

**Republic of Macedonia
Ministry of Economy**

**INDUSTRIAL POLICY
OF THE
REPUBLIC OF MACEDONIA 2009 – 2020**

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**BUSINESS
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Dear Readers,

I am glad to present you the strategic document "Industrial Policy of the Republic of Macedonia 2009-2020", as an example for successful cooperation and realization of joint projects between the Government of the Republic of Macedonia and the World Bank, as well as, private and public sector with purpose of realization of the priorities of the Government for increasing the competitiveness of the economy.

Within the process of preparation of the document we tried through studying the experiences of other countries, EU documents, analyses of the competitiveness of the Macedonian industry and primarily through permanent dialogue between public and private sector, to develop clear vision and concept for sustainable development of the competitiveness of the industry in the Republic of Macedonia.

In this process, we identified five areas of intervention as drivers of the competitiveness:

- International Cooperation and FDI enhancement;*
- Research, Development and Innovation;*
- Eco-friendly Technologies, Products and Services;*
- SME development and entrepreneurship;*
- Collaboration in Clusters and Networks.*

They are elaborated in more details in the document with proposed concrete measures that will be implemented in future.

Effects of this policy are on long run, through strengthening the competitiveness of Macedonian industry based on knowledge and innovation, better informed companies, increased internationalization, and initially better utilization of the EU Funds for projects for enhancing and development of competitiveness.

Proposed measures in the document should present direction for extending existing programs and preparation of new ones with aim to create competitive economy, as well as, base for further cooperation with donors in support of the implementation of this complex and development oriented policy.

We are faced with challenge where through Competitiveness Committee of Ministers and Inter-ministerial Expert Group for Industrial Policy will be held permanent dialogue for leading coordinated policy, creating and implementing the measures for support and creation of competitive, development oriented economy. We expect that for successful implementation of the industrial policy, significant role will have the support from different donors and projects.

Fatmir Besimi
Minister of Economy



INTRODUCTION

The industrial policy of the Republic of Macedonia 2009-2020 is national strategic document for enhancing the competitiveness of Macedonian industry and the economy in general, through coordination of the competitiveness policies in the Republic of Macedonia.

The basic purpose of the document “Industrial policy of the Republic of Macedonia 2009-2020” is enhancing the competitiveness of domestic industry, based on knowledge, innovations and research that leads to growth and development, creation of stimulating a business and investment climate and support to enterprises for improvement of their competitive capabilities with acquiring knowledge, new technologies and markets.

Within the frames of the strategic priorities of the Government of the Republic of Macedonia is the determination to increase economic growth and competitiveness on a permanent basis and the creation of proactive integrated industrial policy as one of the key goals for increased competitiveness of the corporate sector. The implementation of the industrial policy will secure the stable development of the country based on diversification and modernization of the economy with the creation of conditions for the production of competitive products, increase of employment and growth of exports.

So far, the policies that are applied in the Republic of Macedonia contain elements of an industrial policy with a basic motto of securing equal conditions for market competition and support to enterprises in the enhancement of their competitiveness. In this context, the current “industrial policy” of the Republic of Macedonia consists of measures contained in other policies, national strategic documents, programs and action plans that have horizontal approaches. It is the very horizontal dimension of the industrial policy that requires integration and coordination in the planning and implementation of activities for increasing the competitiveness of Macedonian industry.

The process of accession of the Republic of Macedonia to the European Union is influential in raising the consciousness of the relevant institutions to understand the necessity and significance of delivering a strategic document with an integrated, proactive industrial policy which coordinates existing and future policies for the enhancement of the competitiveness of Macedonian industry.

The industrial policy of the Republic of Macedonia 2009-2020 is in harmony with the industrial policy of the EU that is developing in the direction of implementation of the Lisbon strategy – the strengthening of the industry sector and the creation of preconditions for growth and development, based on knowledge and innovations.

The purpose of the European industrial policy is acceleration of the adjustment of the industry to structural reforms, encouragement for these initiatives, development and cooperation between the performed activities, and stimulation of the potential of industry for innovations, research and the development of technologies.

The renewed industrial policy in the EU promotes research, creation of knowledge and diffusion of technologies. It is horizontal by nature and points to cooperation with other policies for the acceleration of the approach to the market with encouragement for the creation of new firms and competition, and building competitiveness based on innovativeness.

The Republic of Macedonia as an EU accession candidate-country follows this road with the creation of its own modern industrial policy harmonized with domestic conditions.

The project for development of the industrial policy in the Republic of Macedonia developed in three phases:

Phase one – A Benchmarking study for the role, creation and measures of industrial policy, relations with other policies for efficient practice and organizational layout for its implementation, pursuant to the experiences and best practice in EU countries and other countries, with the identification of applicable segments for the Republic of Macedonia.

Phase two – A Study for measuring indicators of competitiveness of Macedonian industry with the Sector analysis of selected industrial sectors that will establish a system for measurement and evaluation that will ensure the regular monitoring of the position of Macedonian industry from the aspect of international competitiveness.

Phase three – The creation of a national document - Industrial Policy of the Republic of Macedonia 2009-2020 - as a complex process of development of a proactive, integrated industrial policy within the frames of the Inter-Ministerial working group for industrial policy, formed as a result of the necessity for the coordination of policies due to their dispersion and consultation on a broader level. The process of development of the industrial policy was undertaken in constant dialogue with the business community, Chambers of Commerce, Universities, the science and the National Council for entrepreneurship and competitiveness.

The draft National Industrial policy of RM presents an ambitious yet achievable plan and policy for realizing the priorities of the development and creation of a competitive economy that maximises and activates the human, material and natural potentials of the Republic of Macedonia and its development advantages.

1. RESUME

The pro-active industrial policy presents a set of Government measures for stimulating and supporting the creation and development of a competitive domestic industrial sector ready to participate on the global market and based on knowledge, innovations and cooperation among the relevant actors.

The modern industrial policy develops and acts as an integrated policy in coordination with the other policies. It is closely interrelated with the policies of: education, science and innovations, regional development, sustainable development, environment, SME and entrepreneurship, trade, FDI, internal market, employment and competition. This complexity is also very

important for the creation and implementation of an industrial policy, and for the efficient implementation of the policy. This necessitates a requirement of trust and a wide national consensus that treats competitiveness and entrepreneurship from the perspective of growth and development while at the same time respecting the principles of state aid.

Industrial policy is applicable on both the national and regional levels. It enhances the development of pro-active, innovative regions that specialize themselves economically according to their authentic competitive advantages. Measures of industrial policy support regional development stakeholders in their efforts to define and implement unique and successful regional development strategies.

The vision of the industrial policy of the Republic of Macedonia is focused on a concept for economic development that supports the encouragement of domestic industry towards higher value added products and services based on knowledge, innovation and collaboration

The vision of the industrial policy is based on development of capabilities for applied research and industrial production of sustainable, organic and specialized high technological products and services for the needs of the international market, with its own design, highly trained work force, modern managerial approach, and use of research and development.

VISION OF INDUSTRIAL POLICY 2009 - 2020

The pro-active industrial policy will encourage the orientation of Macedonian industry towards higher value added products and services based on knowledge, innovation and collaboration.

The future of Macedonian industry will be built on the development of capabilities in applied research and manufacturing of sustainable, organic and specialized high-tech products and services serving the needs of international niche markets.

By 2020, Macedonia will develop the dynamic mix of sustainable and authentic industries like: organic wine and foods, eco-steel, eco-friendly construction, ITC, specialized electronic parts, renewable energy production, creative industries, medical equipment and services, authentic tourism and other industries.

The basic assumption of this Industrial policy document is that industrial policy is not a stand-alone policy and therefore requires integration of all relevant policies relating to the competitive enhancement of industry. This is the key reason for establishing the Inter-ministerial working group for industrial policy development which led the dynamic dialogue and built the consensus on the key decisions for conceptualization of the Industrial policy.

Macedonian industrial policy is a pro-active, future-oriented development policy and anticipates further developments in resources and competitive advantages, as well as changes in global markets. The policy is horizontal in its nature and does not focus on supporting selected industries. It provides a stimulus for all pro-active Macedonian companies to develop and enhance their competitive capabilities and to re-orient towards higher value added products and services, which will enable sustainable long-term operation on the international markets.

The future economic development of Macedonia will be based on knowledge creation for building the indigenous industry's distinctive competitive capabilities. This is a longer term solution for competitive improvement. It will undoubtedly involve the creation of higher value added products and services and will also attract high-quality foreign investors to invest in Macedonia.

The Inter-ministerial working group facilitated a number of awareness raising events, trainings and other capacity building activities on the topics relevant for industrial policy such as: innovation, clustering, sustainable development, small and medium enterprises financing etc. Altogether more than 150 representatives of public administration, industry, financial, research and development institutions, business support associations, secondary school and higher education providers were actively involved in the process of policy development.

The industrial policy with suitable measures and activities will influence the acceleration of the development of Macedonian industry through five areas of intervention:

1. International cooperation and FDI stimulation through the improvement and stimulation of international cooperation of the key players in economic development, strengthening the professional network for cooperation among business partners, exchange of knowledge and experience, learning and development of management, marketing and other business capabilities (implementation of methods for increasing productivity and efficiency), attraction of qualified workers for the creation and promotion of innovative businesses and attraction of foreign investments. In such a manner, the Republic of Macedonia will increase the capacity of domestic firms for the absorption of new knowledge and experience.
2. Applicable research, development and innovations with increased investments in research and development by the public and private sector, stimulation and cooperation among the industry, science, research and Government institutions, development of technological infrastructure and technological industrial development zones, creation of new products and services, enhancement of the application of new technologies, employment of researchers with higher

- education and protection of the rights of the intellectual and industrial property.
3. Eco - friendly products and services for sustainable development with use of the energy and ecological privileges as a precondition for the creation of sustainable production of organic products. Such an approach will lead to the restructuring of key industries (food, agriculture, tourism and textile) and an enhancement of competitiveness in relation to the segmented markets that present a significant opportunity for Macedonian industry. The measures and activities of the industrial policy should establish the basis for the global positioning of Macedonian industry in eco-technologies, products and services through: public awareness activities, “green public procurement”, training, joint research and new eco-friendly product and service development, sustainable industry resource infrastructure, support for eco-certification.
 4. Development of SME and entrepreneurship by increasing the net growth of new enterprises annually and with the promotion of fast-growing innovative small and medium size enterprises through better financing. This can be achieved with the creation of a business climate that stimulates entrepreneurial spirit, life long learning and the promotion of innovations. The complete process will be stimulated with the introduction of new financial instruments for small and medium enterprises. The financing of enterprises at their start up and development phases will respect the rules of state aid.
 5. Collaboration in clusters and networks through cooperation in the area of: development, procurement, sale, applying and expanding knowledge and creating innovative solutions to business challenges, joint participation on the market, joint promotion, joint trainings for the creation of a more efficient working force and others. These qualities of clustering, still need to evolve in the Republic of Macedonia supported by the following policy measures to be introduced: awareness raising and training, support to cluster / network analysis and action based strategy development, supply chain partnerships acceleration and initiation of networks of R&D institutions, technological centers and industry.

The key prerequisite needed for successful industrial policy implementation is collaboration between Ministries as well as, between public and private sectors, designed to elicit information about: creation of industrial policy measures, distribute responsibilities, and evaluation of the results.

The experience from other countries shows that for the successful creation and implementation of industrial policy it is necessary to create an implementation structure that understands consensus at the national level and an interdisciplinary approach that is jointly managing policies for development on two levels such as: 1. On the level of Ministers (Competitiveness Committee) and 2. On the level of the Inter-Ministerial expert working group - body for dialogue and joint development of harmonized industrial policy.

Therefore, the formation of the Competitiveness Committee of Ministers as a decision-making body for key national decisions about future competitiveness and the enhancement of Macedonian industry is a necessity. The Committee will be assisted by the Inter-ministerial expert group.

In such an implementation setting, the Industrial policy of the Republic of Macedonia 2009-2020 will become a coordinated effort by the Government to establish a new level of competitiveness of Macedonian industry, which will generate new jobs, and new and stronger industries.

2. CHALLENGES FOR MACEDONIAN INDUSTRY

2.1. Overview of the Macedonian Economy.

In 2007, Macedonia reached the level of 5.9%¹ real GDP growth, which is an increase, compared to previous years. After the initial transition-induced recession, which started in 1991, the Macedonian economy started to grow again in 1996. However, between 1996 and 2003 the growth rate was rather poor, partly as a result of various external shocks. With an average annual rate of around 2 percent, the country's growth performance was below that of a large majority of other transition economies².

The general outlook improved in 2004 and 2007 with the average annual GDP growth rate of 4,5%, which is still lower than most of other EU candidate and newly accessed countries.

Table 1: Real GDP growth rates at PPP in EU newly accessed and candidate countries

Country	Real GDP growth rate					
	2004	2005	2006	2007	2008	2009*
Macedonia	4.1	4.1	4.0	5.9	6.	5.5
Bulgaria	6.6	6.2	6.3	6.2	5.5	4.8
Romania	8.4	4.1	7.9	6.0	5.4	4.7
Croatia	4.3	4.3	4.8	5.8	4.3	4.0
Turkey	9.4	8.4	6.9	5.0	4.0	4.3

Source: State Statistical Office, Ministry of Finance of the Republic of Macedonia

World Economic Outlook, IMF, April 2008

- The data for 2009 are projections made before the crisis

For improvement of the economic performances of the country, the goal of the Government of the Republic of Macedonia is to achieve economic strengthening with average increase of GDP from 6-8% annually within the next period.

¹ State Bureau of Statistics and Announcement 3.1.8.10 Year XI, VI-previous data.

² Republic of Macedonia: National Development Plan 2007 – 2009.

The current account balance of goods has been negative during the whole period since 1997 until today due to the higher imports of goods. At the same time, the deficit increased from 386 million US\$ in 1997 up to 1627 million US\$ in 2007, that is 2873 million US\$ in 2008. The terms of trade measured as unit values of exports over unit values of imports have not improved during the examined period.

Analysis for many years backwards indicates that the largest participation in exports have been the following sectors:

- manufacturing of basic metals
- manufacturing of wearing apparel and
- manufacturing of food products and beverages

The global economic and financial crisis, especially during the second half of 2008, was also reflected in the Macedonian economy. The negative effects of the global crisis were first felt by the industry of basic metals and textile, at the same time there occurred a reduction of the production and a closing of separate capacities and dismissal of large numbers of workers or their redundancy. Following the example of other countries, the Government of the Republic of Macedonia delivered a package of measures for alleviation of the crisis.

