

Russia: Integrated Assessment of Tomsk Oblast Development Strategy



Preface

To date, a three level system of strategic planning has been developed in Tomsk Oblast. The Programme of Socio-Economic Development of Tomsk Oblast 2001-2005 was not only the first strategic initiative in Tomsk Oblast after a long break in planning, but also one of the first mid-term regional strategic initiatives in the Russian Federation.

Following this, a number of socio-economic programmes have also been developed for municipalities and okrugs (rural settlements). The experience gained during the implementation of the project “Capacity Building for Integrated Assessment and Planning for Sustainable Development” proved to be highly useful for the elaboration processes of the Tomsk Oblast Development Strategy to 2020, the first long-term strategic initiative of Tomsk Oblast. Tomsk Oblast Administration has actively supported the IAP project and it should be underlined that integrated assessment was conducted for a number of strategic initiatives and at different levels. We believe that this approach has improved strategic planning systems not only at oblast and municipal levels, but also at okrug level.



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Natural capital and human capital are the main drivers for sustainable development of Tomsk Oblast. However, development of natural and human potential is impossible without strategic planning. The need to inculcate rational resource use, environmental protection, and productivity issues encouraged the Tomsk Oblast Administration to develop and adopt environmental programmes. The first document based on sustainable development principles appeared in 1992.

Since 2002 planning processes have been actively developed at municipal level in Tomsk Oblast. Tomsky District was the first to adopt a Mid-Term Sustainable Development Plan in 2003. This Plan has encouraged further development of a number of plans and programmes including the Programme of Socio-Economic Development of Tomsky District, and Environmental Protection Programme, etc.

To ensure regular monitoring and performance measurement, the Tomsk Oblast Administration developed a set of indicators for sustainable development, the first regional system in the Russian Federation to do so. The interconnected indicators, including environmental, social, and economic development indicators, have been incorporated into the decision-making process, thus allowing official monitoring of all positive and negative development trends.

Tomsk Oblast is actively following sustainable development principles and is also experimenting to broaden areas of implementation. The elaboration of the Tomsk Oblast Development Strategy to 2020, and Tomsk Oblast Programme of Socio-Economic Development from 2006 to 2010, is a step forward in strategic planning with sustainable development elements. Both documents, besides economic considerations, incorporate deliberations on sustainable resource use, environmental protection, and creation of favorable conditions for human development. The Integrated Assessment Project has helped to focus the Tomsk Oblast Development Strategy to 2020 on sustainable principles and as well ensured future integration into strategic initiatives of sustainable development principles.



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Acronyms and abbreviations

DFID	UK Department for International Development
ERC	Education and research complex
IAP	Integrated assessment and planning
SD	Sustainable development
SDIs	Sustainable development indicators
TOA	Tomsk Oblast Administration
ToR	Terms of reference
UNEP	United Nations Environment Programme
WTO	World Trade Organization

Terms and definitions

Integrated assessment and planning: The integration of economic, social and environmental development aspects as well as integration of the planning and assessment processes in the context of sustainable development.

Interested public: Members of the public that are or can be affected by a decision or process on environmental issues, or are generally interested.

Objective-led appraisal: A key SEA and sustainability appraisal methods. It elaborates environmental goals (through SEA) and/or sustainable development goals (through sustainability appraisals) based on existing international, national and regional strategic documents.

Oblast: Second largest administrative subdivision in the Russian Federation after the national region with an administrative capital.

Traditional nature use: Traditional activities and trades for Tomsk Oblast such as gathering of wild mushrooms, wild berries and herbs; fishing, hunting, and making birch bark articles, etc.

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United Nations Environment Programme

The United Nations Environment Programme (UNEP) is the overall coordinating environmental organization of the United Nations system. Its mission is to provide leadership and encourage partnerships in caring for the environment, by inspiring, informing, and enabling nations and people to improve their quality of life without compromising that of future generations. In accordance with its mandate, UNEP works to observe, monitor, and assess the state of the global environment; improve the scientific understanding of how environmental change occurs; and in turn, determine how such change can be managed by action-oriented national policies and international agreements. UNEP's capacity building work thus centres on helping countries strengthen environmental management in diverse areas, which include freshwater and land resource management; the conservation and sustainable use of biodiversity, marine and coastal ecosystem management; and cleaner industrial production and eco-efficiency, among many others.

UNEP, headquartered in Nairobi, Kenya, marked its first 30 years of service in 2002. During this time, in partnership with a global array of collaborating organizations, UNEP achieved major advances in the development of international environmental policy and law, environmental monitoring and assessment, and our understanding of the science of global change. This work also supports the successful development and implementation of the world's major environmental conventions. In parallel, UNEP administers several multilateral environmental agreements (MEAs), including the Vienna Convention's Montreal Protocol on Substances that Deplete the Ozone Layer, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (SBC), the Convention on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention, PIC), the Cartagena Protocol on Biosafety to the Convention on Biological Diversity, and the Stockholm Convention on Persistent Organic Pollutants (POPs).

Division of Technology, Industry and Economics

The mission of the Division of Technology, Industry and Economics (DTIE) is to encourage decision makers in government, local authorities and industry to develop and adopt policies, strategies, and practices that are cleaner and safer, make efficient use of natural resources, ensure environmentally sound management of chemicals, and reduce pollution and risks for humans and the environment. In addition, it seeks to enable implementation of conventions and international agreements and encourage the internalization of environmental costs. UNEP DTIE's strategy in carrying out these objectives is to influence decision-making through partnerships with other international organizations, governmental authorities, business and industry, and NGOs; facilitate knowledge management through networks; support implementation of conventions; and work closely with UNEP regional offices. The Division, with its Director and Division Office in Paris, consists of one centre and five branches located in Paris, Geneva and Osaka.

Economics and Trade Branch

The Economics and Trade Branch (ETB) is one of the five branches of DTIE. Its mission is to enhance the capacities of developing countries and transition economies to integrate environmental considerations into development planning and macroeconomic policies, including trade policies. ETB helps countries develop and use integrated assessment and incentive tools for achieving poverty reduction and sustainable development. The Branch further works to improve our understanding of environmental, social, and economic effects of trade liberalization and the effects of environmental policies on trade, and works to strengthen coherence between Multilateral Environmental Agreements and the World Trade Organization. ETB also helps enhance the role of the financial sector in moving towards sustainability. Through its finance initiatives, ETB also helps enhance the role of the financial sector in moving towards sustainability.

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Table of contents

Preface	i
Acronyms and abbreviations	iii
Acknowledgements	v
United Nations Environment Programme	vii
Table of contents	ix
List of figures	xi
List of tables	xi
1. Development strategies of Tomsk Oblast	1
2. Key principles and information basis of integrated assessment ...	3
3. IAP methodology	5
3.1 Participants in IAP	5
3.2 Main elements and methods	5
4. Key findings from integrated assessment	7
4.1 Strategy formulation and IAP	7
4.2 Structure and key components of the Strategy	8
4.2.1 The Strategy's role-players	8
4.2.2 Strategy analysis and development scenarios	9
4.2.3 Strategy vision	10
4.2.4 Strategy priorities, goals and objectives	10
4.2.5 Implementation, assessment and adjustment mechanisms	13
4.3 Sustainable development assessment	15
4.3.1 Goals and sustainable development	15
4.3.2 Priority projects and sustainable development	16

4.4	Stakeholder involvement in the Strategy	21
4.4.1	Consultation during policy document	21
4.4.2	Consultation during integrated assessment	22
4.4.3	Stakeholder cooperation in reflection	24
4.4.4	Recommendations	24
4.5	Environment and social concerns about development	24
4.5.1	Oil and gas sector	24
4.5.2	Nuclear power industry	27
4.5.3	Education and research complex	29
4.5.4	Agricultural sector	30
4.5.5	Traditional nature use	31
4.5.6	Comparison of economic sectors	33
5.	Main conclusions on the road to sustainable development	37
6.	Conditions for success: IAP recommendations	39

List of figures

Figure 1: Key stakeholders of Tomsk Oblast	8
Figure 2: Macro parameters selected to develop planning scenarios	9
Figure 3: Goal pyramid proposed by the Strategy developers	11
Figure 4: Goal pyramid proposed by the Department of Natural Resources and Environmental Protection	12
Figure 5: Sustainable development concept	13
Figure 6: Oil and gas sector's principal economic and social indicators	25
Figure 7: Depletion level of deposits of various sizes, %	25
Figure 8: Recorded accidents at the oil extraction facilities of Tomsk Oblast	26
Figure 9: Oil extraction and increase of oil reserves in Tomsk Oblast	27
Figure 10: Prospects of the nuclear power sector	28
Figure 11: Prospects of the research sector	29
Figure 12: Prospects of the higher education sector	29
Figure 13: Prospects of the agricultural sector	31
Figure 14: Main characteristics of traditional nature use	32
Figure 15: Dependency between tonnage harvested and investments	32
Figure 16: Significant environmental and social impacts of the Strategy	34
Figure 17: Sectors under sustainable development scenario	35

List of tables

Table 1: Comparing Strategy-covered SDIs and UKID SDIs	14
Table 2: Analysis of Strategy goals for compliance with sustainable development	17
Table 3: Relations of stakeholders and participation in Strategy development	23

1. Development strategies of Tomsk Oblast

The target policy of the assessment was the planning portfolio for mid and long-term Tomsk Oblast development, which included the following strategic documents:

- Strategic analysis documentation
- Tomsk Oblast Development Strategy to 2020
- The Programme of Socio-Economic Development of Tomsk Oblast 2006-2010
- Consolidated short-term plans of Tomsk Oblast Administration for 2006
- Short-term plans of lower level divisions and municipalities for 2006.

A. Of the above portfolio of strategic documents, *Tomsk Oblast Development Strategy to 2020* has the following content:

- Strategic Concept (or Vision) of Tomsk Oblast development to 2020
- Key challenges, main problems and competitive advantages of the Oblast
- Development possibilities
- Economic development forecast
- Goals, objectives, and performance and management indicators of development (strategic development goals and mid-term development goals).

