiliation.

Comprehensive approach to planning will allow for maximum possible coordination between central and local executive authorities in ensuring targeted and agreed actions in all the areas of innovative industrial development of the country.

The Government of the Republic of Kazakhstan will monitor and evaluate efficiency of the implementation of the State Strategy through controlling implementation of the planned actions and attainment of planned Strategy indicators.

10. REQUIRED RESOURCES AND SOURCES OF FUNDING

Direct investment costs of the Strategy implementation are estimated to amount to USD1.2 bln a year with the public expenditures for the Strategy implementation amounting to USD260 mln a year in 2002 prices. These funds are supposed to be allocated to the development institutions for funding private sector under the Strategy implementation. Funding of science, education, professionals training from the Republican and local budgets will be adjusted at formulating the budget for the respective year.

The Strategy activities will be funded from the Development Bank, the Investment Fund, the Innovation Fund, establishment of new investment and innovation institutions requiring finding significant financial resources as well.

Additionally, assistance is expected to be mobilised from international institutions and donor countries to implement the top priority and the most efficient projects aiming to establishment of new high-tech productions and infrastructure development.

The main financial burden should be carried by the private sector. According to preliminary estimates, ratio of public and private capital should be 1 to 5.

11. EXPECTED OUTCOMES FROM THE STRATEGY IMPLEMENTATION

Successful implementation of the Strategy for Industrial and Innovation Development should contribute to country's sustainable economic growth based on economic diversification, upgrading and creation of conditions for production of competitive products and increase in exports.

Private initiative will dominate the country's economy with equal terms and conditions for competition created for all the actors at the market.

Utilisation of scientific and research achievements for increasing competitiveness of the economy will improve, with measures undertaken to overcome the lagging-behind in management, market studies, products standardisation and certification, etc.

Selection procedures for investment and innovation projects to be funded with the state financial resources participation will become targeted and transparent.

New financial institutions will be established to apply modern methodologies of evaluation of feasibility of investment ideas and projects.

Tax and customs legislation will be targeted to encourage competition, export of domestic products and inflow of investments into the country's economy.

Kazakhstan will become more attractive for investments, technology transfer, exchange of scientific achievements due to modern and developed scientific and innovative and production infrastructure, effective system of training of highly qualified managers, engineers, technicians and workers.

Significant structural adjustments will result in production of high-tech products with high value added.

Export from Kazakhstan will diversify substantially with increased export of finished products to the global market, and Kazakhstan will integrate into the global economy not only due to its raw materials, but also with its finished products and innovative services as well.

Development of small and medium – especially innovation – businesses will break through, while the share of non-market sectors in the country will sharply fall down, transparency of financial and economic performance of companies ensured.

Reducing risks will boost investments into manufacturing sectors, will increase its attractiveness for foreign investors as well thus promoting introduction of modern management and production techniques into the sector.

Major improvements in the stock market functioning, pooling assets of pension, insurance and investment funds, population's money as the investment resources for the real sector are expected, along with tangible changes in transformation of extraction sector revenues into revenues and investments into manufacturing sectors and inter-sector capital flows.

Proposed approaches and measures will result in increased capitalization of banks and lowering of bank credit exposures. This, in turn, will create the necessary preconditions for increase in investment resources, lowering the lending rates to 3-4%, increasing access to banking credit resources for small and medium businesses. Strengthening confidence into banking and other financial institutions will facilitate transformation of gross savings into investments into manufacturing sectors.

Improving investment climate and further economic liberalization in general will not only attract foreign investments and promote commodity exports, but will ensure legitimate export and profitable placement of domestic capital abroad.

Relieving the tax burden for the economy and deregulation of business activity will significantly change relations between “official” and “shadow” economy.

Proactive implementation of the Innovative Industrial Development Policy will ensure minimum 8.8-9.2% economic growth rate a year thus increasing the GDP in 2015 in approximately 3.5-3.8 times compared to 2000. Average annual growth rates in manufacturing industries will amount to 8-8.4%, in 2015 labor productivity will increase in minimum 3 times compared to 2000 and with energy-intensity of GDP reduced by 2 times.

Given intensive development of oil and gas resources, by 2015 outcomes of the Strategy implementation will not result in drastic change in the structure of the national economy and industrial production.

The Strategy implementation will:

- Increase the share of goods production in GDP from 46.5% to 50-52% in 2015;
- Increase the share of research and innovative activity services in GDP from 0.9% in 2000 to 1.5-1.7% in 2015;

- Curtail decline in the share of manufacturing industries in GDP from 13.3% in 2000 to 12-12.6% in 2015 (for comparison purposes: without implementation of the industrial policy the given indicator in 2015 will amount to 10.9%);

Without implementation of the Strategy the share of value added of the extraction sector in industrial output by 2015 may amount to 55-56% including oil extraction – 50-51% compared to 31.0% and 25.6% respectively in 2000. With the Strategy implemented the share of the extraction sector will amount to 46-47% only, with the share of high-tech productions having increased from 0.1% GDP in 2000 to 1-1.4% in 2015.

Qualitative changes will happen in the value added structure of manufacturing industries. The share of metallurgy and metal processing will go from 40.1% of the total value added in the manufacturing industries down to 27-28%, while the share of processing of farm products will increase from 38.1% to 45-46%, with the share of science-intensive and high-tech products having increased from 0.6% GDP in 2000 to 9-11% in 2015.

Subsistence level and minimum wage and pension rates will grow with the real monetary incomes of the population increasing in 2.1-2.4 times.