Total employment has increased from 512,000 in 1997 up to 590,000 active workforce in 2007, but the employment rate of 38,6% was highest in 2001. The unemployment rate was high through the whole period ranging from 36 percent in 1997, falling to 30.5% in 2001 and increasing again up to 34.9% in 2007. Long-term unemployment remains one of the basic problems of the Macedonian economy.

Pursuant to the available data, the indicators on the labor market in percentage terms show improvements per unit labor costs (0,6 in 2007 to 0,8 in 2008).

The indicators of productivity expressed as GDP (PKM) per employee, also point to a small improvement of 29,395 US\$ in 2007 to 30,137 US\$ in 2008.

The foreign direct investments are especially important in the modernization of Macedonian industry. The largest FDI were achieved in 2002 (499,5 million Euros) and in 2007 (506,0 Euros).

Fiscal policy indicators show rather small improvements in total tax revenues collected (from 19.8% GDP in 1998 to 20.3 % GDP in 2007).

On the other hand, Government subsidies to private and public companies increased from 0.2% of GDP to 2.4% of GDP.

In relation to the expenses for research and development it is clear that there has been a the critical fall in the activities relating to gross research and development from 0,44% of GDP to GDP in 2000 of 0.20% in 2007.

Several indicators about technological infrastructure, innovation activities and education are not available (for example high tech exports, international fixed telephone costs, securing patents abroad, public expenditures on health, human development index).

Indicators on infrastructure show much better assessment of the basic and scientific infrastructure compared to the technological infrastructure.

It can be admitted that in Macedonia great improvements were achieved in the percentage of population that has attained at least tertiary education for persons aged 25-34: from 10.58% in 1997 to 19.94% in 2007.

In 2007 the number of active enterprises in the Republic of Macedonia presents 51.060 of which 50.541 are small, 424 medium and 95 large. The small and medium enterprises count for almost 80% of the employed.

Analyzed by sectors, the largest total number of active enterprises was in the trade sector and from the real sector the processing industry. Small enterprises have a dominant position in the total number of active enterprises, and also have the largest participation in the creation of the Gross value of production.

2.2 The competitiveness of the Republic of Macedonia in the existing studies and strategic documents

The competitiveness of Macedonia has been most thoroughly assessed in the Macedonian National Competitiveness Reports³. As the **National Competitiveness Report 2007** points out, starting from 2007 Macedonia was included in the group of countries which are in the second stage of competitiveness development (also called “efficiency-driven stage of the economies”). It is in this stage that the most important factors for competitiveness enhancement are placed: higher education and training, market (of goods, labor and finance) efficiency, technological readiness and the size of the market. When the economies transfer into the phase of efficiency, their competitiveness no longer relies on low prices but on quality of the goods. In the second phase key elements are: efficient markets of goods and services and the working force, the financial markets, knowledge acquired with high education and specialized training and access to the latest technologies.

According to the **Global Competitiveness Index (GCI)**:

- in the field of the Basic Requirements sub-index Macedonia is ranked superior to Albania, Serbia, and Bosnia and Herzegovina, but inferior to Croatia and Montenegro.
- in the field of the Efficiency Enhancers sub-index Macedonia is ranked superior only to Albania.
- in the field of the Innovation and Sophistication Factors sub-index Macedonia is ranked superior only to Albania, and Bosnia and Herzegovina, while it is not lagging significantly behind the South Eastern European Region average, but very much behind the EU average.

The report also points out that the Macedonian economy is still fragile and its competitiveness is (still) based on a cheap labor force and lower productivity reflected in lower wages, while the public institutions are still weak.

³ National Competitiveness Reports have been prepared under the auspices of the Macedonian National Entrepreneurship and Competitiveness Council (NECC). The NECC is WEF (World Economic Forum) partner institution for the development of The Global Competitiveness Report for Macedonia.

In **The Global Competitiveness Report 2008-2009 (WEF)** significant competitive disadvantages of Macedonian industry remain in the areas of reliance on professional management, ease of access to loans, soundness of banks, availability of latest technologies and firm-level technology absorption, state of cluster development and production process sophistication, quality of scientific research institutions and company spending on research and development.

According to the **Country Partnership Strategy of the World Bank** of the Republic of Macedonia for the period 2007-2010 prepared by the International Bank for Reconstruction and Development (IBRD) and the International Finance Corporation (IFC): “Macedonian companies need to improve their competitiveness; they are adjusting too slowly to new market opportunities and investing too little in technology adaptation, development of new products, and in training and skills upgrading of their managers and staff”⁴.

After examining the capacity of Macedonia to cope with competitive pressures and market forces within the European Union, the last **EU Progress Report for the Republic of Macedonia for 2008** draws the conclusion that⁵: “international price competitiveness [of Macedonia] has started to deteriorate” and “overall, macroeconomic stability has been maintained, although a less favorable international environment prompted a sharp increase in inflation and a widening of external imbalances. Progress in reducing barriers to market entry and exit has been maintained and the number of unresolved property disputes has been further reduced. Financial intermediation has deepened and financial market supervision has been strengthened. The financial independence of some supervisory and regulatory agencies has been strengthened”.

⁴ Country Partnership Strategy for the Former Yugoslav Republic of Macedonia for the period FY07-FY10, published in a Report No. 38840-MK, as of March 2, 2007

⁵ The Former Yugoslav Republic of Macedonia 2008 Progress Report, Commission Staff Working Document, COM (2008) 674, Commission of European Communities, 5.11.2008, p. 29

The response to various competitiveness analysis and studies by the Macedonian Government is seen in national strategic documents such as National Development Plan, and in a number of programs and individual measures, which are presented into more details in Chapter 5.

One of the major points of the **National Development Plan 2007-2009** is that: “with a strategic orientation of relying on exports as the principal driver of sustainable economic growth, improvement of the country’s international competitiveness is becoming an issue of crucial importance. Experience shows that the insufficient external competitiveness of Macedonian goods and services is to a large extent caused by an unfavorable export structure leading to the absence of an appropriate supply response. Consequently, the need to enhance the competitiveness of the Macedonian economy has again brought to attention that the medium-term agenda of policy measures should be focused on strengthening and intensification of structural reforms, (among them also reforms of the labor market, reforms of the courts justice system, improvement of the institutional capacities, that is, improvement of the management and efficiency of the public sector, as well as, further development of the financial sector). These reforms should lead to improvement of the business climate and to result in attracting foreign direct investments”.

The increase of international competitiveness of the country (which is a necessary precondition for sustainable growth and a higher employment rate) is one of the main strategic goals in the forthcoming period. Such strategic orientation remains in the new **National Development Plan 2008-2013**, where the increase of competitiveness is one of the basic preconditions for survival and development. Based on this, new policies are created to increase competitiveness based on the latest technologic achievements, highly qualified working force and an increase in productivity as the basic determinant of economic development and living standards.

2.3. Benchmarking of Competitiveness Indicators

The aim of this chapter is to put competitiveness-related indicators of Macedonia into the international EU27 perspective. For the purpose this benchmarking analysis, various readily available international services of competitiveness-related indicators were used and combined in a way to produce a comprehensive picture of the competitiveness of Macedonia's economy as compared to EU27.

Since Macedonia is an EU candidate country, EU benchmark is extremely important, but it is also very important comparison with South Eastern European (SEE) countries (Albania, Bosnia and Herzegovina, Macedonia, Moldova, Montenegro and Serbia) from the aspect of competitiveness.

The following international services of competitiveness-related indicators have been taken into consideration:

- 1/ First, two indicators of Macedonia's level of development / competitiveness were analyzed: (i) to GDP per capita in PPS as the most general measure of country's level of development, and (ii) to WEF Global Competitiveness Index.
- 2/ Second, an attempt has been made to produce a comprehensive list of indicators, which help explain the existing level of Macedonia's development/competitiveness. The sets of explanatory variables, which were used are:
 - a/ WEF's basic requirements, efficiency enhancers, and innovation and sophistication factors. These indicators explain where Macedonia's competitiveness ranks as far as individual sets of competitiveness' determinants is concerned.
 - b/ WEF's Lisbon Review Index, which explains where Macedonia ranks as far as the main ingredients of the Lisbon Strategy are concerned.
 - c/ R&D, Innovation and technology related indicators, which explain where Macedonia ranks as far as R&D expenditures, innovation and some other technology related indicators.

- d/ World Bank Doing Business Ranking, which explain where Macedonia ranks as far as the main elements of business environment is concerned.
- e/ World Bank Worldwide Governance Indicators, which explain where Macedonia ranks as far as various governance indicators are concerned.

Putting Macedonia into the EU27 and SEE perspective along with all the above indicators helps explain, which are Macedonia's strong and weak points, where Macedonia is more or less close to EU27 and SEE6 benchmark and where the country lags behind more or less considerably, that can be used as an indicator in creating policies.

In 2007, Macedonia reached 29.9% of EU27 GDP per capita in PPS. This indicator of competitiveness is much lower than Macedonia's overall relative level of competitiveness, measured by WEF Global Competitiveness Index (GCI). In terms of WEF GCI, Macedonia is at 82.1% of EU27 average in 2008-09. Compared to EU27, Macedonia is the best in 'basic requirements' (84.6%) and somewhat less successful in terms of 'efficiency enhancers' (76.2%) and 'innovation and sophistication factors' (73.1%).

Thus, the more we go from basic requirements to more sophisticated factors of competitiveness, the more country lags behind the EU27. The lag is the most considerable in terms of infrastructure (61.3%), market size (61.7%), technological readiness (63.0%), innovation (72.8%), business sophistication (73.0%), institutions (75.5%) and higher education and training (76.6%). Apart from market size, where one cannot do much about it, all other areas request a lot of investment, human resource development and well defined and implemented policies.

Table 2: Selected indicators of Macedonia's competitiveness as compared to EU27 average

	Macedonia's score; current year	Index: current/previous year	EU27=100
GDP per capita in PPS			
GDP per capita in PPS 2007, USD	8829	111.4	29.9
A. WEF – Global Competitiveness Index (GCI) – 2008-2009	Macedonia's score; current year	Index: current/previous year	EU27=100
GCI – Overall	3,9	105,4	82,1
Basic requirements	4,4	104,8	84,6
1 st pillar: Institutions	3,6	109,1	75,5
2 nd pillar: Infrastructure	2,9	100,0	61,3
3 rd pillar: Macroeconomic stability	5,5	110,0	104,9
4 th pillar: Health and primary education	5,7	100,0	93,8
Efficiency enhancers	3,6	105,9	76,2
5 th pillar: Higher education and training	3,8	100,0	76,6
6 th pillar: Goods market efficiency	3,9	102,6	81,4
7 th pillar: Labor market efficiency	3,9	100,0	87,0
8 th pillar: Financial market sophistication	4	100,0	80,4
9 th pillar: Technological readiness	3	107,1	63,0
10 th pillar: Market size	2,7	108,0	61,7
Innovation and sophistication factors	3,2	103,2	73,1
11 th pillar: Business sophistication	3,5	106,1	73,0
12 th pillar: Innovation	2,9	100,0	72,8
B. WEF – Lisbon Review Index – 2008	Macedonia's score	Index: current/previous year	EU27=100
Final	3,53	n.a.	74,6
Information society subindex	3,17	n.a.	70,0
Innovation and R&D subindex	2,78	n.a.	66,5
Liberalization subindex	3,91	n.a.	79,8
Network industries subindex	3,82	n.a.	71,8
Financial services subindex	4,05	n.a.	74,9
Enterprise environment subindex	4,42	n.a.	93,8
Social inclusion subindex	3,29	n.a.	70,6
Sustainable development subindex	2,84	n.a.	69,1

C. R&D, Innovation and technology related indicators - 2006	Macedonia's score	Index: current/previous year	EU27=100
Gross domestic expenditure on R&D (GERD, % GDP)	0,20	83,3	10,9
Business enterprise R&D expenditure (BERD, % GDP)	0,03	100,0	2,6
Science & technology graduates (% 20-29 years population)	4,3	107,5	33,1
Total ICT (IT + Telecom) expenditure (% GDP)	1,8	n.a.	31,0
High-tech exports (as a share of total exports)	0,78	98,7	4,7
D. World Bank Doing Business Ranking - 2009	Macedonia's rank	Index: current/previous year	Macedonia= 100 (EU25/Macedonia); %
Ease of Doing Business Rank	71	89,9	52,8
Starting a Business	12	52,2	461,0
Dealing with Construction Permits	152	100,7	40,6
Employing Workers	125	96,2	81,9
Registering Property	88	93,6	73,6
Getting Credit	43	84,3	96,7
Protecting Investors	88	104,8	73,6
Paying Taxes	27	84,4	268,1
Trading Across Borders	64	84,2	60,2
Enforcing Contracts	70	86,4	59,4
Closing a Business	129	99,2	30,2
E. World Bank Worldwide Governance Indicators - 2007	Macedonia's score	Index: current/previous year	EU27=100
Voice and accountability	+0.16	100,4	72,6
Political stability	-0.41	113,6	63,4
Government effectiveness	-0.29	94,0	60,4
Regulatory Quality	+0.08	105,3	68,5
Rule of Law	-0.47	101,5	56,4
Control of Corruption	-0.28	102,8	61,4

Sources and notes:

A/ *WEF – Global Competitiveness Index (GCI)*

- Source: World Economic Forum (WEF): The Global Competitiveness Report; annual editions.

- Scores rank for 1 = the lowest possible to 7 = the highest possible. The higher the score, the better.

- For comparison with EU27, average score for EU27 countries is calculated.

B/ *WEF – Lisbon Review Index*

- Source: World Economic Forum (WEF): The Lisbon Review; annual editions.

- The scores are on the scale from 1 to 7, with larger values indicating stronger performance.

C/ R&D, Innovation and technology related indicators

- Source: (i) Eurostat for EU27, (ii) Macedonian statistical data for Macedonia.

D/ World Bank Doing Business Ranking

- Source: World Bank Doing Business Rankings; <http://www.doingbusiness.org>.

- The lower the rank the better.

- For comparison with EU25, average rank for EU25 countries is calculated. Cyprus and Malta are not included.

E/ World Bank Worldwide Governance Indicators

- Source: World Bank, Worldwide Governance Indicators; <http://info.worldbank.org/governance/wgi>.

- The scores are on the scale from -2.5 (the worst) and +2.5 (the best).

- For comparison with EU27, average score for EU27 countries is calculated.

- Indices (EU27=100 index and 2007/2006 index) are calculated from recalculated scores; 2,5 is added to each score before calculating the index

Macedonia's GCI score increased by 5.4% in 2008-2009, as compared to the previous year. The highest increase has been achieved in some of the 'sophisticated' factors like technological readiness (7.1% increase) and business sophistication (6.1%). Market size score also increased by 8.0%, which is due to increased GDP. Macedonia's GCI score in 2008-2009 is 2.1% higher than for SEE6 average, 6.5% in basic requirements and 4.4% in innovation and sophistication factors.