This document is based on strategic analysis findings, which delve into the key problems, challenges and competitive advantages of Tomsk Oblast. The analysis, the basis of the strategic vision and development models, outlined the following macro parameters:

- World oil prices
- Growth rate of high-tech industries in the Russian Federation
- The possible date of Russia accession to the WTO
- Unemployment rate in the region
- GDP growth rate in Russia
- Trends in taxes allocation comparing the centre with the regions of the Russian Federation
- Trends in the population of Tomsk Oblast.

Priority economic sectors are tasked for special attention by Tomsk Oblast Administration (TOA). The top priorities are information technology (IT), biotechnology, education and research complex (ERC), the “new economy”, and electrical engineering. The traditional priority for Tomsk Oblast is the oil and gas industry but is listed here as a second tier priority sector along with nuclear energy, food, and mechanical engineering. TOA will pay less attention to the development of these second priority industries. The third level priorities are the timber, gas and petrochemical industries, and agriculture. At the same time, strategic goals of Tomsk Oblast, specified in measurable objectives and supported by a system of indicators, are given as:

- High level of entrepreneurial development
- Efficient and balanced economy
- High investment attractiveness
- Highly internationalized economy
- High quality human capital
- Developed infrastructure
- Rational use of natural capital
- Good conditions for life, career, recreation and child education
- High effectiveness of Oblast authorities.

B. From the portfolio of strategic documents analysed, the team also notes that *The Programme of Socio-Economic Development of Tomsk Oblast 2006-2010* specifies the Oblast's strategic priorities in terms of goals, objectives, performance and management indicators specified. The document covers:

- Application of Tomsk Oblast policies to different development sectors.
- Projects that reflect strategic priorities and can be implemented through different financial sources, including regional and federal programmes.
- Organizational structure of management as well as review and adjustment mechanisms monitoring goal achievement and performance of measures.

Short-term plans of TOA and municipalities for the year are developed based on the Programme of Socio-economic Development. These plans are descriptions of priority activities by local executive authorities. It also outlines the Administration's divisions, which are individually responsible for activity implementation, resource management, and administration of performance and management indicators.

2. Key principles and information basis of integrated assessment

The integrated assessment of the documents *Tomsk Oblast Development Strategy to 2020* (here forth known as *the Strategy*) and *The Programme of Socio-Economic Development of Tomsk Oblast 2006-2010* (here forth known as *the Programme*) was undertaken in support of the project “Capacity Building for Integrated Assessment and Planning for Sustainable Development” in Tomsk Oblast. The project is jointly implemented by TOA and Ecoline Environmental Assessment Centre, with the support of UNEP.

Integrated assessment and planning (IAP) is a new methodological planning tool suggested by UNEP. It proposes integration of socio-economic and environmental goals in the development process of a territory, and also close integration of the planning and assessment steps with sustainable development.

A. **Development aspects integration** analyses inter-relationships between the three spheres of social, economic and environmental issues and integrates them at the level of:

- Goals. In the course of development, economic goals should avoid conflict with environmental and social goals, given especially the vulnerability of some social groups. Ideally, development goals from all three areas should be integrated.
- Politics, decisions, and activities decided based on IAP findings.

B. **Process integration** assumes integration of all development and assessment processes offset into action by a policy. Russian planning practice acknowledges two modes of assessment: “internal” and “external”. Internal assessment is undertaken by policy developers at different planning stages in order to clarify a strategic initiative. External assessment is carried out by an independent assessment team after strategic planning has ended to weigh the results. IAP differs by combining both approaches. It is firstly carried out by a team of independent experts, policy developers and policy advocates. Then integrated assessment is carried out at the same time with the planning process. It is best started as soon as possible and all assessment stages have to be closely integrated with planning stages¹.

Key IAP principles include:

¹ This approach is globally in use for environmental assessments. Strategic Environmental Assessment (SEA) is rapidly growing as a family of approaches and methods (IAIA annual SEA conference, “International experience and perspectives in SEA”, Prague, 2005). It is widely used in OVOS but is much less well known at the strategic level in the Russian Federation.

- **Use of explicitly designed sustainability goals, principles and criteria in the course of planning and assessment.** The basis for goals and criteria development may be taken from general sustainable development principles, international agreements and initiatives, national and regional programmes, legal documents, and stakeholder expectations.
- **Wide stakeholder involvement.** The main assessment principles that ensure wide social support of a developmental programme and its implementation are stakeholder involvement and active participation in all stages of integrated assessment; broad consideration of their opinion and expectations; and consolidation of diverse opportunities and resources. All social sectors and groups, including federal and municipal government representatives, business delegates, members of educational and cultural institutions, and NGO staff, should be invited to the meetings of integrated assessment.
- **Reliance on existing planning processes partly aiming to strengthen them.** IAP is based on existing planning processes and strengthens them by infusing sustainable development principles.
- **Local capacity building.** IAP strengthens the scope of strategic planning and stakeholders. The experience gained in the course of policy development and assessment is an important condition for its successful implementation.
- **Flexible approach to the methodology.** IAP's broad approach does not assume the application of any exact or must-have planning and/or assessment methodologies or tools. The scale of the strategic initiative in question, the available resources, and the expertise of IAP participants define the choice of methods. In general, IAP methods and techniques should be accessible to its participants. The resources used should be proportionate to the costs of initiative development.

During the assessment of *the Strategy*, besides the portfolio of strategic documents of Tomsk Oblast already mentioned, the following documents were consulted:

- Environmental Programme of Tomsk Oblast, 1992
- The Programme of Socio-Economic Development of Tomsk Oblast 2001-2005
- Poverty Reduction Strategy, 2003
- Innovative Tomsk Oblast Development Strategy, 2002
- The State of the Environment in Tomsk Oblast articles, Environmental Monitoring, Tomsk, 2003, 2004, 2005, 2006
- Newsletter "Tomsk Oblast Sustainable Development Indicators", Tomsk, 2004, 2005

3. IAP methodology

3.1 Participants in IAP

Participants of the integrated assessment are:

- The Tomsk Oblast Administration (TOA), the initiator and supervisory authority of the planning process.
- Team of experts conducting the assessment. The team includes the leading experts of Tomsk Oblast (including specialists from TOA and the Centre of Environmental Audit and Management), representatives of Ecoline EA Centre and project developers.
- Interested members of the public. A map of assessment participants, drawn up to facilitate cooperation between stakeholders and ensure recognition of their interests and opportunities, was created.

3.2 Main elements and methods

The IAP process includes the following elements:

Analysis of the planning process

Planning assessment was undertaken at the earliest stage of the project in collaboration with TOA. A description can be found as early as the Memorandum of Understanding signed by TOA and UNEP. The terms of reference contains a more detailed description which was developed based on interviews with the planning process participants.

Analysis of socio-economic and environmental situations

SWOT analysis of environmental development aspects for individual economic sectors was carried out in addition to analysis of socio-economic analysis performed by *the Strategy* developers. This helped identify environmental impact and risks arising from the development of some industries.

Strategy and consistency analyses

The Strategy was analysed to ensure the inclusion of all necessary elements of strategic planning.

Objective led approach

The Strategy was analysed for compliance with recommended environmental and sustainable development goals of Tomsk Oblast. An objective led approach was useful.

Based on a range of priority socio-economic and sustainable development goals found in different Tomsk Oblast documents, the relevant sustainable development goals were defined as:

- Conservation and development of the nature capital of the region
- Creation of a green image for investment attractiveness
- Environmental improvement
- Stakeholder partnership development to address economic, environmental and social issues
- Socio-economic development of the region based on “cohesive development” of the territories². Inequality between developed and less developed territories should not be increased, but, rather, equal opportunities for different social groups sought.
- Human capital development.

The objective led approach applied to both assessment of development aspects, such as priorities, goals and objectives in *the Strategy*, and assessment of processes and activities, such as found in *the Programme*. Analysis of some industries for compliance with sustainable development principles, and identification of strategic impacts and risks for the environment, is an example of the former, while analysis of risks and impact of project implementation is an example of the latter.

Stakeholder consultation

A lot of attention was paid to communication with stakeholders. Key stakeholders were identified, mapped and evaluated for their participation. Interactions include:

- Direct interviews and consultations with key stakeholders (spokespeople of the authorities, businesses and NGOs, for example).
- Brainstorming sessions. This method, widely applied during planning, was replicated by the working group during the assessment process.
- Meetings and round-table discussions to communicate with active social groups and also the wider public, paying special attention to rural communities not spoken for by the policy developers.

²The modern approach to sustainable development stresses the need for coherent territorial development. This concept is different from budget equalizing and simple “smoothing” of development amongst regions as suggested by the Ministry of Economic Development and Trade of the Russian Federation. Coherence is about creation of equal opportunities. The difference between developed and less developed territories should not increase to become a chasm. At the same time the character and the development of every territory should be unique. The same principle is true for a situation of richer and poorer social groups.

4. Key findings from integrated assessment

Modern strategic principles are used in the course of *the Strategy's* development. The policy documents are of high quality. In essence, *the Strategy* is one of the best strategic initiatives in the Russian Federation. It was so highly appreciated by the Ministry of Economic Development and Trade that the Ministry awarded Tomsk Oblast the title of “Innovation Implementation Zone”.

4.1 Strategy formulation and IAP

The Strategy was designed as the main document for planning of Oblast development to 2020. TOA has set great hopes on the document. The term of references includes five stages:

- **Stage 1: Strategic analysis.** Key national and international trends in macroeconomic, political, social, technological and infrastructural aspects of development were identified. Tomsk Oblast's competitiveness was evaluated for advantages as well as problems and opportunities.
- **Stage 2: Determination of strategic alternatives and clarifying assessment criteria.** Strategic options taking into consideration strategic findings and a social survey on quality of life were designed.
- **Stage 3: Selection and formalization of the Strategy.** A strategic course was chosen out of the alternatives. Long and medium-term plans were solidified and a high priority list of activities developed.
- **Stage 4: Implementation plan of priority activities.** Mechanisms for implementation were developed. Recommendations on organization structure and effectiveness indicators were made.
- **Stage 5: Development of the communication plan.** A plan was developed to present *the Strategy* at the regional, national and international levels.

In accordance with IAP principles, assessment by independent experts was scheduled to run parallel to the planning with the cooperation with *the Strategy's* designers. It was also agreed to undertake IAP at each stage of the planning process. The terms of reference for integrated assessment were approved by TOA.