The Lisbon Review Index exhibits somewhat higher lagging behind EU27 average (74.6%) than WEF GCI. This is expected since the Lisbon Agenda does not include 'basic requirements', where Macedonia ranks rather well, but only on more 'sophisticated' issues. The Lisbon Review Index confirms some of the WEF GCI indicated problems of Macedonian competitiveness related to innovation and R&D (66.5% of EU27 average), network industries (71.8%) and financial services (74.9%), and points to some new one, such as information society (79.0%), social inclusion (70.6%) and sustainable development (69.1%). Macedonia scores rather well as far as the enterprise environment is concerned (93.8%). Compared to SEE6 Macedonia is slightly better off than the average in numerous areas.

Low R&D and innovation has been mentioned by both WEF sources as one of the weak points of Macedonian

competitiveness. Indeed, hard data confirms that this is definitely one of the main shortcomings of the Macedonian economy. In terms of gross domestic expenditure on R&D as a share of GDP, in 2006 Macedonia was only at 10.9% of the EU27 average with a decrease from the previous year. In terms of business enterprise R&D expenditure as a share of GDP it is even lower, i.e. at 2.6%. It is therefore not surprising that Macedonia's share of high tech exports in total overall exports, is only at 4.7% of EU27 average. The country is somewhat better, but still very low, in terms of science and technology graduates (33.1%) and total ICT expenditure as a share of GDP (31.0%).

In terms of the business climate and the environment of doing business, Macedonia ranks considerably lower on average than the EU25. In 2009 among 181 countries of the world, the World Bank Ease of Doing Business rank for Macedonia is 71, while the average rank for EU25 countries (Cyprus and Malta are not included) is 38; EU25 rank is thus only 52.8% of the Macedonian rank. Compared to EU25, Macedonia is especially worse off in terms of closing a business (30.2%), dealing with construction permits (40.6%), enforcing contracts (59.4%), trading across borders (60.2%), protecting investors (73.6%) and registering property (73.6%). These are the areas in which Macedonia should make specific efforts to improve the business climate. Macedonia is better off than EU25 in terms of starting a business (461.0%) and paying taxes (268.1%). In most of the areas, the Macedonian business climate considerably improved in 2009 as compared to 2008 (the index for overall ease of doing business is 89.9%, and the only two areas with no improvement are protecting investors and dealing with construction permits). Macedonia is much higher ranked in the World Bank Doing Business Ranking (73rd position) than compared with the SEE6 countries average of 93.8th position.

Governance of the economy and the society at large has become an increasingly important determinant of a country's overall competitiveness. World Bank Worldwide Governance Indicators (WGI) measures the quality of six aspects of governance in over 200 countries. The data indicates that governance is one of the shortcomings of Macedonia. Macedonia achieves between 55% and 73% of EU27 WGI scores. The Republic of Macedonia has the highest deficit in the rule of law (56.4% of average EU27

score), followed by government effectiveness (60.4%), control of corruption (61.4%), political stability (63.4%), regulatory quality (68.5%), and voice and accountability (72.6%).

To sum up, the overview of the most relevant regularly available international analyses of country competitiveness (presented in Table 2) suggests that Macedonia has made quite a step forward in a number of aspects of competitiveness in the last several years. In most of the analyzed factors and indicators of competitiveness, Macedonia is also rated better than SEE6 countries on average. However, compared to the EU27, the country lags behind considerably. The comparison of Macedonia with EU countries in fact reveals the main weaknesses/shortcomings of the country as far as the factors of competitiveness are concerned:

- Low expenditures for R&D, low innovation and R&D activity, low level of technological readiness and high tech exports, low level of business sophistication;
- Deficiencies of infrastructure, network industries, including low level of ICT and information society;
- Non-sufficient and inadequate higher education and training, low proportion of science/technology graduates;
- Unfinished reform of the banking sector and of non-banking institutions, low level of financial services;
- Problematic aspects of doing business, especially related to closing a business, dealing with construction permits, enforcing contracts, trading across borders, protecting investors and registering property;
- Insufficient social inclusion asking for bringing more people to workforce, upgrading skills and modernizing social protection;
- Problems of sustainable development

2.4. SWOT Analysis of Macedonian Industry

The SWOT analysis is based on the observations from existing competitiveness studies and strategic documents, public-private dialogue led by the Inter-ministerial Working Group, statistical data and the results of the executed survey.

A comprehensive questionnaire survey among Macedonian companies was conducted in September and October 2008 for the purpose of industrial policy development. The survey targeted 412 chief executives of Macedonian firms. The sample included the stratum of large and small firms and the stratum of domestically and foreign owned (international) companies. Altogether 102 properly filled questionnaires have been collected, representing 24.8% response rate.

The survey covered the following topics: (1) R&D, innovation and technology, (2) company competitiveness and strategy, (3) development of entrepreneurship, (4) networking, (5) employment and human resources, (6) globalization and EU enlargement, (7) SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis of Macedonian industry, and (8) strategic and policy issues of relevance for Macedonian competitiveness.

With the SWOT analysis it is secured estimation of the competitiveness of the Macedonian industry:

- Macedonian industry operates in a business environment, which is relatively open to international competition and is getting more and more stable in recent years in terms of GDP growth, inflation and employment. Significant improvements have been made in the area of business climate in terms of the time required to start a business, the extent and effects of taxation, and flexibility of wage determination. Public spending on education is stable and provides relatively favorable qualification structure of population and high share of young people involved in education.
- Macedonian industry builds its competitiveness on a relatively inexpensive and skilled workforce, flexible production processes, which enable tailor, made and smaller size series and good terms of delivery. Production processes are being improved based on moderate introduction of new technology and equipment. Computerization of industry is improving, more and more companies are adopting ISO and other quality standards. Products and services offered by Macedonian companies

generally provide good quality to price proposition. Some companies mainly in food, beverage production have developed relatively good international brand name recognition. ITC sector is also discovering its place on the segmented market niche.

- On the domestic market, Macedonian enterprises are generally faced with unfair competition from the entities operating “half-legally” which does not provide a level playing field for all market participants. Major industries are based on the import of raw materials with rather distant suppliers and volatile prices of inputs. Macedonian companies are demonstrating relatively low bargaining power with suppliers. The process of clustering to create economies of scale in purchasing still needs to evolve.
- Major exporters are operating in the markets of basic metals, textiles, food and beverage where generally price is the primary driver of competitiveness. Moving up the value-added chain requires differentiation of products and services, which is done, based on innovation, research and development capabilities, which are significantly underdeveloped in Macedonian industry. Company spending on research and development has decreased in recent years. Financial soundness of industry and investment capability is rather weak.
- The financial sector does not enable competitive access to loans necessary to finance the development of the business sector. Financial institutions are operating with basic financial instruments only, not providing seed or venture capital to finance innovative, higher risk business opportunities. Foreign direct investments as another source of capital are entering slowly to the country.
- Significant competitive weaknesses of Macedonian industry remain in the area of reliance on professional management, availability of latest technologies and firm-level technology absorption, state of cluster development and production process sophistication. Quality of scientific research

institutions to facilitate new product and service development for industry is rather poor.

- Despite the threats of the world financial crisis and high pressures from international competition with somewhat unstable domestic political and legal environment, Macedonia can be transformed economically. To improve international competitive position, the country will have to strongly support the key factors of competitive advantages. Improvement of interactions between university/research institutions and industry for applicable research and development of new products and services is in fact one of the opportunities for Macedonian enterprises to move up the value-added chain and start producing products and services for the needs of international niche markets.
- Introduction of new technology into the production processes will also provide opportunities to improve competitiveness. Macedonia possesses unique natural and human assets that can be leveraged for high quality, eco-friendly production of wine, food, energy, authentic tourism experiences etc. Such global positioning in high quality, eco-technologies, products and services can increase high-value-added exports, create new jobs, new innovative SME-s and innovation based clusters.

The following SWOT analysis provides a summarized assessment of the competitiveness of Macedonian industry.

Table 3: Summarized SWOT analysis of the competitiveness of the Macedonian Industry

Strengths	Weaknesses
<ul style="list-style-type: none"> -Improvements in business climate. -Stable public spending on education provides favorable qualification structure and high share of young people engaged involved in education. -Relatively inexpensive and skilled workforce. -Flexibility of production, tailor made and smaller size series. -Products and services generally offer good quality to price proposition. -Some international brand name recognition in food & beverage industry and dynamic, niche oriented ICT sector. -First successful international market positioning in high-quality market segments (food, wine markets etc.). -Good terms of delivery due to convenient geographical location. -Moderate adoption of ISO, HASAP and other operational and quality standards. -Improved computerization of industry. -Favorable corporate tax rates. -Increase of foreign direct investments. 	<ul style="list-style-type: none"> -Major exporters operating in traditional industries (basic metals, textile, food) with price as the primary driver of competitiveness. -Import dependence for raw materials with distant suppliers and volatile prices of inputs. -Low bargaining power with suppliers. -Clustering/networking underdeveloped. -Unfair competition form entities operating in gray economy. Level playing field for all market participants not provided. -High personal income tax rates, particularly social security contributions from personal income. -Non-effective public administration, ineffective inspections. -Expensive and difficult access to finance, basic financial instruments available, seed and venture capital not available to finance innovative SME-s. -Low rate of new companies' formation, low level of innovative SME-s. -Lack of skilled staff for SME-s operations. -Management, marketing skills underdeveloped. -Limited and costly availability of industrial sites enabling further development of business. -Technological obsolescence, low firm-level technology absorption. -Higher education not compliant with business needs. -Inadequate environment for R&D and innovation activities, low availability of specialized facilities for research. -Decreased private and public investment in R&D. -Unequal treatment of domestic and foreign investors. -Problematic aspects of doing business, especially related to closing business, enforcement of contracts, bankruptcy etc -Low awareness of sustainable development issues.

Opportunities	Threats
<ul style="list-style-type: none"> -Concerted effort of the Government to support industry in its long-term orientation towards higher-value added products and services. -Technology development, new foreign and domestic investments. -Development of strategic relationships with suitable business partners internationally. -International knowledge exchange. -Increased public and private investment in education, R&D and stimulation of effective interactions between universities/research institutions and business. -Establishment of networks and clusters for knowledge creation and application and innovation. -Increased public awareness of relevance of knowledge, innovation and collaboration for economic development of the country. -Successful international positioning on markets with high-quality services (ICT, tourism etc.), eco-technologies and products (wine, food, renewable energy etc.). -Development of financial market enabling investment in new industries with higher-value added. -Successful mobilization of EU development instruments (CIP, IPA etc.) for the purpose of industry development. -Effective public-private partnerships to be enhanced. 	<ul style="list-style-type: none"> -Global economic crisis. -High pressures from international low-price competition and consequent loss of business for Macedonian industry. -Inadequate and ineffective Governmental response to long-term competitiveness enhancement of industry. -Inconsistent , mainly short-term oriented interventions by the Government to save individual companies in troubles. -Unstable domestic political and legal environment. -Major delays in EU accession process. -Lack of capital needed for industry development from both, domestic and foreign investors. -Inadequate technological modernization and human resource development of industry. -Continuing decrease of public and private investment in R&D and innovation. -Higher-education system unresponsive to the business needs. -Due to non-stimulating working environment brain-drain of best quality workforce.

3. APPROACH FOR DEVELOPMENT OF THE INDUSTRIAL POLICY

3.1 Concept

The proactive industrial policy presents sets of Government measures for stimulation and support, creation and development of competitive domestic industry preparing for participation on the global market based on knowledge, innovations and cooperation among the actors of the industry development.

The renewed industrial policy in the EU, based on the recommendations of the Lisbon strategy, promotes research, creation of knowledge and implementation of technologies. It is horizontal by nature and points to cooperation with the other policies for accelerating an approach to the market, with encouragement for the creation of new firms and competition, building competitiveness based on innovation. The Government has the function of a catalyst and promoter of development but it does not undertake activities for direct intervention in the industry-individual sectors.

The countries with best practice for the development and implementation of industrial policy show that a proactive industrial policy can significantly accelerate economic development and competitiveness of industry and increase the growth of GDP per capita (by three times during the last 15 years - Ireland, Finland, Slovenia). The examples also show that successful industrial development is realized in cooperation and coordination among the relevant policies, as well as, between the private and public sector.

The Government of the Republic of Macedonia is successful in the design and implementation of systemic reforms that already show good results - especially in respect of improvement of the business climate with the purpose of forming new business and the development of existing businesses and increasing the interest of foreign direct investors to invest in Macedonia.

The favorable business climate as well as, the attractive tax possibilities and other relative low expenses are very significant comparative advantages of the Republic of Macedonia from perspective of expenses, that is, prices. Anyway, the future economic development of the Republic of Macedonia should be based on the creation of knowledge for building of indigenous characteristic competitive possibilities of industry. This is a long-term solution for competitive improvement and without doubt, it will secure the creation of products and services with higher added value and attraction of FDI.

Macedonian industrial policy is a pro-active, future-oriented development policy and anticipates future developments in resources and competitive advantages, as well as changes in the global markets. The policy is horizontal in its nature and does not focus on supporting selected industries. It provides stimulus for all pro-active Macedonian companies to develop and enhance their competitive capabilities and re-orient towards higher value added products and services which will enable sustainable long-term operation on the international markets. The industrial policy will be successful only through cooperation and coordination with other policies and measures for increasing competitiveness and especially with the implementation of the rule of law and creation of conditions for equal treatment for all participants on the market.

Industrial policy is applicable at national and regional levels. It enhances development of pro-active, innovative regions that specialize themselves economically according to authentic competitive advantages. Measures of industrial policy support regional development stakeholders in their effort to define and implement unique and successful regional development strategies.

3.2. Inter-ministerial Working Group and Public-private Dialogue

The basic assumption of this Industrial policy document is that industrial policy is not a stand-alone policy and therefore requires integration of all relevant policies that relate to the competitiveness enhancement of industry. This is the key reason for establishing the Inter-ministerial working group for industrial policy

development, which led the dynamic dialogue and built consensus on key decisions for the conceptualization of the Industrial policy. The following policy development areas have been included: SME and entrepreneurship development, technology development and innovation, investment promotion, human resource development, regional development, finance, environment, trade, state aid, the experience of the EU countries in creation and implementation of industrial policy and others.

The Inter-ministerial working group held numerous working meetings and facilitated several awareness raising events, trainings and other capacity building activities on the topics relevant for industrial policy such as: innovation, clustering, sustainable development, small and medium enterprises financing etc. Altogether more than 150 representatives of public administration, industry, financial, research and development institutions, business support associations, secondary school and higher education providers were actively involved in the process of policy development.

The policy has been developed based on public-private dialogue. Individual business and research leaders actively participated during the process of identification of the challenges, development of the vision and strategic goals, together with the inter-ministerial working group a number of business associations (chambers, cluster organizations etc.). This participatory approach in policy development is considered to be a good basis for industrial policy implementation and future policy renewal.

3.3. Strategic Questions

Increasing competition and the influence of globalization on the position of Macedonian industry.

Pro-active industrial policy is oriented towards the future and focuses on the development of authentic capabilities of Macedonian industry to respond better to the increasing pressures of globalization. It has been developed in accordance with the priorities of the Lisbon strategy, which provides responses of the European Union to competitive pressure.

The Inter-ministerial working group opened some strategic questions about future development and competitiveness of industry, such as:

- ◆ How can Macedonia orient its industry towards higher value added products and services which would serve the needs of international niche markets?
- ◆ Which are the key capabilities and knowledge of Macedonian industry that can attract and retain international investors and prevent brain drain? What ways are there to increase domestic firms' capacity of absorption of knowledge and experience that would spillover from FDI?
- ◆ How can Macedonian industry take advantage from the global trends moving towards sustainable development?
- ◆ How to provide more seed and risk capital to stimulate dynamic small and medium enterprises to innovate and introduce new products and services to the market?
- ◆ How can Macedonian companies provide international partners with confidence that, their operations are run professionally and that they can manage contracts appropriately?
- ◆ The new perspective of industrial growth stands in effective collaboration between industry and knowledge providers. How can collaborative approaches such as innovation based clustering and networking be stimulated?

4. VISION OF MACEDONIAN INDUSTRIAL POLICY

Industrial policy development recognizes the need for a shared vision among Macedonian business, academia and policy leadership.

In this context, the Inter-ministerial working group, private sector representatives and academia members have formulated a shared vision of industrial development.

VISION OF INDUSTRIAL POLICY 2009 – 2020

The pro-active industrial policy will encourage the orientation of Macedonian industry towards higher value added products and services based on knowledge, innovation and collaboration.

The future of Macedonian industry will be built on the development of capabilities in applied research and manufacturing of sustainable, organic and specialized high-tech products and services serving the needs of international niche markets.

By 2020, Macedonia will develop the dynamic mix of sustainable and authentic industries like: organic wine and foods, eco-steel, ITC, specialized electronic parts, renewable energy production, creative industries, medical equipment and services, authentic tourism and other industries.

The pro-active industrial policy as a set of governmental measures will support Macedonian industry in such a way that it will be able to grow traditional (niche oriented) as well as new high tech sustainable industries – building on new knowledge networks established through the world.

Macedonian industrial policy will strive to enhance new, applicable research and innovation methods in education and industry. Business and research will be stimulated for interaction and collaboration (clustering). Knowledge for development will be possible due to the increased public and private investment in research and development and engagement of talented people.

The Macedonian new industry potential will be possible due to the ability of key development stakeholders (political, business and research/academia leaders) to reach consensus and decide for value-added, internationally oriented industry based on a dynamic mix of sustainable and authentic industries, “clean-tech” manufacturing, and innovative service industries that create jobs and a rising standard of living.

5. AREAS OF INTERVENTION OF INDUSTRIAL POLICY

The analysis of existing competitiveness enhancement programs and activities for increasing competitiveness shows that in 2008 the Government introduced a number of individual measures to support industry. The programs, which are implemented by several ministries and agencies, show some opportunities for better co-ordination, a need for integration and focus. In 2009, the Government of the Republic of Macedonia continued the realization of the strategic determination for enhancing competitiveness through suitable programs and activities.

Table 4: Competitiveness enhancement programs and activities by the Government of Republic of Macedonia in 2008 and 2009

Ministry (Agency) Program	Instruments	Budget in 2008 (denars)	Budget for 2009 (denars)
Ministry of Economy: The Program for Development of the Entrepreneurship, Competitiveness and Innovation of the Small and Medium Sized Enterprises 2007-2010	Institutional architecture: - government institutions: 4 - business support structure: 10 Business environment - <i>Access to finance:</i> 11 measures, i.e.: equity funds, venture capital, business angels etc. - <i>Innovation and competitiveness enhancement:</i> 19 measures, i.e. standards, clusters, e-readiness, ICT awareness raising, R&D investment and promotion, technological industrial development zones, science and innovation interface, HRD, international cooperation, technology diffusion, vouchers, life-long learning etc.	29.000.000	30.000.000

Ministry of Economy: Program for Improving the Competitiveness of Macedonian Products and Services on Foreign Markets	<u>Subsidies for individual companies:</u> Quality Standards, Macedonia on internet, IT education, Product design <u>Promotional services:</u> Business forums/round-tables, International fairs, National brand names, Promotion of agricultural products, Expo Shanghai, Promotional materials, Clusters	35.000.000	16.500.000
Ministry of Economy: Program for Tourism Development	<ul style="list-style-type: none"> - Establishment of National Tourism Organization - Promotion materials preparation - Presentation on international tourism fairs - Collaboration with foreign tour operators - Awareness raising activities - A number of specific tourism destinations development actions - Subsidies for business forums - Training of personnel in tourism 	47.880.000	37.995.000
Ministry of Education and Science: Program for Technological Development and Program for Technical Culture	Competition for co-financing of development research projects and programs/projects of holders of public authorizations in technical culture	31.000.000	27.000.000
Agency for Foreign Investments	<ul style="list-style-type: none"> - Stimulation and promotion of investments - 25 promoters abroad 	197.347.600	124.463.655
Employment Agency: Employment policy: (selected chapters/programs)	<ul style="list-style-type: none"> - Self-employment program - Re-qualification and preparation for employment: trainings in companies, education for start-ups, pilot projects for deficit profiles etc. 	<div>97.235.600</div> <div>61.363.600</div>	<div>127.540.300</div> <div>66.600.000</div>

Ministry of Economy	Program for Support and Development of Cluster Association in RM	-	2.200.000
Ministry of Economy	Program for Revitalization of the Textile Industry	-	2.800.000
Total for competitiveness directly		798.826.800	735.098.955
% from Budget		0,55	0,48
Ministry of Agriculture: Program for Financial Support in Agriculture	- Financial support for implementing standards for food quality and safety - Financial support for organic agriculture production	9.200.000 20.000.000	15.560.000 50.100.000
Ministry of Local Self Government and Bureau for Regional Development: Program for Equal and Sustainable Regional Development Program for Attractive Mountain Regions	- Financing projects in mountain regions - Financing projects in areas with specific development needs - Activities through the Ministry of Local Self Government and Bureau for Regional Development	202.000.000 166.395.000	166.500.000 150.000.000
TOTAL for competitiveness with organic production and regional development		1.196.421.800	1.117.258.955
% from the Budget		0,83	0,72

Source: Official Gazette of RM, Ministries and Agencies

The total of 0.55% of the annual national budget for 2008 has been invested in increasing competitiveness of which the larger part is in attracting investments and increasing employment. In 2009 this percentage was reduced to 0,48%, instead of being increased.

The vision of industrial policy is based on the encouragement of Macedonian industry to create marketable, higher value added

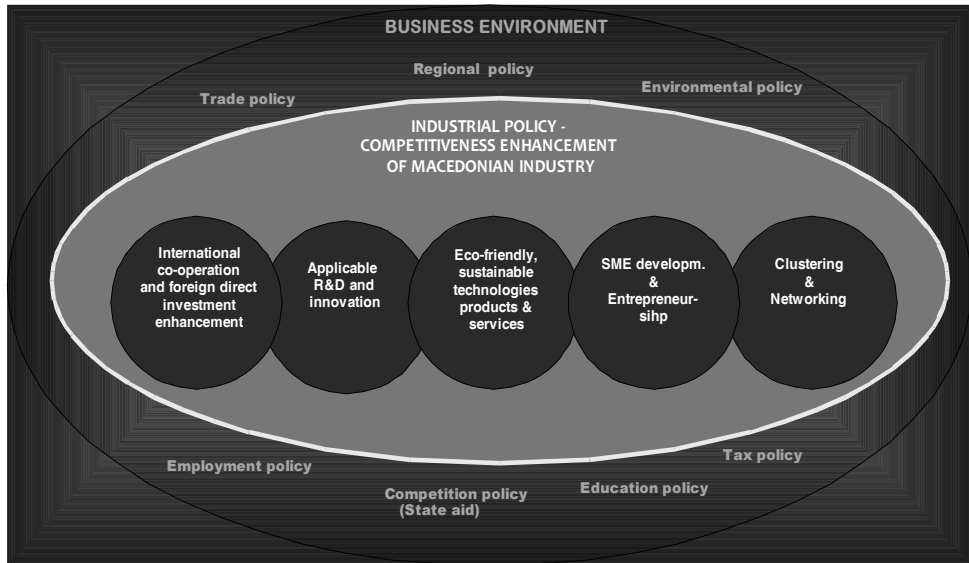
products and services based on knowledge, innovation and collaboration. This vision is aligned with the concept of economic development of Republic of Macedonia, which is in turn based on attracting investments. The major contribution of industrial policy is, by the measures and instruments, to provide development of competitive domestic companies capable of stimulating and attracting investments.

Within the public-private dialogue for industrial policy development, five basic areas of intervention have been identified as a response to key strategic questions of industry development. Although all of them are perceived as equally important for the development of Macedonian industry, they are presented according to the weaknesses and the need for intervention.

Industrial policy will integrate competitiveness enhancement efforts in the following five areas of intervention: (i) international cooperation of the key participants in the economic development and FDI enhancement, (ii) applicable research & development and innovation, (iii) eco-friendly technologies, products and services for sustainable development, (iv) SME development and entrepreneurship, (v) collaboration in networks, clusters.

These five areas will be effective horizontally, across all sectors, and are in essence aimed at enhancing the underlying competences of Macedonian industry.

Figure 1: Scheme of Areas of Intervention of Industrial Policy of RM



The five strategic objectives (areas of intervention) for realizing the vision of Macedonian industrial policy are:

1. International cooperation and foreign direct investments enhancement by improving and enhancing international cooperation of the key stakeholders in economic development, strengthening the professional network for cooperation among the business partners, exchange of knowledge and experience, learning and development of management, marketing and other business capabilities (implementation of methods for increasing productivity and efficiency), attracting qualified personnel for creation and promotion of innovative businesses and attracting foreign investments. Thus, the Republic of Macedonia will increase the capacity of domestic companies for absorbing new knowledge and experience.
2. Applicable research, development and innovations by increased investments in research and development by the public and private sector, enhancement and cooperation between industry, scientific and government institutions,

development of technological infrastructure and technology industrial development zones, creation of new products and services, increasing the application of new technologies, employment of researchers with higher education and protection of the rights of intellectual and industrial property.

3. Eco friendly products and services for sustainable development by using energy and environmental advantages as pre-conditions for the creation of sustainable production of organic products. This approach will lead to restructuring the key industries (food industry, agriculture, tourism and textile) and increasing competitiveness in relation to segmented markets, which present a great opportunity for Macedonian industry. The measures and activities of industrial policy should establish a basis for global positioning of Macedonian industry in eco-technologies, products and services, by: activities for public awareness, “green public procurement”, trainings, common research and development of new ecological products and services, sustainable infrastructure of industrial resources and support for eco-certification, using the potentials of renewable energy resources.
4. Development of SMEs and entrepreneurship by increasing the net growth of new enterprises annually and by promoting the fast growing innovative small and medium-sized enterprises by better financing. This may be done by the creation of a business climate that stimulates the entrepreneurial spirit and promotes innovations. The whole process will be stimulated by the introduction of new financial instruments for small and medium sized enterprises.
5. Cooperation in clusters and networks by mutual cooperation in the field of: development, procurement, sale, extending knowledge and mutual innovative solutions, common approach on the market, common promotion, common trainings for creation of a more efficient labor force etc. These qualities of clustering in the Republic of

Macedonia should still be developed with the measures of industrial policy, by: increasing awareness and training, analysis for support of cluster/networking and activities for developing strategies for stimulating partnerships in the supply chains and initiating networking with institutions for research and development, technological centers and industry.

6. INDUSTRIAL POLICY MEASURES

This chapter covers measures of industrial policy in all of its areas of intervention: international cooperation of key economic development stakeholders, applicable research and development and innovation, eco-friendly technologies, products and services for sustainable development, SME development and entrepreneurship, collaboration in clusters and networks.

6.1. International Cooperation and FDI enhancement

6.1.1. Rationale

The Macedonian economy is one of the smallest in Europe. Internationalization is a prerequisite mode of operation for the Macedonian economy. Macedonia strives to compete regionally and internationally on the basis of higher productivity by adding value to products and services, rather than simply on the basis of low cost. Within the *“Program for competitiveness improvement of Macedonian products and services on foreign markets”* the Government has already assisted a number of companies to comply with quality standards, to promote their products and services on the web, on major international trade fairs and other promotional events around the world.

The main focus in this area of intervention is to help Macedonian companies in the process of internationalisation by providing trainings and education of managers for priority areas, improving the access to relevant information for companies and improving financial support in stimulating exports. Thus, it will contribute to the creation of active relationships with international business partners, The bulk of empirical evidence indicates that industry

which is able to draw on broad and diverse international networks is more successful in terms of growth and innovation than is an industry which does not have access to such networks. In order to be enhanced, these capabilities Macedonian companies will be supported with regards to training and upgrading the skills of management and staff. Implementation of these measures, in essence, requires constant upgrading, learning, creation of new knowledge from aspect of management, marketing, innovations, organisation and their application.

Internationalisation of companies is a process of constant learning, creation of new knowledge, and its utilization.

An internationally open, active and learning-oriented industry will consequently attract the most desirable foreign direct investors and develop local absorption capacity for spill-overs from FDI. Empirical studies show that FDIs are a very important factor for the development of the economy, which contributes to acquiring new knowledge and know-how from FDIs as a long-term effect on the competitiveness of the economy. The promotion and attraction of FDI are very important for the further development of the Republic of Macedonia, because of a range of positive effects that they have on the economy from the aspect of inflow of new technology, new managerial experiences, innovations, new employment, new standards and the spill over effect.

6.1.2 Assessment of the current situation

The international trade scope of the Republic of Macedonia increased in 2008 by 26.2% in comparison with the international trade scope in 2007. Macedonian leading export sectors are: manufacturing of basic metals (ferro-nickel, iron and steel products - flat-rolled products), manufacturing of wearing apparel and manufacturing of food products and beverages. In international markets of basic metals, food and beverages price is generally the primary driver of competitiveness. The global economic crisis has already severely affected metal industry and others are also expected to be affected.