Later assessment clearly indicated that the mechanisms to coordinate the planning and assessment processes were not carried out. There was no cooperation between the policy developers and the assessment team despite TOA's vocal commitment. Draft documents reached the assessment team at the last stages of their writing and were not adjusted to the assessment findings. The experts for the IAP believe that this was due to the existing mindset of perceiving assessment as external to the planning process. The same attitude was demonstrated in some other pilot projects of Tomsk Oblast. The advantages of IAP as an internal review and adjustment mechanism are not obvious to professionals involved in strategic planning. Such an attitude is also found in consulting firms, who work to existing strategic planning practices. There is also a lack of internal independent assessment in strategic planning in Russia.

Recommendation: The IAP team recommended that strategic planning in Tomsk Oblast demonstrate the capacity for integrated environmental assessment, and in the next stages of planning incorporate integrated assessment as an internal review and adjustment mechanism.

4.2 Structure and key components of the Strategy

The Strategy has all necessary components of a regional development plan: situation analysis, vision, development priorities, goals and objectives, action plan and implementation mechanisms. Review and adjustment mechanisms, and an organizational structure, were also scripted.

4.2.1 The Strategy's role-players

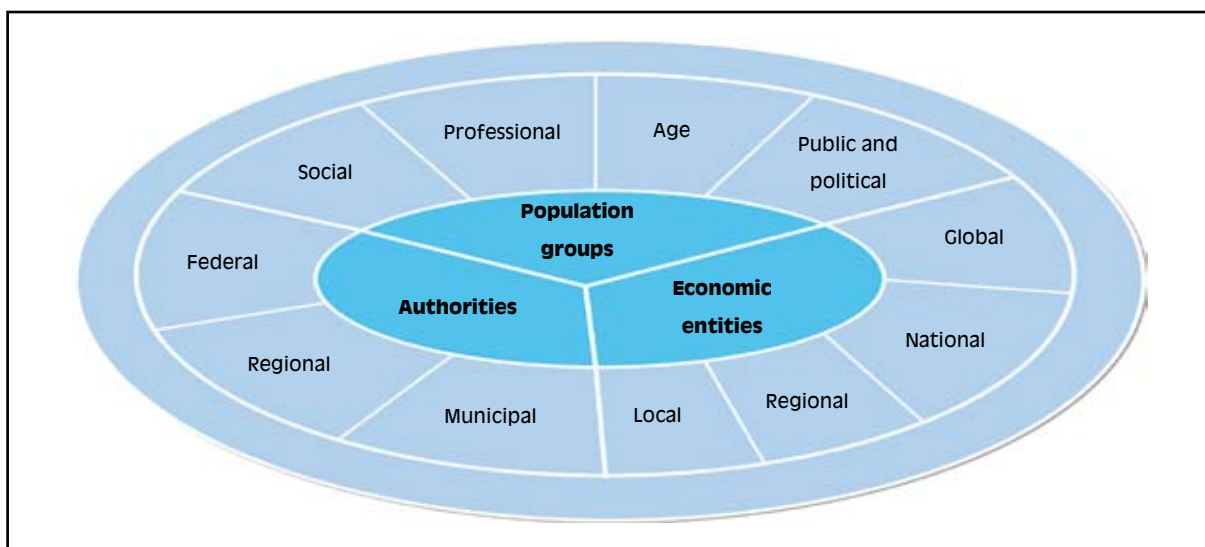
An important factor that defines the approach and character of any strategic initiative is identification and engagement of role-players as well as communication with stakeholders. TOA is the principal role-player, while others were systematically identified by the policy developers (see Figure 1). Extended stakeholder consultation was made and special attention paid to authorities and businesses at all levels. During the policy design stage, other social groups were consulted but were not seen as key role-players.

This approach has strengthened TOA's position and created for itself a number of advantages. The situation has allowed *the Strategy* to be developed in a short space of time. It also placed the priority on administrative issues and facilitated smoother change. On the other hand, this approach has reduced the social basis of *the Strategy*, and weakened other stakeholders to passive observers. There was a lack of attention to marginal and vulnerable social groups. This is the traditional approach of the Positioning School in strategic planning, still rather progressive for Russia, but has left this document with the name of the "Leaders' Strategy".

Consultation should be conducted with more stakeholders and vulnerable social groups. Modern Russian experience has shown that the creation of a "public foundation" based on common societal principles, goals and objectives allows resources to pull in the same direction when reaching for goals. Moreover, it widens the social support base of *the Strategy*, helping it be seen as a strategy for everyone.

Recommendation: Continue with IAP but extend the process to create more meaningful participation by other stakeholders. Identification of key role-players is important, as is the follow-up wide involvement of the public. During future strategic planning, it is crucial to widen the social support of any policy.

Figure 1: Key stakeholders of Tomsk Oblast

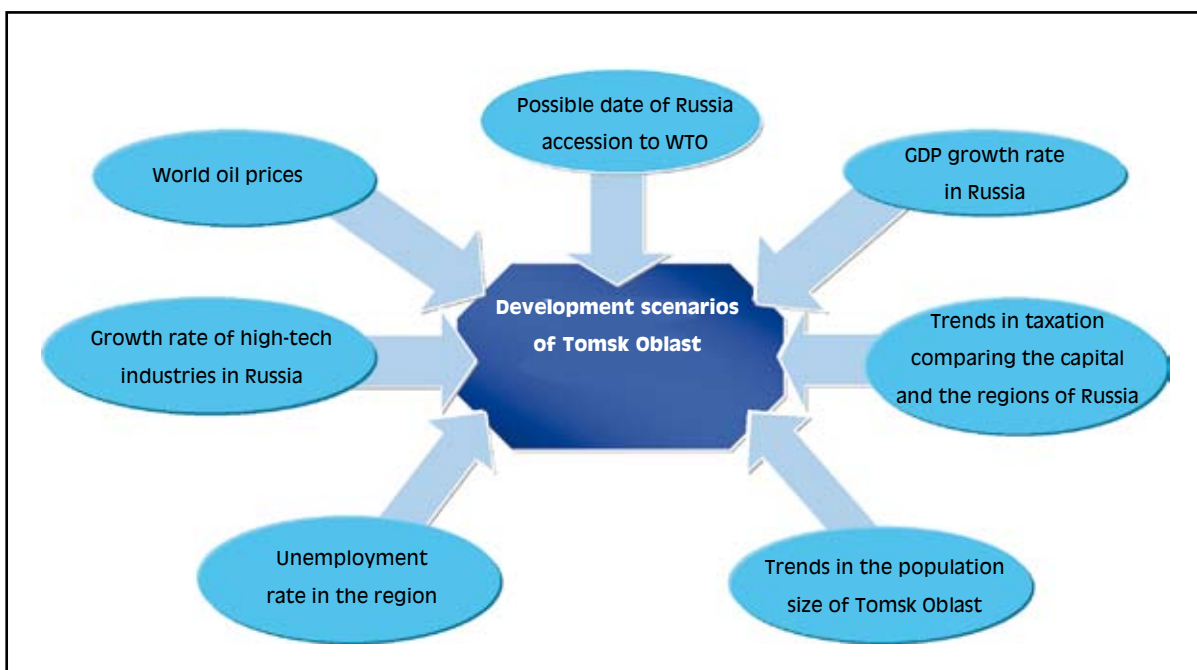


4.2.2 Strategy analysis and development scenarios

Global, national and regional trends were studied during the design of *the Strategy*. Development scenarios of a pessimistic, optimistic, or realistic nature were described.

In the initial stages, an economic analysis of the main and supporting industries was conducted along with evaluations of the social and budgetary issues. The development of each industry was given possible development scenarios. However, analysis was limited to the economic sphere, while inadequate environmental analysis was performed. The analysis of global trends also failed to address global environmental problems. Social problems were also poorly explored. Subsequently, TOA acknowledged this by discussing the issue with leading environmental experts, and supplementing *the Strategy* with environmental and natural resource management components.

Figure 2: Macro parameters selected to develop planning scenarios



For due process of integrated assessment, a SWOT analysis of environmental aspects of development in leading economic sectors was later carried out and an additional development scenario was suggested. This IAP scenario demonstrates possible problems which may originate from *Strategy* implementation due to its insufficient adaptability. To increase policy flexibility it is very important to add new parameters. At the same time, efforts must be made to prevent *the Strategy* from losing objectivity and becoming a document of mere political will.

Development planning was from the beginning built on region typologies (North and South), with the South a centre of knowledge and innovation and the North a production site. This approach, based on the potential of the most developed areas of Tomsk Oblast, has deep constraints for the Oblast as a whole. A considerable part of the Oblast is ignored in the strategic priorities, not to mention the fact that more than half of the territory's population reside in the ignored regions. From a sustainable development viewpoint, territories are being left out of the strategic vision and development perspectives in abrupt fashion. The South after all is only a thin belt around Tomsk and Seversk. As for the North, no more than 30 per cent of the population of the four districts there which have oil and gas deposits are directly or indirectly involved in the oil and gas business.

Many districts are left out of implementation. This creates strategic risks for the Oblast, including undesirable and often uncontrollable demographic processes. With migration of the working population out of ignored territories, increased immigrant flow and representation by foreigners, which has unpredictable implications, may result.

Recommendations:

- It is necessary to consolidate all current and planned strategic initiatives for Tomsk Oblast around *the Strategy*. TOA needs to explain the relationships among all strategic initiatives to its stakeholders, taking advantage of synergistic planning.
- It is crucial to continue stakeholder consultation after *the Strategy's* adoption. To reach sustainable development goals, wider public participation and involvement of all territories of the Oblast are needed.

4.2.3 Strategy vision

The strategic vision is an important part of *the Strategy* as it is written in consultation with active social groups of Tomsk Oblast and reflects to a considerable extent, views and expectations of some of the region's most gifted, educated and ambitious people.

However, it fails to show orientation towards vulnerable social groups, nor does it touch on the problems of people living on the margin, whether in objectives or goals. The vision was in fact partly written from input gained through a "best vision competition" over the Internet.

As a result, *the Strategy* does not provide development options for those areas where the newly planned industries are not feasible. Programmes aimed at supporting economically depressed districts are thus lacking, which contradicts the principles of sustainable development. The IAP process also revealed that the vision had failed to reflect the expectations of the population living in the South topographical area. For example, development opportunities for ERC and innovative technologies are to be concentrated in and around Tomsk and Seversk. The rest of the areas like Tomsky district will lack drivers for growth.

Recommendations:

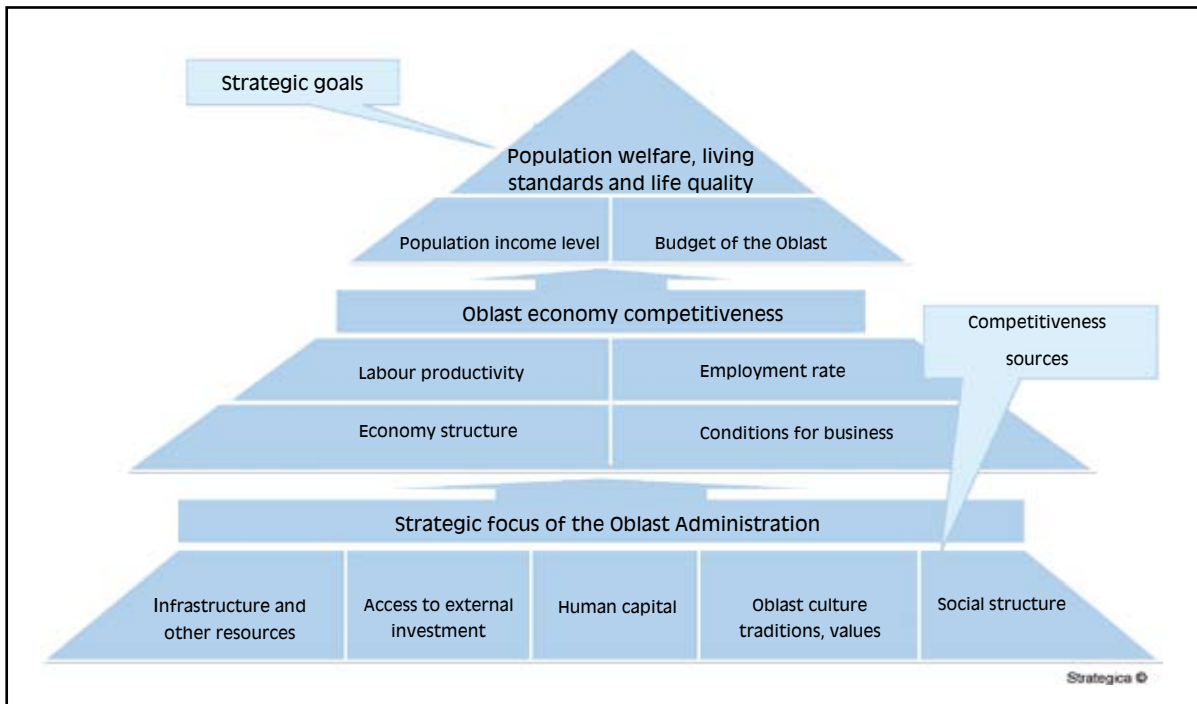
- At the next stages of the planning process and implementation, it is necessary to lay down a vision for districts with limited development potential, and involve vulnerable social groups.
- More intensive public feedback from the rural population and economically depressed districts are needed. The information collected can be used to benefit implementation as well as new strategic plans.

4.2.4 Strategy priorities, goals and objectives

Priority economic sectors are tasked for special attention by the Tomsk Oblast Administration (TOA). The top priorities are information technology (IT), biotechnology, education and research complex (ERC), the "new economy", and electrical engineering. The traditional priority for Tomsk Oblast is the oil and gas industry but is listed here as a second tier priority sector along with nuclear energy, food and mechanical engineering. TOA will pay less attention to the development of these industries. The third level priorities are the timber, gas and petrochemical industries and agriculture.

The IAP team noted that traditional industries for Tomsk Oblast such as oil and gas industry and nuclear power industry are not amongst the first priorities. *The Strategy* also regards investment in agriculture as showing poor returns. Such resetting of priorities is an important achievement of *the Strategy*. In general, the departure to innovative technologies as well as ERC development is a significant step forward to sustainable development.

Figure 3: Goal pyramid proposed by the Strategy developers



At the same time, *the Strategy* is oriented towards economic development first of all. Sustainable development goals are not explicitly mentioned. This is rather surprising since Tomsk Oblast is the leader in sustainable development among Russian regions. For economic goals and objectives, the finished analysis is clear and precise, mentioning for example output, employment, average wages per employee, etc. when considering industrial potential. However, this, to the IAP team, fails to fully show the importance of the analysed industries for the future of the Oblast. Parameters such as environmental responsibility, local employment, and development options for territories with low economic potential are not addressed. Moreover, environmental costs associated with industry development were not discussed, nor were possible changes in environmental impact itself as related to production trends. Part of this is caused by lack of acceptable methodologies and data.

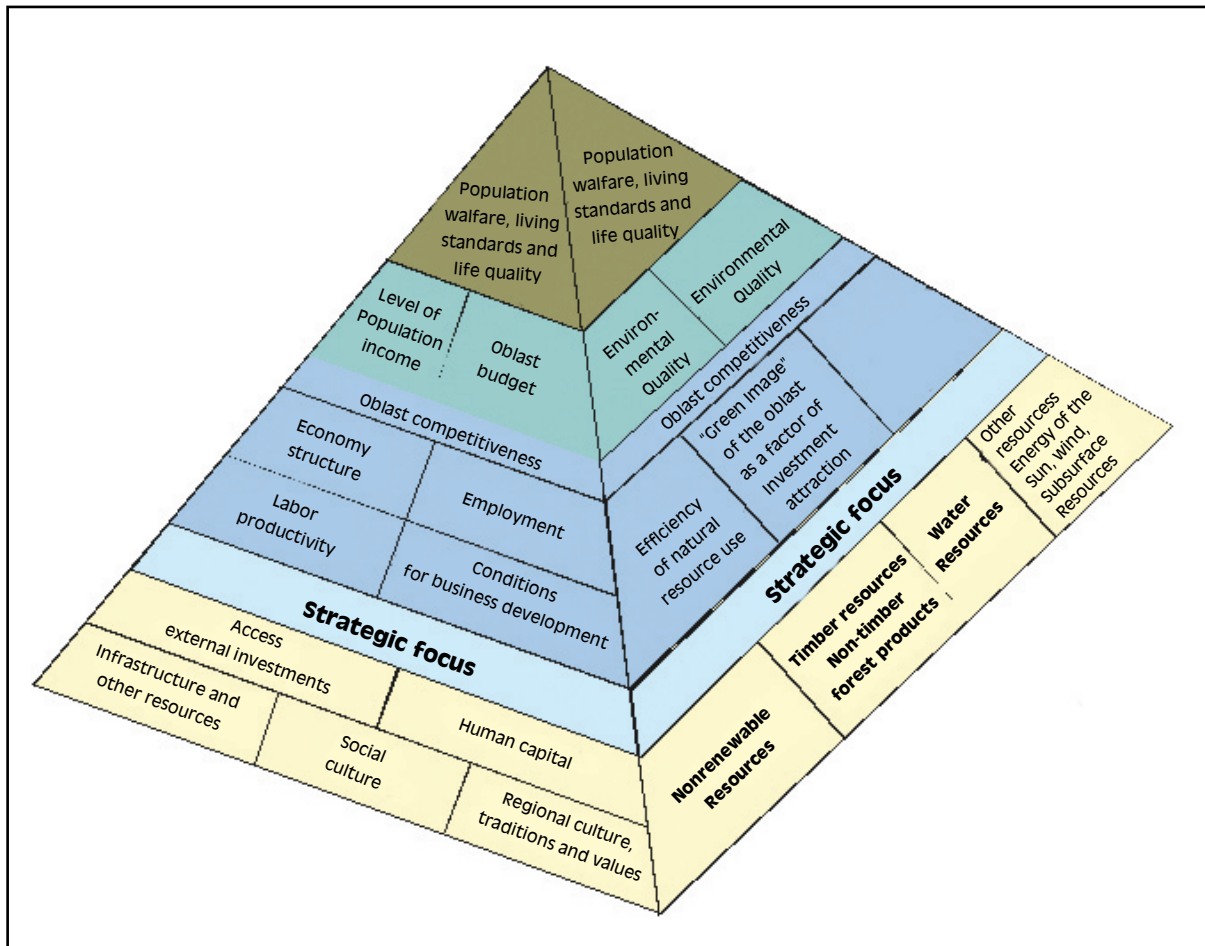
In addition, *the Strategy* fails to address such important issues as poverty, child mortality, and quality of primary and secondary education despite these problems being of international concern. It should be pointed out that a Poverty Reduction Strategy has also been developed and is being implemented in Tomsk Oblast. However, the connection between these two programmes is not explicit.

Only one *Strategy* objective addresses environmental issues, which is under “Improvement of environmental quality and creation of the image of safe environment”. Integrated assessment however shows low integration of development and environmental goals here. Environmental goals are not directly connected to economic goals even when such opportunities are obvious (such as green image creation), nor are they interdependent. The conclusion, seeing also that budgetary needs for the environment will not be met, is that environmental

goals are subordinate to economic objectives in Tomsk Oblast.