The most important export trade partners of Macedonia are the EU27 countries (59.5% in 2008) and the West Balkan countries (35.5% in 2008), and in imports, the most important trade partners are the EU27 countries (48.1%) and the Developing countries

(30.8%). According to the total commodity international trade scope, the Republic of Macedonia's most important trade partners are Serbia, Germany, Greece, Russia, and Italy (49.8% from the total commodity international trade exchange).

Internationalization of companies' activities is a key factor of success of any small economy. Macedonian companies seem to be very much aware of this. In the survey undertaken for the purpose of industrial policy development, the need for policy measures in the field of enhancing the international cooperation of key economic development actors received the highest average score by the interviewed Macedonian firms (5.31 on the scale between 1 and 6).

The main market of those interviewed firms is the domestic Macedonian market. On average 55.2% of their sales is oriented to domestic market, followed by neighboring countries with 22.2%, EU countries 17.3% and the rest of the world 5.2%. Majority foreign owned enterprises on average export most of their sales, i.e. 58.9%, while the corresponding share for domestic enterprises is 42.4%. For both categories of enterprises, neighboring countries are a more important market than EU countries. In terms of company size, their export orientation, as expected, increases by size, i.e. small companies on average export 26.8% of their sales, medium sized ones 55.5% and large firms 57.4%.

To further increase the export propensity and overall internationalization of the Macedonian economy, which is an absolute necessity for country's development, Macedonia has to strengthen efficiency enhancing factors, and innovation and sophistication factors of competitiveness.

6.1.3 Measures

International cooperation and stimulation and attraction of FDIs will contribute to the more successful development of companies and their increased participation in international markets. The measures already implemented by the Foreign Investment Agency and the the Agency for Entrepreneurship Support through the Program for Improving Competitiveness of Macedonian Goods

and Services and the Program for Stimulating Investments will be complemented by the following measures:

1. Strengthening the capacities of companies by trainings for creating competitive products *based on international best practices for management improvement, quality and productivity increase methods, marketing knowledge.* Macedonian companies need to improve their management and systems capability. This will only come about if industry leaders have awareness and motivation to move their business up the value chain and introduce relevant efficiency, productivity improvement methods, quality standards, team and project management, innovation enhancement techniques. Realizing such trainings and introducing new technologies and methods will contribute to creation of competitive products both on the domestic and foreign market.

2. Support of companies by increasing their export through:

2.1. Strengthening of professional network of international business partners

Macedonian industry will be supported in collaboration with the relevant business associations to strengthen their professional contacts, identify strategic business partners and establish strategic alliance with key players in selected fields i.e. organic food, the renewable energy production etc. Numerous business work shops and events for making contacts will be organized for the needs of Macedonian industry and the relevant business associations (chambers and alike). Trainings will be realized for international promoters, as well as for members of economic diplomacy in Macedonian embassies and the Honorary Consuls of the Republic of Macedonia abroad, for methods to assist industry and to facilitate match-making events and work on the establishment of professional networks of business partners.

2.2. Studies for the strategic positioning of Macedonian industry in key international markets. International networking will be accelerated by practical strategic positioning studies of Macedonian companies in international markets.

Industry (organized in various relevant business associations) will choose their strategic markets. Empirical evidence shows that selection of markets can be better accomplished by business than by the Government. The Government will co-finance the development of detailed analysis and marketing strategies for industries and clusters on selected key international markets as suggested by industry and cluster leaders themselves. Such studies will support business leaders in their decision-making process for undertaking further steps to best position their products and services internationally.

2.3. *International knowledge exchange.* International exchange can enable Macedonian industry to get access to valuable information and knowledge. Entrepreneurs will get a chance to travel to the hot-spots of the world for business, learning and inspiration. These trips should be combined with teaching at the leading universities. Members of the Macedonian Diaspora working in successful international companies, research and higher education institutions will be invited to engage in international knowledge exchange projects and activities to enhance competitiveness of Macedonian industry.

3. Improving the informing of companies about export by preparation of web portal

Informing and easy access to information is of great importance for companies in the process of internationalization. A web portal dedicated to exports would offer information from aspect of the possibilities that international markets offer, the rules of cooperation, integrated presentation of programs that Government offers as support to companies from the aspect of trainings, seminars, participation at fairs, data for links for further information from EU and international institutions, presentations of market analysis per sectors and markets etc.

4. Improving the possibilities for financing companies exporters through the MBDP

Strengthening the role of MBDP in providing different forms of financial support of export companies from the Republic of Macedonia.

5. Creation of institutional support and integrated program for support of internationalisation of companies

In the complex process of internationalisation it is necessary for institutional support of companies to exist where in one place they would obtain all relevant information and services, as well as a unique program for support of the process of internationalisation of companies. This program will provide coordination of institutions involved in creating policies and the implementation of programs for increasing competitiveness of economy and support in the process of internationalisation. It is necessary to perceive the need for building capacity for export promotion (Agency for Export Promotion, as an independent entity or within the existing agencies: Agency for Entrepreneurship Support or Agency for Foreign Investments of RM). Thus, creating the policy of improving competitiveness and internationalization will be under the competence of the Ministry of Economy, and the export promotion will be transferred to a professional Agency. Experience from most other countries shows that the optimum model for institutional support of competitiveness and internationalisation is through a single agency. At the moment in Macedonia, this is the Agency for Entrepreneurship Support, which should increase its competences.

6. Further stimulation and attracting FDIs

One of identified drivers for increasing competitiveness and enhanced internationalisation, as a basis for growth and economic development, are FDIs. The biggest effect in development would be provided by coordinated policy and a consultation mechanism with the institutions involved in attracting FDIs, and policies for increasing competitiveness of the economy. This would lead to attracting quality FDIs, which would remain in Macedonia for a long time, seeing it as an equal partner for cooperation and dialog. FDIs would contribute to the inflow of new technologies, innovations, networking of Macedonia into the world economy, inflow of new knowledge, qualifications and skills, marketing strategies, capital investments, new employment, increased export etc.

6.1.4 Expected results

The implementation of the above industrial policy measures will in the long run significantly improve the competitive capacity of Macedonian enterprises in international markets. The measures will create positive effects for the entire Macedonian economy due to the increase of exports, decrease of deficit in current account balance, and increased investments.

Measures targeting training, skills upgrading and the introduction of new systems and management methods will contribute to the productivity improvement of domestic enterprises and thus reduce the productivity lag compared to the EU27.

6.2 Applicable Research and Development and Innovation

6.2.1. Rationale

Future competitiveness of Macedonian industry depends on applicable research and development and innovation which are considered key drivers for industrial development. It is in accordance to the priorities of the Lisbon Strategy, where the target is in increasing investments in research and development to 3% of GDP.

Traditional definitions of innovation place most focus on tangible technical dimension and too little on the intangible social, organizational and relational dimensions. It is important to move away from a narrow definition of innovation focusing only on new products and services and instead understand the innovation at the level of entire creative process of exploring new ideas, developing new *business concepts*. This concept includes new products, services, technologies, as well as capabilities to explore and lead business on new markets, introduction of new methods of work, better and more efficient networking, by synergies created in dialog between the public and the private sector etc.

Enterprises and employees with their tacit knowledge are one of the major sources of innovation. Through the introduction of an industrial policy the Government will act as a catalyst for enhancing applicable research and development and innovation

by providing the right framework conditions for companies to develop and nurture this development potential.

Long-term competitiveness of industry depends on high quality collaboration between industry and universities and entities for performing scientific and research activity, with the purpose of undertaking applicable research and development.

High education and other entities for performing scientific and research activity should respond better to industry development needs. If universities do not provide knowledge for industry and if industry neglects continual development, expansion and application of knowledge, it is increasing the level of risk by which it operates.

6.2.2. Assessment of Current Situation

In Macedonia, gross domestic expenditure on R&D (GERD) was 0.2% of GDP in 2006 and represents only 10.9% of the EU27 average. This is only partially the result of low public expenditures on R&D, since business enterprise R&D expenditure (BERD) was only 0.03% of GDP in 2006 which was only 2.6% of the EU27 average. One of the consequences is that Macedonia's high tech exports as a share of total exports is no more than 0.78% or 4.7% of the EU27 average.

Furthermore, the above indicators do not seem to show any improvement in the recent period (Macedonian statistical data and Eurostat). It is, therefore, not surprising that low expenditures for R&D, low innovation and R&D activity (according to WEF Lisbon Review Index 2008, Macedonia is at 66.5% of EU27 average as far as Innovation and R&D subindex is concerned), low level of technological readiness (where, according to WEF GCI, Macedonia is at 63.0% level of EU27 average in 2008-2009) and high tech exports, low level of business sophistication (where, according to WEF GCI, Macedonia is at 73.0% level of EU27 average in 2008-2009) are considered to be among the main weaknesses of Macedonian competitiveness in various international measurements of competitiveness.

In the area of applicable R&D and innovation Macedonian industry suffers from a lack of technical understanding, low absorption of technology and a lack of learning capabilities in this area, as well as insufficient cooperation and connection among the key actors in innovation and R&D (industry, universities and other education/scientific institutions) that lack mutual confidence and capital.

In the survey among Macedonian companies, they emphasized the need of providing infrastructure for supporting activities for R&D and innovation, access to specialized research capacities, cooperation among the industry and science, adequacy of business environment for stimulating activities for R&D by the Government and support of innovation activities and technological development with legal framework.

In this context, it is not surprising that those interviewed companies, especially the ones that are mainly oriented to exports, estimated highly the need of introducing measures that would increase applied R&D and innovations.

The Government of the Republic of Macedonia signed an Agreement for Cooperation and Inclusion in the CIP Program, which enables Macedonian companies to obtain significant funds in the field of entrepreneurship and innovation. The first programs are already approved and implemented.

6.2.3. Measures

The following industrial policy measures will enhance applicable research and development and innovation of Macedonian industry:

- 1. Awareness raising activities and capacity building for the promotion of applicable research and development and innovation in industry.** The Government will, in collaboration with industry, research institutions and universities, initiate a series of seminars, conferences and study visits to the countries and regions which are recognized as having best practices in applicable research and innovation enhancement. Special training will be offered to SME-s to successfully develop quality project

applications capable of winning and absorbing resources from the EU and other donor programs and funds i.e.: Competitiveness and Innovation Program (CIP), JEREMIE etc. These awareness raising and capacity building activities will be implemented for industry representatives, representatives of ministries and agencies, researchers, university representatives, and other relevant industry development stakeholders.

2. **Stimulation of interactions between university/research institutions and industry.** Enterprises will be stimulated to obtain new solutions to their needs from the higher education knowledge providers. Specific instruments like innovation vouchers will be introduced to enable industry to buy knowledge and strategic consultancy, and pre-competitive research from knowledge providers. Joint projects of a group of companies and research institutions/faculties will also be supported.
3. ***Stimulation of the commercialization of new products and services, support in the area of product design.*** Commercialization of new products, services and technologies will be supported by co-financing of market research and marketing strategies for pre-commercialized products and services. Solutions for industrial design of new products will also be co-financed. Such studies and solutions will assist companies in the process of the commercialization of new, innovative products and services.
4. ***Support to industry to employ higher education researchers to strengthen their technological and innovation competence.*** Industry will be stimulated to employ researchers from universities to strengthen their research and innovation. High-quality researchers will bring the knowledge and networks necessary for better R&D activities in these companies. Achieving these objectives requires not only a strong scientific and technological base, but also strong capacities in industry in order to convert the

basic and applied research into new products, services and processes, as well as to bring these innovations onto the market as soon as possible.

5. **Technology transfer stimulation.** Government will stimulate transfer of new technology by elimination of import barriers and co-financing the costs of technology which will enhance the introduction of new higher value added products and services.
6. **Technological Industrial Zones as a nucleus for development of innovation based industries.** These measures would stimulate the Technological Industrial Development Zones (TIDZ) to become the centre of businesses based innovations, which cooperate with universities and institutions for research and development. A principal aim of these zones will be to develop partnerships, strategic alliances and joint ventures with international corporations, domestic enterprises, universities and applied research centers which will establish a base and critical mass of technical and investment capability in Macedonia.
7. **Intellectual Property Rights protection.** By raising awareness among researchers and industry about the value of intellectual property rights and the importance of protecting and managing them; and by the financial support to register patents for their new technologies, products and services.
8. **Integrated policy for innovations and implementing of activities for inclusion of Republic of Macedonia in Innovation Scoreboard –EIS**
Ministry for Education and Science and the Ministry of Economy should jointly prepare integrated policy for support of innovations, where jointly would be coordinated the activities, programs and institutions for support of innovation, as a basis for increasing competitiveness and development of companies and industry.

EIS implementation would provide international monitoring of innovation potentials of Macedonian industry as a condition for creating policy and monitoring the impact.

6.2.4. Expected results

Industrial policy will contribute significantly to improved awareness about the role of R&D and innovation for competitiveness of Macedonian enterprises. An expected result of above measures is the development of interdisciplinary interaction between industry and research which will be shown in an increased number of joint development projects and registered patents. In this respect, industrial policy should be closely related to the policy of education, training, and research and development in order to enable entry for the formulation and implementation of other interconnected policies, such as employment SMEs, telecommunication infrastructure, services, tourism, agriculture and ecology, as well as a policy for sustainable development.

Due to increased capacity building it is expected that Macedonian enterprises will be able to develop effective innovation project applications capable of winning and absorbing resources from EU programs and funds, especially the Competitiveness and Innovation Framework Program.

Implementation of measures for applicable research, and development and innovation, assume an increase of investments in this sector by the state and the private sector.

This approach would enable Macedonia to increase the export of high technology and to develop a stronger position for improving the attraction of innovative international companies and thus re-focus foreign direct investments to new technologies and R&D, which brings sustainability of existing jobs and the creation of new ones.

6.3. Eco-friendly Technologies, Products and Services for Sustainable Development

6.3.1 Rationale

Achieving sustainable consumption and production is a key challenge for the future. Sustainable industrial policy can aim at turning the environmental challenges into economic opportunities for society⁶. Macedonia is fortunate to possess several unique natural assets in strategic areas that can be leveraged to effectively improve competitiveness of its industry. This can be achieved by the realignment of key industries around a common strategy of sustainable production. Macedonia will develop the dynamic mix of sustainable and authentic industries like: organic wine and foods, eco-steel, renewable energy production, creative industries, medical equipment and services, authentic tourism and other industries that will serve the international niche markets which attract consumers with socially responsible purchasing preferences.