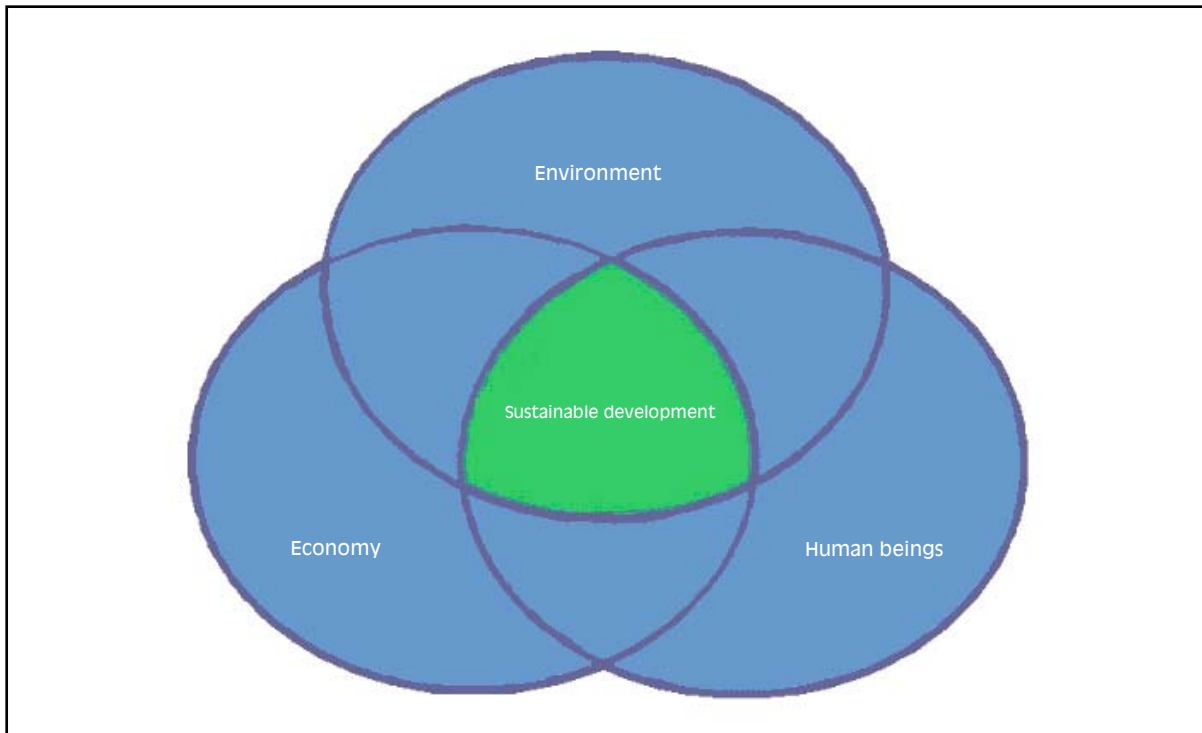
One of the main strategic goals was also “improvement of welfare, living standards and life quality of the population” through an increase in their income and budgetary security of the Oblast. The goal of environmental safety was again omitted.

Figure 4: Goal pyramid proposed suggested by the Department of Natural Resources and Environmental Protection



To amend the goals to incorporate sustainable development, the Department of Natural Resources and Environmental Protection of TOA suggested to the *Strategy* developers to add social and environmental goals in the goal pyramid. This can be seen encapsulated a three-dimensional rendition of a joint environmental and economic goals matrix (see Figure 4).

The suggestion was considered during an early stage, but was not explicitly alluded to in later documents. Although the environment is mentioned as a factor for the creation of a favourable business climate, it is still a second-tier objective. Sustainable development (see Figure 5) is by-and-large ignored.

Figure 5: Sustainable development concept

Recommendation: These gaps can should be eliminated at the next stages of strategic planning and implementation. Serious efforts of TOA to add socio-economic and environmental goals are required, and also adjust all other development goals in the light of sustainable development.

4.2.5 Implementation, assessment and adjustment mechanisms

The Strategy's implementation mechanisms are well developed and include a wide system of organizational, economic, information and legal tools. To assess their effectiveness, a system of indicators closely tied to the structure of goals and objectives was developed, as is found in the other subject of this IAP project, *the Programme of Socio-Economic Development of Tomsk Oblast from 2006-2010*. The two main groups of indicators are described as:

- Those measuring implementation effectiveness for major social groups of Tomsk Oblast.
- Those measuring improvement of results from earlier TOA policies.

Coordination of both the system of assessment indicators and that of goals and objectives is a very important strength of *the Strategy* in coherence and consistency. However, when the indicators are not what they are estimated to be, goals and objectives are not correspondingly adjusted. Hence *the Strategy*, designed from the Positioning School of strategic planning, suffers from inflexibility. Changing external conditions in the modern world makes this a big disadvantage.

From the international project “Development of indicators to assess the sustainability of economic and social reforms in the Russian Federation” (by UK Department for International Development or UKID, and Ministry of Economic Development and Trade of the Russian Federation), TOA has received an advanced system of sustainable development indicators for Tomsk Oblast. The total number of indicators is thirty six, of which twelve are economic, social and environmental trends in general; nineteen specific indicators

showing trends in more details; and five reflecting peculiarities of Tomsk Oblast. Sustainable development indicators, or SDIs, can be used for monitoring sustainable development, but only some of them were considered in the planning for *the Strategy* (see Table 1).

Table 1: Comparing Strategy-covered SDIs and UKID SDIs

Sustainable development goals	All SDIs by UKID (Strategy-covered SDIs in bold)
1. Conservation and development of the natural capital	<ul style="list-style-type: none"> – Net savings, mln. rubles – Depletion of oil deposits, mln. tonnes – Forest felling areas as a percentage of total forest cover, % – GRP (Gross regional product) per capita, thousand rubles per capita – Natural capital, mln. rubles – Air emissions, thousands – Water discharges, mln. cubic meters
2. Creation of “green image” promoting investment attractiveness	<ul style="list-style-type: none"> – GRP power consumption, tonnes of standard coal per 1 thousand rubles – Cancer morbidity rate, people/10 thousand people – Morbidity rate, people/one thousand people – Tick-borne venal encephalitis³ morbidity rate, people/100 thousand people – Number of Lime disease incidents per 100 thousand people. – Opisthorchiasis morbidity rate, people/100 thousand people – Area of specially protected national reservations, thousand ha
3. Environmental quality improvement	<ul style="list-style-type: none"> – Pollution intensity, thousand tonnes/mln. rubles – Fixed capital investment aimed at environmental protection, thousand rubles – Capital renewals rate, % – Child mortality, people/1 thousand people – Population growth rate, people/1 thousand people – Average population age, years – Life expectancy, years – Amount of non-recycled industrial and municipal waste, thousand tonnes
4. Stakeholder partnership development to address economic, environmental and social issues	<ul style="list-style-type: none"> – Real cash disposable income of the population, % – Number of registered crimes, per 1 thousand people

³Trends in number of tick-bourne ecephalitis disease incidence, the incidence of Lime disease incidents and opisthorchiasis morbidity rate are environmental indicators. The substitution of aboriginal coniferous forests by deciduous second growth contributes to tick-bourne ecephalitis.

Sustainable development goals**All SDIs by UKID****(Strategy-covered SDIs in bold)**

5. Socio-economic development of the region based on:
- 5a. Coherent territories development – Purchasing power of the population cash income and wages
– Quantity index of capital assets, %
– Budget security, thousand rubles per capita
– Poverty level, %
– Amount of marketed services per capita, thousand rubles/capita
- 5b. Equal opportunities for different – Gini index (index of income concentration), % social groups
– Proportion of the population working for small businesses to economically active population of the Oblast, % of economically active population
– Product and service output by small businesses, % of GRP
– Unemployment rate, % of economically active population
- 5c. Human capital development – Index of the human capital development potential, index
– Share of shipped innovation products in the total output, %
– Amount of fixed capital investments out of all financing sources, % of GRP

Recommendation: It is necessary under changing external conditions to have the capacity to assess and adjust already set goals and objectives. An orientation to sustainable development indicators will be useful.

4.3 Sustainable development assessment

Aggregated assessment findings to determine the compliance of Tomsk Oblast development objectives with sustainable development goals were compiled. Assessment of priority activities against the standards of sustainable development also yielded findings.

4.3.1 Goals and sustainable development

The undertaken analysis shows although a few goals are consistent with sustainable development principles, the vast majority are not reflective of sustainable needs. Sometimes, a direct contradiction is observed:

- The best example of a missed opportunity is the failure to link green image creation with economic development goals such as high investment attractiveness. Relationships between planned actions and objectives should be revisited.
- The lack of vision and strategic goals for districts outside the priority territories is a significant weakness and an obvious contradiction to sustainable development, which recommends coherent development of territories.
- In many cases it is possible, through setting of additional conditions, to better harmonize *Strategy* objectives with activities and implementation.














Recommendation: Sustainable development objectives for Tomsk Oblast should be developed for existing initiatives like *the Strategy*.






















4.3.2 Priority projects and sustainable development














The Strategy projects are divided into three major categories: business projects (24), infrastructure projects (8) and social projects (16). Business projects include investments in production, economic sectors and federal investment programmes with a system of mixed financing.

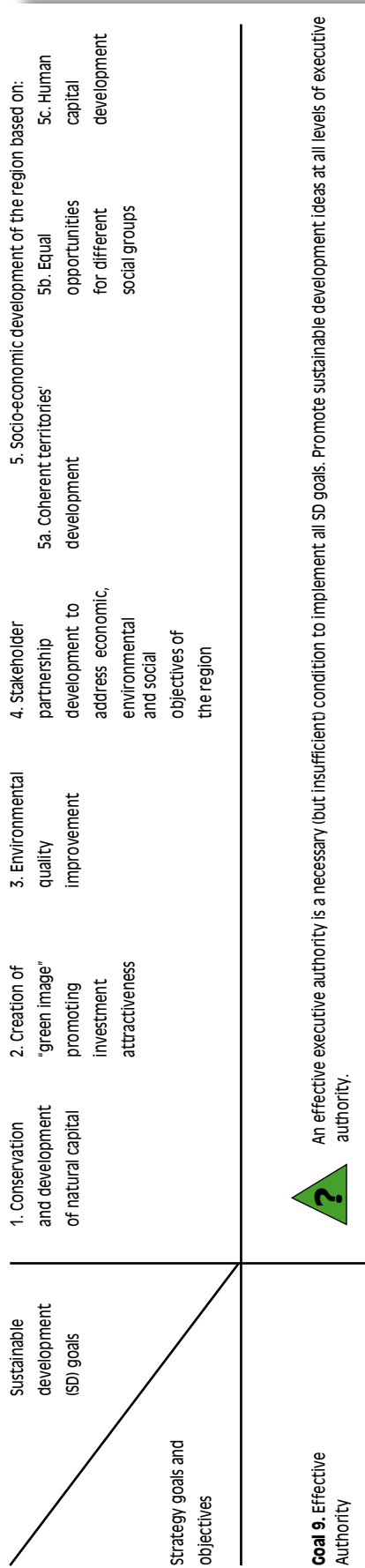
Analysis of the priority projects for compliance with sustainable development goals helps to identify projects that have significant environmental impact and may require thorough environmental auditing before implementation. Sometimes such an assessment can also determine social impact, for example a rise in income inequality between territories or social groups.

Table 2. Analysis of Strategy goals for compliance with sustainable development (SD)

Sustainable development (SD) goals	1. Conservation and development of natural capital	2. Creation of "green image"	3. Environmental quality improvement	4. Stakeholder partnership development to address economic, environmental and social objectives of the region	5. Socio-economic development of the region based on: 5a. Coherent territories 5b. Equal opportunities for different social groups 5c. Human capital development
Strategy goals and objectives					
Goal 1. High level of entrepreneurship development	<p> Develop a system of measures aimed at conservation of natural capital.</p>	<p> Integrate the goals at the level of activities.</p>	<p> Develop a system of measures aimed at environmental protection.</p>	<p> The Strategy agrees with SD goals at the level of economic objectives. Social and environmental programmes for objectives are next.</p>	<p> Goal 1 implementation may result in unequal opportunities for different social groups. It is important to develop a policy for vulnerable groups.</p> <p> Human capital should be developed to maximum.</p>
Goal 2. Effective and balanced economy	<p> It is possible to reach Goal 2 provided that conservation and development of the natural capital are harmonized in activities.</p>	<p> It is more feasible to reach Goal 2 with a "green image".</p>	<p> Integrate the activities at the next stages.</p>	<p> It is more feasible when partnership relations are well developed.</p>	<p> The strategic focus tolerates gap increases. It is necessary to set development programmes for non-priority territories.</p> <p> Develop a system of measures for vulnerable social groups.</p> <p></p>






Sustainable development (SD) goals	1. Conservation and development of natural capital	2. Creation of "green image" promoting investment attractiveness	3. Environmental quality improvement	4. Stakeholder partnership development to address economic, environmental and social objectives of the region	5a. Coherent development	5b. Equal opportunities for different social groups	5c. Human capital development
Strategy goals and objectives	 Integrate the goals at the level of activities.	 Create green image mechanisms to attract investments.	 Develop a system of measures to attract responsible investors.		 <p>The Strategy fails to suggest investment attractiveness enhancement of other Oblast territories. This will result in inequality.</p>	 Develop a system of measures aimed at support of vulnerable social groups.	 Leverage synergies to improve the Strategy's effectiveness.
Goal 4. Highly internationalized economy	 Internationalization of the economy creates risks of natural capital depletion. It is necessary to develop measures aimed at this risk.	 Use the green image to attract environmental and socially responsible business.	 Develop a system of measures aimed reducing environmental risk.	 <p>The strategy agrees with SD goals at the level of economic objectives. Social and environmental objectives are next.</p>	 Internationalization of the economy may result in inequality increase between territories. It is necessary to set development programmes for non-priority territories.	 Internationalization of the economy may result in inequality increase between social groups. It is necessary to develop a system of measures for vulnerable social groups.	 Internationalization of the economy may result in out migration by the more active. A system of measures to consolidate qualified human resources in Tomsk Oblast is needed.
Goal 5. High quality human capital	 Should be explicitly integrated.	 Should be explicitly integrated.	 Should be explicitly integrated.	 Should be explicitly integrated with environmental and social objectives.	 The most mobile population is supposed to migrate out of the territories with lower development potential. This will create preconditions for inequality increase between the territories.	 Goal 5 implementation may contribute to equal opportunities for different social groups.	 Fully coincide.

Sustainable development (SD) goals	1. Conservation and development of natural capital	2. Creation of "green image" promoting investment attractiveness	3. Environmental quality improvement	4. Stakeholder partnership development to address economic, environmental and social objectives of the region	5. Socio-economic development of the region based on: 5a. Coherent territories development 5b. Equal opportunities for different social groups 5c. Human capital development
Strategy goals and objectives	<p></p>	<p></p>	<p></p>	<p></p>	<p></p>
<p>Goal 6. Developed infrastructure</p>	<p>Infrastructure development may contribute to development of the natural capital as well as to its degradation from irrational use. Develop a system of measures to increase capital and reduce risk.</p>	<p>Coal 6 may bring about positive as well as negative implications. It is important to integrate the goals at the level of activities.</p>	<p>Infrastructure development may contribute to environment as well as to its degradation due to more free access to the territories. A system of measures are needed.</p>	<p>Coal 6 will contribute to "coherent development" of territories if infrastructure is developed in all territories.</p>	<p>Coal 6 implementation contributes to inequality reduction. Reaching Coal 6 gives more choices.</p>
<p>Goal 7. Rational use of natural capital</p>	<p></p> <p>The goals fully integrated.</p>	<p></p> <p>Should be explicitly integrated.</p>	<p></p> <p>Should be explicitly integrated.</p>	<p></p> <p>Partnership mechanisms should be developed.</p>	<p></p> <p>It is important to identify development opportunities for all territories.</p>
<p>Goal 8. Good conditions for life, career, recreation and children education</p>	<p></p>	<p></p>	<p></p>	<p></p>	<p></p>



Goal 9. Effective Authority

Legend:

-  - A strategic goal is integrated with an SD goal. This is a strong point of *the Strategy*.
-  - A strategic goal and an SD goal may coincide, but are not integrated within the Strategy. This is an underused opportunity. It is important to integrate these goals more closely during implementation or future planning.
-  - A strategic goal and an SD goal do not influence each other.
-  - Goals do not agree, but there is a possibility to harmonize them. Special measures are required.
-  - A strategic and an SD goal contradict each other. Urgent measures are required to adjust the strategic goal.

Similar conclusions may be drawn about the infrastructure projects. They are close to business projects in environmental impact and require an environmental review. The situation is different with the social projects. Many of the suggested projects are only indirectly connected with sustainable development. Finally, it is rather difficult to analyse Oblast or Federal programmes for compliance (especially inequality reduction between territories and social groups) since they are time and territory-specific and are rarely detailed enough.

A very general recommendation would be to elaborate a system of measures to resolve contradictions. Moreover, the policy developers must strictly follow environmental legislation for review and EIA/OVOS procedures.

4.4 Stakeholder involvement in the Strategy

4.4.1 Consultation during policy development

During analysis work for *the Strategy*, a well-publicized awareness and consultation campaign was undertaken. This generated a lot of information for analysis. The scale of the campaign exceeded other similar activities. A special Internet site, for example, was created. It invited the public to give comments and suggestions for a competition for the best vision for the region. However, these forms of public involvement targeted socially active city dwellers. They are less effective to hear from rural populations and vulnerable social groups.

The consultation was organized through polls, questionnaires and brainstorming, including:

- Seventy-one interviews with key representatives of the legislative and executive authorities, business and the general public.
- Social polls of Tomsk and Seversk city population and some villages of Tomsky District, surveying 1292 people.
- Questionnaire to 60 representatives of TOA and regional business.
- Brainstorm sessions more than 200 experts.

The scale and diversity of consultations should be emphasized. However, involving stakeholders at the initial stage of a strategic initiative is the first step but not an end in itself. Modern approaches to strategic planning suggest putting effort into synergizing the views of many stakeholders to develop and implement initiatives. Stakeholders are perceived not as passive subjects of a strategy but role-players and partners actively involved. Such an approach has been previously used in the Russian Federation, in the Strategy of Biodiversity Conservation for the Lake Baikal ecosystem. It has shown high effectiveness. The same idea is found in IAP methodology.

The Strategy here however is different in that it considers stakeholders as recipients for whom the strategy is implemented and whose opinion should be merely considered. Such an approach is well known and found in international documents such as the UNECE SEA Protocol signed in Kiev in 2003. This approach aims to inform the public and receive comments, which is its biggest advantage. However, its weakness is the lack of social partnerships found in integrated assessment.

Public polls are essential, but insufficient due to the following reasons:

- In the development of a high quality plan, accurate assessment of documents is important. Availability of such materials for stakeholder discussions can catalyze more meaningful discussions.

- Ideas from stakeholders on possible development directions and goals are not unchanging. Mutual learning by developers and stakeholders can take place during processes, especially if understanding and goals setting by participants substantially improve with practice. Ideally, a strategic planning process discovers new perspectives, which may not have been known in the initial stages. Policy planners also absorb detailed information about stakeholder organizations and social structures after long term communication with them.
- Cooperation between stakeholders and developers, and among themselves, during strategy development helps their partnership during the implementation stage. Stakeholders also take and feel ownership for the strategy they have contributed to.

As such, the IAP team believes that *the Strategy* in its current form is only the brainchild of the Tomsk Oblast Administration (TOA), only one of the stakeholders. In fact, it is pointed out as much by the policy writers themselves in *the Programme*.

The material content of *the Strategy* lacks structural analysis of different stakeholder groups, interests and inter-relationships. It is primarily about economic development, and does not fully address challenges pertaining to sustainable development. Some 500,000 people will be left out in non-priority regions, and will not benefit from “the new economy”. In addition, agricultural subsidies will aid Oblast as a whole but worsen the situation in these districts. Instead, it would be helpful to study regional development trends and suggest a focused strategy for these territories. However, despite numerous suggestions of stakeholders to this effect, traditional activities are missing in the final policy document, which is seen as one developed with a “top-down” approach and has little or no coordination with municipal programmes.

4.4.2 Consultation during integrated assessment

Key stakeholder groups were identified within this IAP project (see table 3). The degree of their involvement was analyzed. Additional consultations were made with rural populations and vulnerable groups, including rural intelligentsia and young people in some rural areas. Moreover, findings of both *the Strategy* and integrated assessment were discussed at the Oblast Coordination Environmental Board meeting. Representatives of the Federal and Oblast authorities as well as local self-governance councils attended, side-by-side with staff from environmental NGOs and associations of indigenous peoples of the north.