Some facts about opportunities in the area of sustainable economic development

- The environmental services sector has expanded greatly in recent years, with annual global sales now at 680 million EUR, and with a predicted growth of 15-20 percent over the next three to four years⁷;
- Since the early 1990s organic food market has had growth rates of around 20% a year, far ahead of the rest of the food industry, in both developed and developing nations. As of April 2008, organic food accounts for 1-2% of food sales worldwide. Future growth is expected to range from 10-50% annually depending on the country.
- The organic food market in Germany is fast growing market with an average growth rate in the last few years of 25% per year. It is a “booming” market. The total turnover in EUR is more than 4 billion EUR.

In Italy the greatest increases of organic products sales in 2007: fruits and vegetables (+21%), pasta and rice (+15%), non-alcoholic beverages (+8%). In France in 2005, 47% of the population declares to consume organic food, at least once a month.⁸

⁶ European Commission: Background Document to the Consultation on the Action Plans on Sustainable Consumption and Production and Sustainable Industrial Policy, 2007

⁷ Innovation in Ireland, 2008

⁸ Monique Jonis, ITAB: Organic viticulture and wine-making: development of environment and consumer friendly technologies for organic

6.3.2 Assessment of Current Situation

According to WEF Lisbon review Index 2008, the Sustainable development index for Macedonia is the lowest one (2.84), next to Innovation and the R&D sub-index (2.78). In the Sustainable development index Macedonia achieves only 69.15% of EU27 average (again the lowest next to Innovation and R&D sub-index).

Macedonia owns natural resources and conditions. Fertile soil and a combination of moderate Mediterranean and continental climate, with more than 2.500 sunny hours (i.e. Gevgelija-Valandovo valley, Dojran), winters with enough rain to allow lush vegetation i.e. production of high quality food, as well as conditions for the production of energy from renewable resources. However, awareness of the opportunities and existence of capabilities in the area of production of eco-friendly products and services is still at a very low level. In relation to Eco-labeling, the regulation exists and implementation is underway, but there are no applications submitted for obtaining an ecological label.

The need for policy measures in the field of 'promotion of eco-friendly and renewable products/services is very highly assessed by those interviewed Macedonian firms (5.13 on the scale between 1 and 6). The majority of the interviewed companies consider the following as the most promising areas for development: food industry, agriculture, wine production and tourism.

6.3.3 Measures

1. Public awareness activities among Macedonian producers and consumers to increase business interest and appreciation of environmentally friendly production and consumption of organic, eco-friendly products and services. These public awareness activities will also bring attention to the business opportunities in EU niche markets in the area of renewable energy production, environmentally friendly and organic products and services.

2. **Public procurement** *realigned to sustainable development in a way which favors energy efficiency and respects the environment (i.e. “green procurement”)*. The public sector will specify its requirements for public procurement of goods and services in a way which will favor energy efficiency and respect the environment (for example purchasing of energy efficient heating or transport equipment, environmentally friendly furniture, recycled paper etc.). By doing so, public procurement which represents a significant share in total national consumption will shift financing away from conventional polluting technologies to more efficient sustainable technologies that create new jobs and reduce pollution.
3. **Joint research, development and commercialization of new eco-friendly product and service.** New eco-friendly product and service development which would be done in collaboration between industry and higher education knowledge providers will be stimulated. Producers will be educated by domestic and international specialists in how to grow and process food according to organic or biodynamic principles. Knowledge about technologies for renewable (solar and other) energy production will be applied and commercialized with the financial support by the Government.
4. **Sustainable Industry Resource Infrastructure** by establishing local offices/centers for sustainable development. Candidates for such centers can be existing or new development institutions (for example SME InfoCenters, techno-parks etc.) that would strategically profile themselves to serve as “one-stop shop” offering off-the-shelf solutions for domestic and international companies that want to invest in sustainable facilities (such as ecological farms, wind mills, solar plants etc.) in Macedonia. The Centers would implement capacity building activities for sustainable development on the local level, they would

also provide information about local and international experts with the technical capabilities to assist companies to qualify for organic and sustainability certifications (i.e. eco labels, etc.), thereby providing a value-added service to potential partners interested in investing in sustainable production facilities.

5. **Support for certification by European certification Agencies in the area of sustainable and organic production.** Certification of sustainable production and organic products is a pre-requisite for entering the international niche markets in this field⁹. The aim of this measure is to ensure that small and medium enterprises are able to get their certification. National certification authorities will build their capacities (know-how, laboratories etc.) in co-operation with international certification agencies to qualify for labeling in the area of sustainable and organic production.
6. **Energy Efficiency** Increasing competitiveness would provide efficient use of energy by reducing the energy consumption, introducing new technologies, and raising awareness of energy efficiency, which would be implemented by specific measures presented in the Energy Efficiency Strategy.
7. **Implementing green tax reform** and its implementation by the Ministry of Environment. Support of the implementation of the Strategy for Social Responsibility and implementation of an Action Plan.

⁹ For more details see the Council Regulation (EC) No 834/2007 of 28 June 2007 on organic production and labelling of organic products as well as Commission Regulation (EC) No 889/2008 of 5 September 2008 laying down detailed rules for the implementation of Council Regulation (EC) No 834/2007 on organic production and labelling of organic products with regard to organic production, labelling and control.

6.3.4 Expected results

Public awareness raising activities will re-align the attitudes and capabilities of producers and consumers towards new market opportunities for Macedonian industry and create positive effects for the environment of the country.

Strengthening Macedonia's applicable research, development of technology, and products and services which are better performing from sustainability point of view can help position the country among international players in these strategic areas. These industrial policy measures are expected to lay the groundwork for the first “success stories” in eco-positioning of Macedonia in global markets.

In the long run such global positioning of Macedonian industry in eco-technologies, products and services (renewable energy, eco-food and wine markets) will significantly improve high-value-added exports and create new jobs, new innovative SME-s and innovation based clusters.

6.4 Development of SMEs and entrepreneurship

6.4.1. Rationale

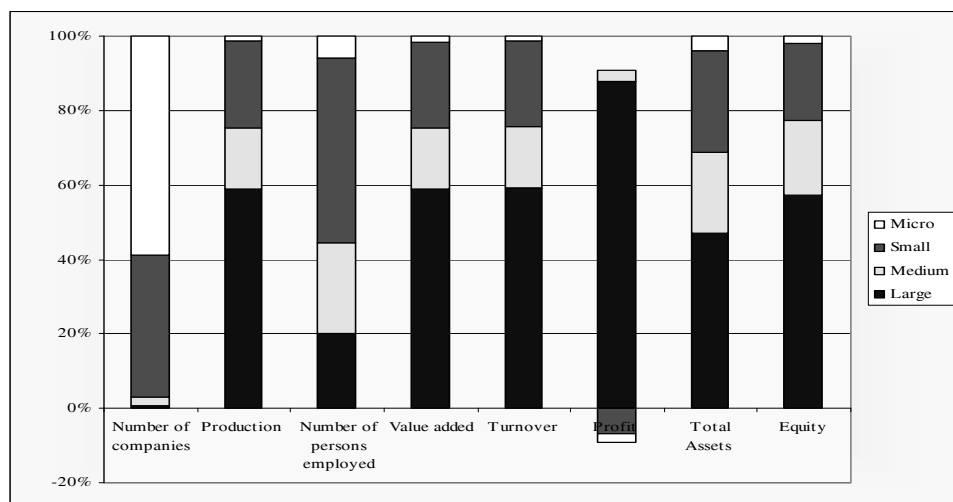
Small and medium enterprise development has been an area of policy intervention for more than a decade. *The Program for Development of Entrepreneurship, Competitiveness and Innovation of the Small and Medium Sized Enterprises 2007-2010* provides 19 measures for competitiveness enhancement of small and medium size enterprises, such as: adoption of quality standards , e-readiness, ICT awareness raising, technology diffusion, vouchers for consulting services, life-long learning initiatives, R&D investment and promotion etc. The set of measures is comprehensive and responds to the needs of Macedonian small and medium-enterprises, however the funds available for its implementation are very limited. These measures will continue to be implemented and some of them will evolve according to current challenges of small and medium enterprises.

Access to capital remains one of the key problems for small and medium enterprises. This gap between capital needs and its availability will be addressed by the measures of industrial policy.

6.4.2 Assessment of Current Situation

Micro, small and medium enterprises are the most important generator of employment in manufacturing (80% of total employment). Analysis of main performance indicators of industry by size shows that micro, small and medium enterprises which represent 99.3% of all manufacturing enterprises produce 41% of the total production and value added of the industry, 40.6% of the total revenue. They possess 53% of total assets and 42.8% of total equity in the industry. However, micro and small enterprises generated the majority of losses in 2007 and are the most volatile players in industry in terms of profitability and productivity.

Graph 1: Main manufacturing industry indicators by size in 2007

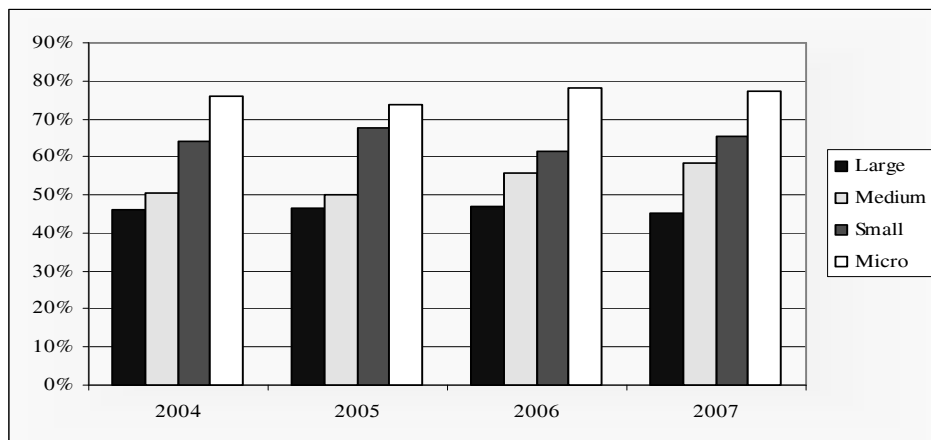


Source: Calculated based on Central Register data

Analysis of indebtedness of Macedonian industry by size (Figure 3) shows that small and micro enterprises are running their businesses with high risks as far as debts are concerned. Their indebtedness is increasing over time. This fact also signifies the

lack for equity capital (venture capital, seed capital etc.) available to finance SME-s in Macedonia.

Graph 2: Main manufacturing industry indicators: Indebtedness, by size of companies



Source: Calculated based on Central Register data

As far as existing policy measures are concerned the Republic of Macedonia ranks relatively well in international comparison in the area of the enterprise environment. WEF Lisbon Review Enterprise environment subindex for 2008 is at 93.8% of EU27 average; the highest among all the subindices. Still, in terms of business climate and environment of doing business Republic of Macedonia on average ranks considerably lower than EU countries. Among 181 countries of the world, in 2009 World Bank Ease of Doing Business Rank for Republic of Macedonia is ranked at 71, while the average rank for EU25 countries (Cyprus and Malta are not included) is 38; EU25 rank is thus only 52.8% of the Macedonian rank.

The Republic of Macedonia is better off than EU25 in terms of starting a business (461.0%) and paying taxes (268.1%). In most of the areas, Macedonian business climate considerably improved in 2009 as compared to 2008; index of 2009 to 2008 rank for overall ease of doing business is 89,9%. The only two areas with no improvement are protecting investors and dealing with construction permits.

The SME Policy Index 2007 (European Commission, DG for Enterprise and Industry, and OECD Investment Compact for South east Europe) also gives some guidelines on where to concentrate Macedonia's efforts in further improving the environment for SME-s development. Compared to the SEE country average, the Republic of Macedonia is better of in strengthening the technological capacity of SME-s, taxation and financial matters, representation of SME-s' interests, getting more out of the Single market, successful e-business models and top class small business support, in improving on-line access and in cheaper and faster start-up, but lags behind in the availability of skills, entrepreneurship education and training and especially in better legislation and regulation. Thus, the main areas of concern are related to human resource development dimensions (entrepreneurship education and availability of skills), regulatory reform and an extensive reliance on donor support for program implementation (SME Policy Index 2007, p. 18).

The need for the policy measures that would promote SME-s development is highly recognized among the interviewed Macedonian firms (average score of 5.24). This need is not only recognized by small firms, but equally so by the large ones, which need SME-s for their own development.

Where should the policy efforts in favor of SME-s development concentrate?

The questionnaire survey among Macedonian companies shows that most often problems for SMEs are related to the approach to finance sources, availability of industrial location that enable development of businesses, availability of trained personnel for working of SMEs, creation and development of enterprises for new high technologies and starting up businesses.

6.4.3 Measures

The following industrial policy measures target more directly the issue of financing of SME-s:

1. **Awareness raising activities for financial institutions.** It is important to continue awareness raising activities about SME development with financial institutions. Banks, funds and leasing firms need to be aware of long-term competitiveness enhancement factors which influence future of Macedonian industry (i.e. innovation, knowledge creation, clustering, sustainable development etc.) to better support enterprises. Government will facilitate the dialogue between SME-s and financial institutions to better accommodate the financial needs of SME-s.
2. **Pilot projects with commercial banks to support innovative SME-s.** Such pilot projects will join motivated leadership of financial institutions and entrepreneurs on pilot projects to support innovative SME-s by new financial instruments: start-up or seed capital, venture capital, guarantees etc. A group of at least five companies and one commercial bank will apply to get financial support from the Government to be trained in how to develop high quality investment or business plans. As a result of this capacity building activities companies should be able to present sound investment studies and business plans out of which some should have a viable chances to gain financing from commercial banks by new financial instruments.
3. **Increase of the risk capital** available for investment opportunities in small but ambitious Macedonian companies. Venture capital funds will be established with the purpose to finance new, innovation based enterprises. The Government will enter into these Venture capital funds as a strategic partner which will co-finance Venture capital funds and participate in the selection of projects financed by the fund.

4. **New role of the Macedonian Bank for Development Promotion.** In accordance with good practices of export development and venture capital funds in several EU countries the concept and the operation of Macedonian Bank for Development Promotion need to be reassessed.

From the perspective of respecting the state aid rules for risk capital, it may be approved for overcoming the market distortions from the risks of the capital market. The state aid beneficiaries of risky capital may be institutional or individual investors, and/or funds through which the measure is taken or through enterprises in which it is invested. When evaluating state aid for risky capital, the limitations of investments at small and/or medium enterprises, which are development or other starting phases are taken into account, if the enterprises belong to the fields where it is allowed to award regional aid pursuant to the State Aid Law. At the same time, also taken into account is the direction of investment to provide profit and the implementation of business plans, the degree of distortion of market competition among investors, providing clear mechanism for withdrawing state ownership from participation in the fixed capital of an enterprise, as well as the existing limitation of the accumulation of different types of state aid by an enterprise.

6.4.4 Expected results

The primary target of the above policy measure is to improve the access to financial resources for the development of SME-s. Introduction of new financial instruments (providing start-up, seed and venture capital) for financing higher-risk ventures will lead to the development and growth of existing and new innovative SME-s, creation of new jobs, increase of high-value added exports etc.

6.5 Cooperation in clusters and networks

6.5.1 Rationale

Evidence from regions and countries worldwide shows that collaborative visions and strategies and joint action resulting from network / clusters can lead to higher levels of economic success.

A network is a mutually beneficial business relationship of a number of companies and institutions which operates as an exchange of business information, ideas, and support on technology, R&D, skills development, markets and business models and many other areas of joint interest.

A cluster is a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities. Cluster members share similar technologies and skills, develop specialized buyer-supplier relationships and as such evolve hard to duplicate advantages.

As a result of collaboration systems become more competitive due to efficiencies resulting from the sharing of fixed costs, greater market reach, and more efficient labor, capital, technology, and informational flows within the country and internationally. A key to the clustering and networking is the acceleration of communication, mutual knowledge, and trust within and between network / cluster stakeholders.

Clusters and networks have also an important role in FDI related economic development policies. A number of successful clusters evolve around multinational enterprises. Host countries are increasingly stimulated to focus on attracting the kinds of FDI projects that provide greatest opportunity for embeddedness and linkages between domestic clusters (networks) and foreign firms.

Clusters are predominantly a market-driven phenomenon. Most successful clusters are created spontaneously as a result of natural competitive advantages, market forces of simply by

chance¹⁰. Clusters, networks and other innovative forms of collaboration can be initiated and enhanced in their excellence by the Government, however companies and institutions themselves must lead and develop them to be successful.

6.5.2 Assessment of Current Situation

The Macedonian Government has been supporting clustering since 2007. Several cluster initiatives are already operating in Macedonia: textile cluster, information technology cluster, wine cluster, tourism cluster, cluster for lamb meat and sheep cheese, agricultural mechanization, automotive components, wood processing, food-processing cluster, fashion design cluster etc. These clusters are at various stages of development and as such need specific support to further accelerate their development.

The key weakness that all Macedonian existing clusters share is a lack of potential for innovation, new products and services development to compete better in the global markets. Existing clusters have mainly been created with the purpose of “grouping of small enterprises” to better sell on the markets and have done much less in the area of sharing and creating economies of scale in purchasing, applicable research and development and innovation. Big companies are generally not active members of Macedonian clusters. Analysis of successful clusters around the world shows that successful clusters gather, apply and expand knowledge and create innovative solutions to business challenges. These qualities of clustering still need to evolve in Macedonia.

According to the survey, Macedonian firms would highly appreciate policy measures oriented in the enhancement of collaboration in networks and clusters regionally and internationally (5.26 on the scale between 1 and 6).

According to the interviewees, the most promising areas for networks/ clusters in Macedonian industry are the food industry

¹⁰ COM(2008) 652, Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions: Towards world-class clusters in the EU: Implementing the broad-based innovation strategy.

(35.3% of the interviewed firms); agriculture (39.4%), tourism (23.5), winery (20.6%), textiles (18.6%), IT (18.6%) etc.

Macedonian companies exhibit the highest intensity of cooperation (networking) with their suppliers (score of 3.71 on the scale between 1 = weak and 6 = strong). The intensity of cooperation with the customers is not far behind (3.67). As expected the intensity of cooperation with competitors is much lower (2.23). In all three kinds of cooperation the exchange of information is the most important aspect of cooperation, followed by technical expertise, training and joint development of products/services. In the case of cooperation with competitors there are possibilities of joint purchasing and joint marketing but this proved to be less frequent. The intensity of cooperation with suppliers and with customers is stronger in the case of majority foreign-owned than majority domestic-owned firms, and in the case of export oriented than in domestic market oriented firms. Thus, it seems that export market orientation stimulate cooperation/networking with other firms and that foreign-owned firms are more aware of the benefits of networking.

6.5.3. Measures

The following measures for collaboration in clusters and networks will be introduced by the Government:

1. **Further awareness raising and training for clustering / networking.** Awareness raising activities will be implemented by seminars, regional and international conferences and match-making events. Large companies as well as small and medium enterprises will be targeted to enhance their awareness about the positive impacts of clustering. Knowledge about clustering and cluster management will be strengthened by training sessions and international knowledge and experience exchanges (study visits etc.).
2. **Support Cluster / network analysis and strategy development accompanied with action plan and specific projects.** Cluster / network analysis and strategy

development will be supported by the Government together with action-oriented initiatives mobilizing a set of strong leaders from business, government and universities in a process that will enable competitiveness of Macedonian clusters / networks. Specific development and international cooperation projects of clusters/networks would be co-financed by the Government.

3. **Supply chain partnerships acceleration.** To improve the competitive position of Macedonian industry, stronger supply chain partnership led by key exporters will need to be created. Groups of companies that co-operate as buyers and suppliers will be invited to apply for co-financing of analysis of existing supply chain and joint projects. Such projects can deal with variety of their business challenges, for example: “on time delivery” implementation, better positioning on the wholesale or retail markets, implementation of common information system to track orders, inventory etc. The key objective of this measure is to improve competitive capabilities of domestic SME suppliers and accelerate collaboration between large exports oriented companies and domestic suppliers.
4. **Stimulation of, technological centers and parks on the regional level, support of networks of R&D institutions** to provide a variety of applicable technological services and integrated and efficient innovations. Members of such networks are to become a complete network of highly qualified individuals and advanced technological infrastructures driven towards promoting a solid and competitive industrial web.

6.5.4 Expected results

Implementation of policy measures in clustering and networking will lead to the improvement of understanding of the positive effects of clustering and networking for Macedonian industry.

Governmental support to clustering and networking will emerge throughout the public-private dialogue, which will be beneficial for

both, the public and private sector, to better overcome challenges of collaboration.

Implementation of policy measures (supported by the Government as well as other donors, EU programs and funds) will contribute to the creation of demonstration clusters as best practices for future innovation based clustering.

7. IMPLEMENTATION OF INDUSTRIAL POLICY

7.1 . Industrial Policy Implementation Structures and Resources

As has been witnessed in many cases before a first-best policy in the wrong implementation structure will do considerably less good than a second-best policy in the most appropriate setting. Put differently, when it comes to industrial policy, specifying the process is more important than specifying the outcome.

The key prerequisite needed for the implementation of a successful industrial policy is a flexible form of strategic collaboration between ministries as well as between public and private sectors, designed to elicit information about industrial policy measures, distribute responsibilities for solutions, and evaluate outcomes as they appear.

The process of an industrial policy ideally functions in the following form of implementation environment:

- Leading policy from the top. The success of the industrial policy depends on the presence of support of this policy at the highest level.
- Committee for coordination and monitoring. For successful implementation of industrial policy it is necessary to establish a Committee for coordination or monitoring, for the purposes of integrating and coordinating the overall policy for increasing competitiveness and economic development in general.
- Mechanisms of transparency and responsibility. Industrial policy should be treated more as a part of growth strategy, creating equal conditions and possibilities for everyone, not only benefits for the already privileged parts of industry.

Industrial policy implementation will require resources to fund awareness raising activities, internationalization of key economic development stakeholders, training and skills upgrading, clustering, networking, better SME-s financing, to increase gross domestic expenditure on R&D and to build on eco-friendly positioning of Macedonia in global markets.

The existing costs of the Government of the Republic of Macedonia for increasing the competitiveness of Macedonian industry are estimated at 0.48% of the national budget. With the aim of reducing the difference between Macedonian and EU27, in those fields that directly influence increasing competitiveness (covered in this document) the annual budget costs should be doubled, i.e. to at least 0.85%.

It is also necessary to increase the contribution of costs for increasing competitiveness of Macedonian industry by the business sector, i.e. in average up to 40%, by simultaneously using the EU instruments (IPA and CIP) and donor programs (USAID, UNDP, GTZ etc) for the purposes of industrial policy.

By adoption and implementation of industrial policy i.e. by establishing a new level of competitiveness, new jobs would be created, and new and stronger industries.

7.1.1 Interministerial structures for implementation

Industrial policy of the Republic of Macedonia 2009-2020 presents the overall orientation for Macedonian industry development. Measures of industrial policy will be presented in more details in individual programs that are expected to be developed or renewed: program for improving competitiveness of Macedonian products and services, program for development of entrepreneurship, competitiveness and innovation for small and medium sized enterprises, program for technological development and technical culture, Innovation program, Cluster development program, other relevant programs and strategies.

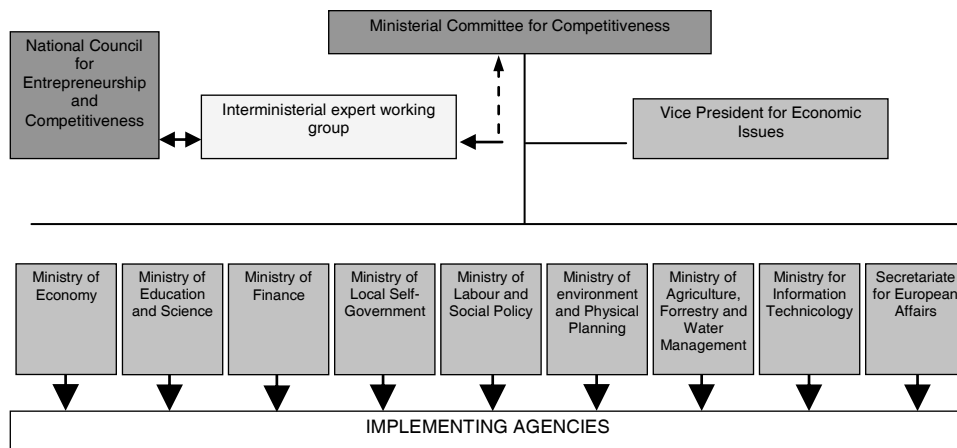
Implementation of industrial policy requires interministerial cooperation since the measures would be implemented in several ministries and institutions (agencies for implementation). Interministerial cooperation would enable the exchange of information, preventing potential overlapping of measures, leading consistent implementation of policy, and thus, the best return of investments in industrial development. Due to these factors, a new implementation structure should be introduced.

Industrial policy implementation will be supervised by the Competitiveness Committee of Ministers, whose members are the the Vice-president for Economic Affairs, the Minister of Economy, Minister of Finance, Minister of Education and science, Minister of Agriculture, Minister of Local Self-Government Minister of Environment and Physical Planning, Minister of Labor and Social Policy, Minister of Information Society, and the Secretariat for European Affairs. The Committee is a decision-making body that approves all relevant programs for competitiveness and decides on the renewal of industrial policy.

The Competitiveness committee will be assisted by the Inter-ministerial Expert Group for Industrial Policy (IMEG). The IMEG will act as an expert body of the Competitiveness Committee with the following tasks:

- Professional and technical assistance for the Committee,
- Professional and technical support to the Committee,
- Coordination of programs for policy implementation and development of all relevant inputs for Committee decisions,
- Development of public-private dialogue for policy implementation and renewal (with individual companies and representative organizations, like National Entrepreneurship and Competitiveness Council),
- Institution building and awareness raising activities for industrial policy implementation,
- Other tasks defined by the Committee.

Figure 4: Interministerial implementation structure for industrial policy



The National Entrepreneurship and Competitiveness Council (NECC) will act as a politically independent, non-governmental body that will be in continuous expert dialogue with the Interministerial Expert Group (IMEG) on key issues affecting competitiveness of Macedonian industry. The NECC will also provide its input in the process of monitoring and evaluation of Industrial policy implementation.

The general orientation of the Industrial policy of the Republic of Macedonia 2009-2020 is for ministries to develop policies and programs, and implementing agencies to manage the program implementation. However, there are selected areas of policy implementation, like innovation, research and development and internationalization where appropriate institutional solution for implementation still needs to be addressed. Based on experiences in many EU countries it is recommended that several areas of intervention of industrial policy would be merged in a single implementing agency dealing with entrepreneurship, innovation, research and development and internationalization. In this sense the legal competences of the existing Agency for Entrepreneurship Support of the Republic of Macedonia should be extended into the

fields for implementation of policy of innovations, technology and internationalization.

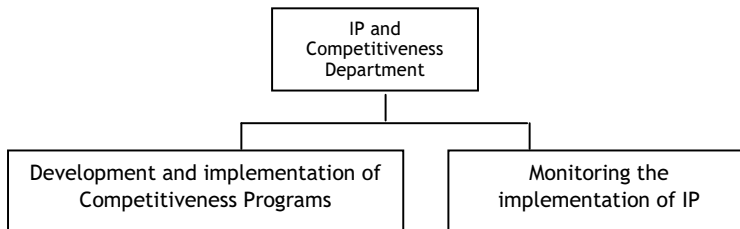
7.1.2 Implementation structure in the Ministry of Economy

The implementation of proactive industrial policy would create a new focus in the competence of the Ministry of Economy, i.e. competitiveness, implementation of industrial policy and its renewal.

The competence of the Department for Industrial Policy and Competitiveness is extended in two basic fields:

- 1, Coordination of implementation of industrial policy and renewing the fields of action
- 2, Internal monitoring of implementation of industrial policy

Figure 5: Department for Industrial Policy and Competitiveness in the Ministry of Economy



Duties of the Unit for Implementation of Competitiveness Programs:

- facilitation of relevant analysis of competitiveness of the Macedonian economy,
- co-ordination and organization of the work of the Inter-ministerial Expert Group for Industrial policy – an expert group of the Competitiveness Committee of Ministers
- coordination of programs integrating horizontal measures of IP in all areas of intervention with other units/sectors within the

Ministry of Economy, all other relevant ministries and institutions

- awareness raising activities for industrial policy
- Consultations with the Competition Commission for issues related to state aid
- Leading public-private dialog for implementation of policies
- Activities for building the capacities of the agencies for implementation of industrial policy
- Coordination and development of operational programs and project in the area of increasing the competitiveness for IPA and other international development financing schemes (i.e. GTZ, USAID etc.)

The tasks of the Unit for monitoring and implementation of the industrial policy:

- facilitation of external evaluation of industrial policy implementation,
- following-up competitiveness indicators of Macedonian industry,
- studying best practices and developments in EU in the area of industrial policy,
- testing the applicability of modern industrial policy measures in Macedonia in a number of private-public dialogues and discussions,
- industrial policy renewal – development of the horizontal instruments for competitiveness enhancement,
- reporting on the progress in the area of industrial policy (Chapter 20: Enterprise and Industrial Policy) to the EC Sub-committees and participation in pre-accession negotiations

7.2 Monitoring and Evaluation of the Implementation of Industrial Policy

Ex ante evaluation and monitoring, which will take the form of an auditing of results achieved compared to activities outlined in the policy and action plan will take place on an annual basis. The Ministry of Economy, responsible for the implementation of industrial policy, will report to the Government.