Table 3: Relationships of stakeholders and participation in Strategy development

Representatives from:	LE	ME	SB	EonOT	PF	LAE	MOE	ERC	BOE	TOIo	P	NGOs	FA	TOA	MO	Duma
Large enterprises (LE)		+	0	0	+	!	+		!/+	!	+	!	!	+	+	+
Middle enterprises (ME)	+		*	!	+	+	+		+	0	+	!	!	+	+	+
Small businesses (SB)	+	0		!	+	+	+		+	+	+	+	0	+	+	+
Enterprises registered on other territories (EonOT)	0	!	!		+	!	0		0/!	0	0	0	0	!	!	!
Private farms (PF)	*	0	+	+		*	+		+	+	+	+	0	+	+	+
Large agricultural enterprises (LAE)	0	0	+	!	*		0/+		0/+	0	0	0	!	+	+	+
Education and research sector	+	+	+	0	+	+			+	+	+	+	!	+	+	+
Municipal organizations (MOE)	+	+	+	0	+	+			+	+	+	+	!	+	+	+
Budgetary organizations (BOE)	!/+	!	+	0	+	0/+	+			+	+	+	+	+	+	+
Tomsk groups living outside the Oblast (TOIo)	0	0	+	0	0	0	+		+		+	+	0	+	0	0
Pensioners (P)	+	+	+	0	+	0	+		+	0		+	+	+	+	+
NGOs	!	!	+	0	+	0	+		+	+	+		+	+	+	+
Federal Authorities (FA)	!	!	!	0	0	!	!		+	0	+	+		+	+	+
TOA	+	+	+	!	+	+	+		+	+	+	+	+		+	+
Municipal authorities (MO)	+	+	+	!	+	+	+		+	0	+	+	+	+		+
Tomsk Oblast Duma (Duma)	+	+	+	!	+	+	+		+	0	+	+	+	+	+	

Legend:

- Groups involved in consultations during Strategy development (partially or fully)
- Groups not involved in both consultations
- Groups involved in consultations during integrated assessment (partially or fully)

The participants in the Oblast Coordination Environmental Board meeting and public consultations made a number of recommendations:

- To consider the interests of indigenous people of Tomsk Oblast through the development of traditional uses of natural resources and laws regulating such issues.
- To have regular public consultations on environmental issues.
- To organize a number of workshops for the public on sustainable development and use of natural resources.
- To specify *the Strategy's* vision, strategic priorities, goals and objectives and reflect on cooperation on natural resource use and environmental protection issues by TOA and the municipal authorities.

Representatives of different Federal authorities gave a number of suggestions on tangible goals, objectives and indicators:

- Balanced socio-economic development of the Oblast
- Both urban and rural development
- Population distribution to reduce impact on the environment
- Transition to sustainable development principles

More detailed information on stakeholders' recommendations are available.

4.4.3 Stakeholder cooperation in reflection

The strategic documents do not include clear provisions for stakeholders' cooperation during implementation. The vision of *the Strategy* does not mention such involvement but contains a detailed description of the desirable state of the Oblast economy as well as the definition of "high living standards". The only area that explicitly covers cooperation between stakeholders is about the development of social partnership mechanisms for social investment programs. This objective is however not explicitly reflected in the Programme. To manage the system of international labour divisions and assist in clusters creation in the priority industries, the TOA would need to work with enterprises in the industry. To meet the objective of human resource training for the new economy, the TOA also needs to work with educational institutions. Inevitably, the circle of stakeholders will widen more and more as implementation touches on the interests of different social groups. The social partnership mechanism should be a key tool to ensure smooth implementation.

4.4.4 Recommendations

Based on the above analysis findings, the following recommendations on cooperation with stakeholders are made:

- To ensure active cooperation with stakeholders during the next stages of development or implementation, and reflect their help in policy adjustment.
- To analyse the structure of stakeholder groups and organize cooperation based on capabilities and interests. It should involve municipal authorities; rural populations of all Oblast districts; representatives of indigenous peoples of the north; and vulnerable groups.

4.5 Environmental and social concerns about development

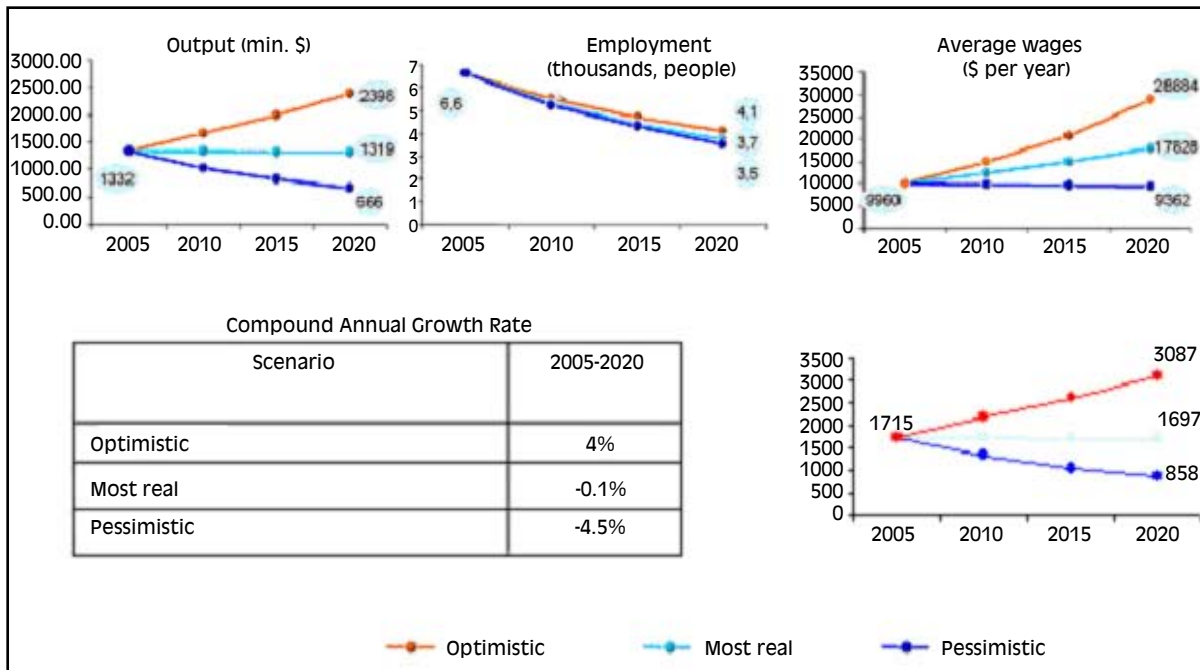
Since the strategic planning process at the moment performs only limited environmental analysis, this IAP project has advanced to assess environmental and social aspects of the proposed economic initiatives in both *the Strategy* and *the Programme*, determining risks, impacts, benefits and costs of developing several sectors.

4.5.1 Oil and gas sector

At present, the oil and gas sector is the backbone of the regional economy, accounting for 24.2 per cent of gross regional product and providing up to 50 per cent of tax revenue (see Figure 6). The sector's development prospects are good enough, with the most optimistic development scenario envisaging output increasing to 20 million tonnes by 2020. China is considered the main strategic partner of the sector.

However, all development scenarios also foresee a fall in the number of jobs available in the sector (see Figure 6). Wages in the oil and gas sector are generally high, and if they continue to rise while employment falls, those employed outside of the oil and gas sector will suffer a drop in standard of living due to rising costs.

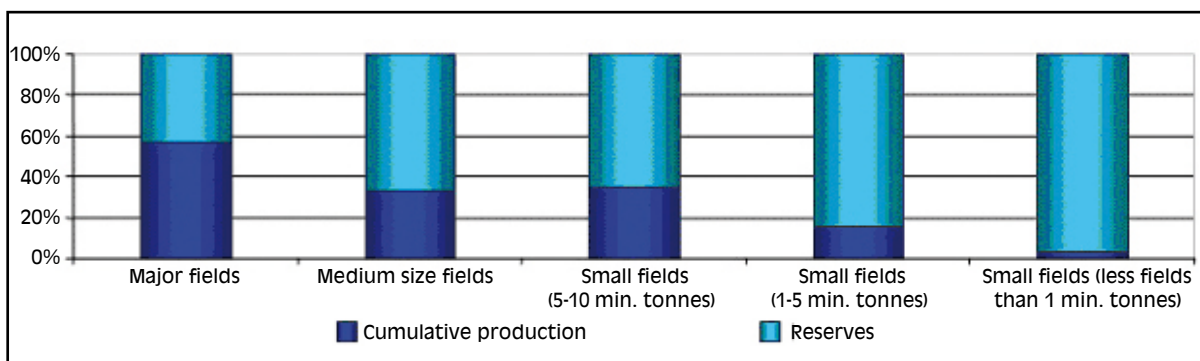
Figure 6: Oil and gas sector's principal economic and social indicators



Usage and gradual depletion of resource deposits are strategic concerns with the greatest impact on the environment and environmental risks. Only four oil deposits in Tomsk Region have reserves exceeding 30 million tonnes. They contain more than half of the region’s oil reserves but of the four, two of the largest have been depleted by more than 70 per cent. While the average depletion level of deposits in Tomsk Oblast is 30 per cent, half of the relatively unexploited deposits have less than one million tonnes and account for only 0.5 per cent of cumulative production. (see Figure 7)

Significant depletion of the region’s deposits and high operating costs under the current taxation system may result in reduced motivation of subsoil users to wait for complete recovery of the reserves. Cancellation of subsoil usage rights for such deposits, however, will prevent efficient use of reserves and reclamation.