As a part of monitoring and evaluation of the implementation of Industrial policy, the Ministry of Economy will take the necessary actions to enlist Macedonia among the countries which are internationally monitored within key competitiveness and innovation analysis, for example: Extending the participation of Macedonia in WEF, European Innovation Scoreboard etc.

With the purpose of providing the Government with the comprehensive implementation report, the Ministry will organize (with the assistance of the Inter-ministerial Expert Group) an annual public-private dialogue event, called “Forum on the Industrial Policy Implementation in Macedonia” with legitimacy to discuss experiences in the implementation of industrial policy and to make suggestions for policy modification and renewal and the best application of relevant institutions (for example Agencies, Funds etc.).

The major monitoring and evaluation activity will take place every three years by “Industrial Policy Impact Assessment” which will be implemented by an independent institution. “Industrial Policy Impact Assessment” will aim at measuring the performance of Macedonian industry over time: assessing a baseline, tracking progress on the overall industry and sectoral level.

The evaluations will cover three broad areas: impact on overall industry, the company base, impact on the research base, and impact on the business environment.

Evaluation of the impact on the company base will capture the difference made to the overall industry and within the sectors

specifically in terms of internationalization, higher value added and profitability, skills development and other key factors of company competitiveness. It will be implemented by a questionnaire survey and analysis of statistical data.

Evaluation of the impact on the research base will capture the changes in research infrastructure, network, investment and human capital development. This evaluation will be implemented on the overall industry level and within the key sector areas.

Evaluation of the impact on the business environment will capture the improvements to the broader business environment for the industry and sectors (e.g. ability to access funding, skills available, market position, networks evolved etc.).

The result of this analysis will be a map of performance indicators and strengths and weaknesses of the industry and a comprehensive set of recommendations on industrial policy measures and institutions renewal.

7.3. Action plan for industrial policy implementation

Activity	Rationale	Ministry / Institution responsible	Other partner ministries and other institutions	Time frame
1. Overall coordination of IP Formalization and functioning of Competitiveness Committee of Ministers: <ul style="list-style-type: none"> • nomination of president and members, • definition of tasks, priorities and decision-making process, • co-ordination of policies 	Industrial policy implementation requires support and commitment of all related ministries by the top governmental officials.	Government of Republic of Macedonia	Ministry of Economy, Ministry of Education and Science, Ministry of Environment and Physical Planning, Ministry of Finance, Ministry of Labor and Social policy, Ministry of Local Self-Government, Ministry of Agriculture, Forestry and Water Management, SEI etc.	2009-2020
Formalization and functioning of Inter-ministerial Expert Group for Industrial Policy (IMEG): <ul style="list-style-type: none"> • nomination of president and members, • adoption of working agenda and internal procedures. • Expert and professional support of MKK • Harmonization of the policies for their implementation on national, regional and local level • Dialogue with the business community 	IMEG will act as an expert body of Competitiveness Committee of Ministers.	Government – Ministry of Economy (ME)	Ministry of Education and Science, Ministry of Environment and Physical Planning, Ministry of Finance, Ministry of Labor and Social policy, Ministry of Local Self-Government, Ministry of Agriculture, Forestry and Water Management, SEI, Cabinet APERM, Macinvest, Standardization Institute, Employment Agency, State office for industrial property, State statistics office, Commission for competitiveness protection etc.	2009-2020

Activity	Rationale	Ministry / Institution responsible	Other partner ministries and other institutions	Time frame
Capacity building of IMEG and implementing agencies: <ul style="list-style-type: none"> organization of seminars, workshops and other training sessions, study visits. 	Solid knowledge and experience in competitiveness enhancement is a pre-condition for successful IP implementation and renewal.	Ministry of Economy in co-operation with experts	IMEG	2009-2020
Redefining the role of APERM for implementation of the measures of IP (entrepreneurship, innovations, internationalization, clusters): <ul style="list-style-type: none"> preparation and passing of amendment and law for the status of the agency task defining recruiting experts capacity building financing 	Implementation of the measures of industrial policy should be given to the redefined Agency	Ministry of Economy Ministry of Education and Science	IMEG	2010-2011
Awareness raising for industrial policy among public administration, business sector and knowledge providers on: <ul style="list-style-type: none"> national and regional level. 	Pro-active industrial policy introduces some new concepts for industry development which need to be well communicated to all industry stakeholders.	Ministry of Economy	Ministry of Education and Science, Ministry of Environment and Physical Planning, Ministry of Finance, Ministry of Labor and Social policy, Ministry of Local Self-Government etc.	2009-2020

Activity	Rationale	Ministry / Institution responsible	Other partner ministries and other institutions	Time frame
<p>Leading permanent dialogue with private sector when policies and programs are created; dialogue with:</p> <ul style="list-style-type: none"> • relevant Councils and associations (NECC, Chambers, clusters etc.), • individual companies and institutions. 	Industrial policy measures will be created and renewed based on input from private sector.	Ministry of Economy	IMEG	2009-2020
<p>Donor coordination for industrial policy implementation and development of priority projects and initiatives:</p> <ul style="list-style-type: none"> • IPA, • USAID, GTZ, • Other bilateral and multilateral donor programs etc. 	Proper co-ordination of all donor programs for competitiveness enhancement	Ministry of Economy	IMEG	2009-2020
<p>Capacity building and networking for companies for the preparation of projects for mobilization of EU funds (i.e. Enterprise Europe Network, CIP and others).</p>	Capacity building is necessary to increase capabilities to successful application for funds.	Ministry of Economy	Ministry of Education and Science, Ministry of Environment and Physical Planning, Ministry of Local Self-Government, Chamber of Commerce etc.	2009-2020
<p>Verification of all programs for industrial policy implementation with EU state aid rules.</p>	EU state aid rules to be respected.	Ministry responsible for development of selected program	Commission for Protection of Competition	2009-2020

Activity	Rationale	Ministry / Institution responsible	Other partner ministries and other institutions	Time frame
2. Increasing the international cooperation and promotion of SDI Strengthening the capacities of the firms through trainings for creating competitive products	Introducing the best international practices for improvement of management and increasing the quality of products	Ministry of Economy, Government of RM	IMEG, APERM, Fund for human resources development	2009-2020
Preparation of integrated Program for internationalization of industry and its implementation: - Definition of strategic markets and preparation of studies for strategic positioning - New measures for support of internationalization of industry	Specific measures to be developed for internationalization	Ministry of Economy	Inter-ministerial Expert Group, Ministry of Foreign Affairs, business community	2010-2020
Strengthening the professional network of business partners - organization of forums, conferences and business meetings - capacity building for the economic diplomacy	Strengthening the professional network of business partners in order to help Macedonian industry to be more present and competitive in foreign markets.	Agencies and other implementation bodies, Ministry of Economy	IMEG, Ministry of Foreign Affairs, business environment	2010-2020

Activity	Rationale	Ministry / Institution responsible	Other partner ministries and other institutions	Time frame
<p>International knowledge exchange preparation of plan for international knowledge exchange with enterprises</p> <ul style="list-style-type: none"> - introducing with the best practices and methods of improving the information and knowledge of the Macedonian companies 	The purpose of the international knowledge exchange is to accelerate the international knowledge and for Macedonian industry to accept the knowledge	Ministry of Education and Science, Macedonian Academy for Art and Science and other implementation bodies	IMEG, Business Academy, enterprises, economic diplomacy, chambers and other business associations, universities etc.	2010-2020
Improving the information of the export firms through preparation of web portal	Easier access to information for the potential exporters	Agencies and other implementation bodies.	IMEG	2010-2020
<ul style="list-style-type: none"> • Financial support of the firms exporters through MBDP 	Providing different forms of financial support of exporters	MBDP	Inter-ministerial Expert Group for industrial policy	2010–2020
<ul style="list-style-type: none"> • Creating institutional support of the exporters 	Integrated access of servicing the enterprises through restructuring the AEPRM by expanding its interference	Government of RM	IMEG for industrial policy, ministry of economy	2010-2020
<ul style="list-style-type: none"> • Further stimulating and attracting FDI through implementation of the Program for stimulating investments and other coordinated activities 	Coordination of the policies for attracting FDI and increasing the competitiveness	Ministry of economy	Macinvest, IMEG for industrial policy, ministry of foreign affairs	2009-2020

Activity	Rationale	Ministry / Institution responsible	Other partner ministries and other institutions	Time frame
3. Applied research and development and innovations				
<ul style="list-style-type: none"> Implementation of the program for technological development 2009-2012 	Special measures for developing, financing and implementing applied researches and development	Ministry of Education and Science	IMEG for industrial policy	2009-2012
Developing policy/program for support of innovations	Special measures for increasing the innovation will be developed, financed and implemented	Ministry of Economy / Ministry of Education and Science	IMEG for industrial policy	2010-2020
Promoting cooperation between the entities for executing scientific research activity and the universities with industry	Cooperation between the universities which should be implemented and concrete projects identified by the industry	Ministry of Economy, Ministry of Education and Science, AEPRM and/or other implementation bodies	IMEG for industrial policy, enterprises, universities and research institutions	2010-2020
Support of the industry for employing researchers in order to strengthen the capacities for research and innovations	Support of industry and high educated researchers and innovators to work in industry	Ministry of Education and Science, AEPRM and/or other implementation bodies	IMEG for industrial policy, enterprises, Agency for employment, universities and research institutions	2011-2020

Activity	Rationale	Ministry / Institution responsible	Other partner ministries and other institutions	Time frame
Raising the awareness for promoting applied research and development of innovation	Increasing the awareness for the importance of innovations in development through seminars, study visits, conferences, trainings etc.	Ministry of Economy, Ministry of Education and Science, AEPRM and/or other implementation bodies	IMEG for industrial policy, enterprises, universities and research institutions	2009-2020
Protection of intellectual and industrial property rights	Raising the awareness and knowledge for protection of the intellectual and industrial property rights	State office for industrial property, Ministry of Culture	Ministry of Economy, Ministry of Education and Science	2009-2020
Preparation and implementation of all necessary activities for inclusion of Macedonia in the European innovation Scoreboard	International monitoring of innovation potentials of Macedonian industry is useful for the industry and the policy makers	Ministry of Economy	Ministry of Education and Science, state statistics office, state office for industrial property, IGEM for industrial policy, companies	2010
Promoting TIDZ to become center for development of industries based on innovations	Transformation of TIDZ in the center of businesses based on innovations	Ministry of Economy,	TIDZ Directorate, IGEM for industrial policy	200-2020

Activity	Rationale	Ministry / Institution responsible	Other partner ministries and other institutions	Time frame
4. Eco-friendly products and services for sustainable development				
<p>Awareness raising activities for eco-friendly and sustainable products and services:</p> <ul style="list-style-type: none"> Eco-friendly products and services development, Eco-friendly products and services production, Eco labeling, Commercialization and marketing strategies Eco-friendly and sustainable products and services consumption. 	<p>Considering relatively high growth rates of sales of eco-friendly products and services Macedonian industry would be informed and encouraged to develop and commercialize such products and services for international niche markets.</p>	Ministry of Environment and Spatial Planning	Inter-ministerial Expert Group, Ministry of economy	2009-2020
<p>Preparation of program for production of eco-friendly and renewable products and services:</p> <ul style="list-style-type: none"> analysis of potential for eco-friendly and renewable production, identification of measures to support such production, joint research, development and commercialization of new eco-friendly products and services identification of support infrastructure (offices, sustainable development centers etc.), development of certification authorities and support for certification by European agencies. 	<p>Integrated program for production of eco-friendly and renewable products and services which offers concrete measures to globally position Macedonian industry in such niche markets.</p>	Ministry of Economy, Ministry of Environment and Spatial Planning	Inter-ministerial Expert Group, relevant enterprises	2011

Activity	Rationale	Ministry / Institution responsible	Other partner ministries and other institutions	Time frame
Promoting and introducing public procurement by favoring energy efficiency and respecting the environment (energy consumption and products with eco-friendly performance, labeling directive, eco design, regulation for eco-labeling, green public procurement)	Through this type of public procurement the development will be promoted of more efficient sustainable technologies i.e. products and services which are eco-friendly and sustainable	Public sector	IMEG, Ministry of Environment and Spatial Planning	2011-2020
Promoting energy efficiency in the enterprises in the industry	Energy savings which contributes towards greater competitiveness	Ministry of Economy	IMEG, enterprises, associations for energy efficiency-MACEF	2010-2020
5. Small and Medium-Size Enterprise Development and Entrepreneurship				
Implementation of the Program for Development of the Entrepreneurship, Competitiveness and Innovation of the Small and Medium Sized Enterprises: <ul style="list-style-type: none"> • evaluation of previous program, • extension of relevant existing measures, • identification of new measures, • program for action plan development, • identification of the sources for funding. 	Existing Program will be implemented by 2010. The new will have to be adopted to extend support to SME and entrepreneurship.	Ministry of Economy	Inter-ministerial Expert Group	2009-2020

Activity	Rationale	Ministry / Institution responsible	Other partner ministries and other institutions	Time frame
Activities for raising the awareness for the financial institutions	Further dialogue and raising of the awareness between the SMEs and financial institutions	Ministry of Economy, Ministry of finance	Inter-ministerial Expert Group	2009-2010
Pilot projects with commercial banks for support of innovative SMEs	Support of pilot projects among 5 firms and commercial bank	Ministry of Economy, Ministry of Finance	Inter-ministerial Expert Group.	2010-2012
Conceptualization and establishment of Venture Capital Funds based on private-public partnership.	Venture Capital Funds are to be initiated by the Government in co-operation with private investors to support SME-s	Ministry of Finance	Ministry of Economy, Inter-ministerial Expert Group.	2011-2020
Restructuring of the Macedonian Bank for Development Promotion	Active role of the bank in order to provide increase of the competitiveness	Ministry of Finance	IMEG	2009-2020
6. Cooperation in clusters and networks				
Program for cluster development: <ul style="list-style-type: none"> • Program measures, • Program action plan, • Program funding • Activities for raising the awareness and trainings 	Specific measures for clustering in various stages of cluster development to be designed and implemented.	Ministry of Economy	Inter-ministerial Expert Group.	2009-2020
Implementation of the Program through <ul style="list-style-type: none"> • Supply chain partnerships acceleration, • Support of the clusters in the preparation of development of cluster strategy and co-financing of cluster projects, • Promotion of technological centers and parks on a regional level 	Better collaboration of all actors in the supply chain to enhance competitiveness of exporters and domestic SME suppliers.	Agencies and other relevant policy implementation bodies.	IMEG, Enterprises, universities/research institutions	2009-2020