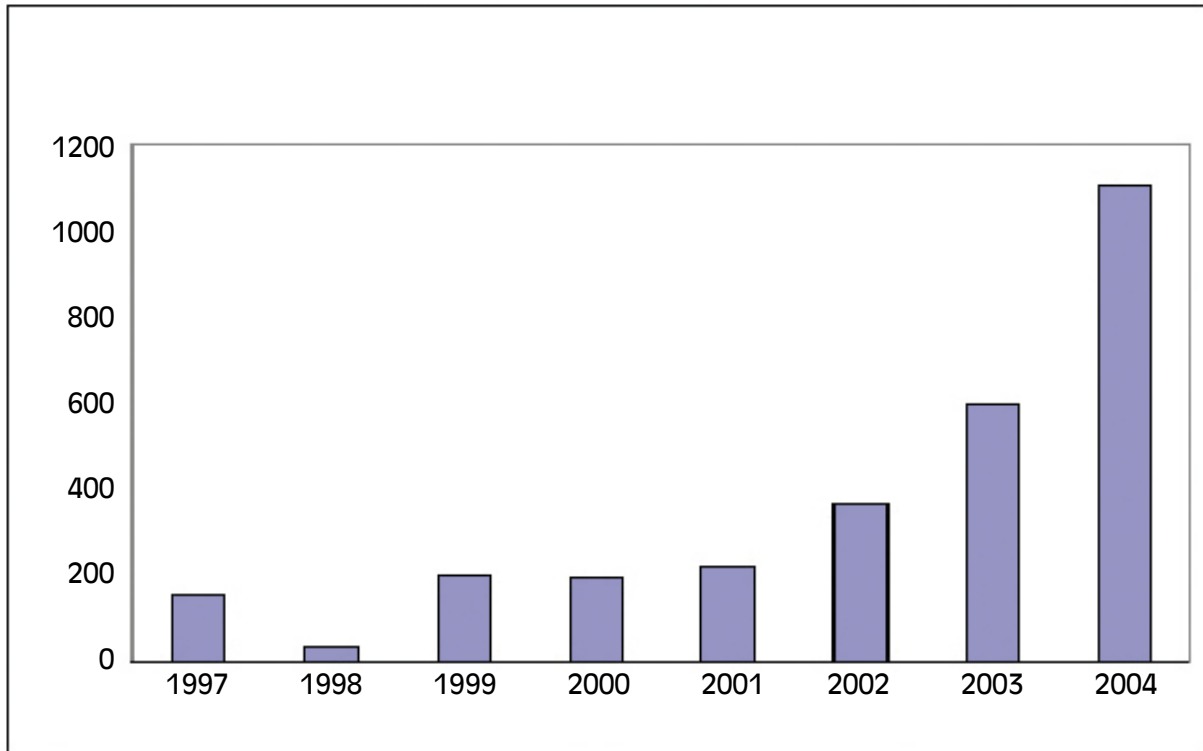
Figure 7: Depletion level of deposits of various sizes, %



Large companies are known to suspend activities at wells and smaller deposits that are not completely depleted but are inefficient to operate. These wells and deposits are then transferred to smaller companies, who typically do not have sufficient capacity to implement sound environmental protection programmes. Investments in environmental protection activities are poor. The steady growth in accident rates at the Oblast’s oil extraction and transportation facilities has been noted, and can be directly attributed to deterioration of the process equipment (see Figure 8).

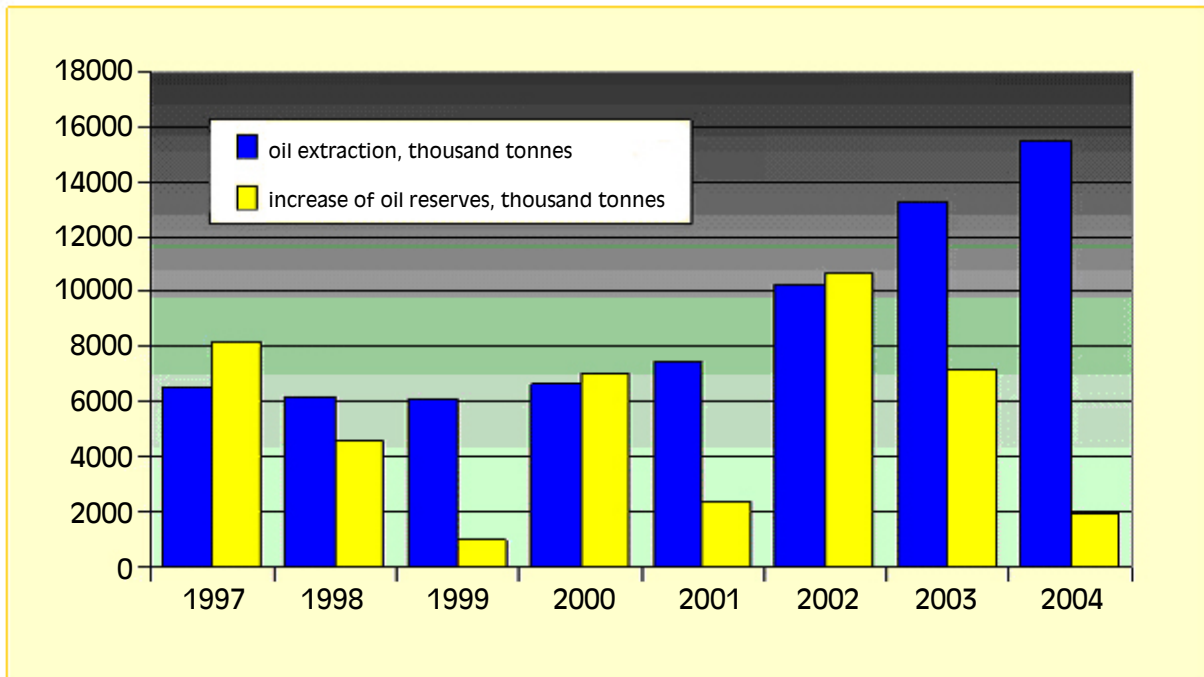
Reduction of oil production is being accompanied by a decrease in overall investments in the sector and the result is fewer major overhaul activities. From a pessimistic viewpoint, there are indications that investment activities are set to further decrease causing greater environmental risk. Strategic risks of deposit under-use and lack of necessary deposit reclamation measures will only grow. Ultimately, this results in inefficient use of an important natural resource and serious environmental pollution.

Figure 8: Recorded accidents at the oil extraction facilities of Tomsk Oblast



This issue is not typical to Tomsk Oblast alone, but also to other regions with established oil and gas extraction sectors. The experience of other countries shows that the issue can be effectively addressed by establishing a special reclamation fund. However, this may not work in Russia given the lack or instability of institutions who will implement it. There are only isolated instances of short-term operations of such funds in Russia. However Tomsk has some pre-requisites for local success, and the creation of such a fund is a possibility for TOA.

To ensure sustainable development of the area, annual growth of reserves must exceed actual extraction of the resource in question. At present this has not been observed.

Figure 9: Oil extraction and increase of oil reserves in Tomsk Oblast

Recommendation: The necessary approach is assessing actual deposit reclamation costs and to integrate them into economic forecasts of the sector development. TOA should look into institutional and legal support for rigorous reclamation of the depleted deposits. Modernization of the sector will require significant capital costs, and replacement of obsolete and deteriorated processes and equipment, but will be crucial to reduce environmental risks.

4.5.2 Nuclear power industry

The most advanced nuclear industrial complex in Russia, Siberian Chemical Combine (SCC) is located within the Seversk restricted administrative area. SCC operations are decided at the Federal level, but ongoing administrative reform will see greater interaction by local authorities with the SCC. *The Strategy* was the first document to analyse the prospects of the nuclear industrial complex in the context of regional development and planning. This is an important achievement, since nuclear complex development has always been evaluated on a countrywide basis without consideration for the interests and limitations of the individual regions. In fact the relations between SCC management and local authorities are about to reach a new level of more equal partnership, completely unfamiliar to the Russian Federation. The TOA establishing clear and transparent relations with SCC and the Seversk Administration should be one of the priorities.

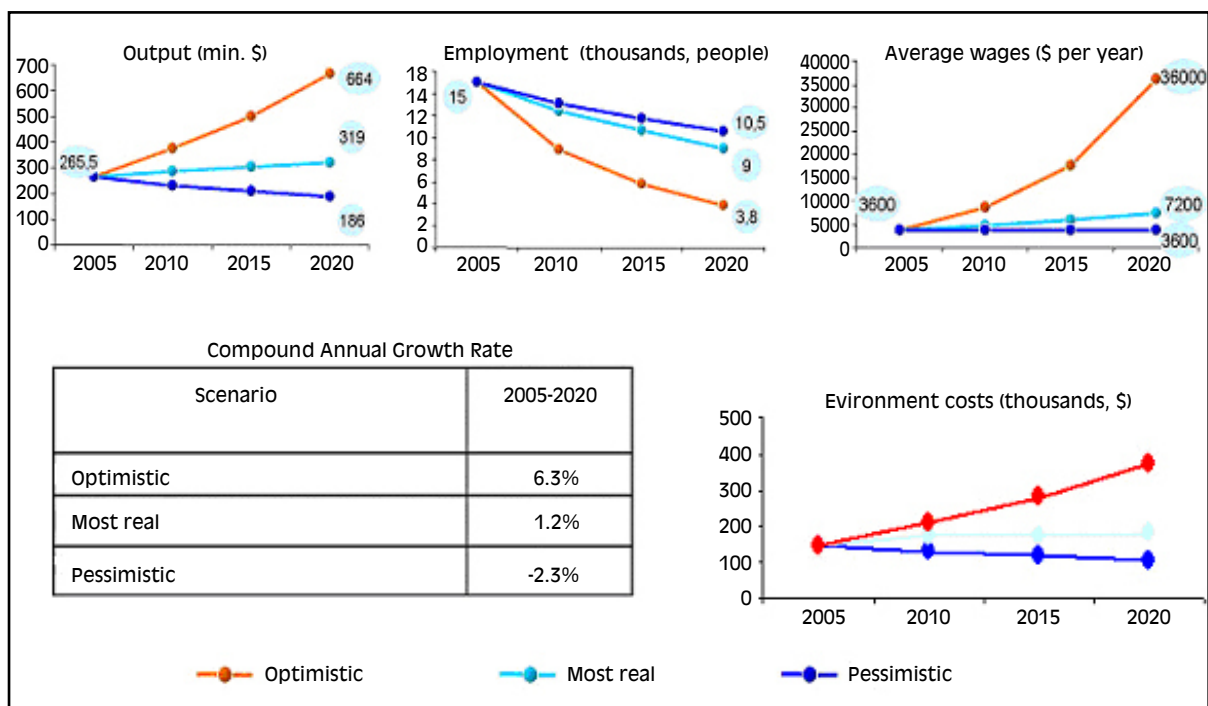
The Strategy planners analysed SCC development based on the current conditions of the sector, and international and Russian development trends. The sector is expected to maintain steady progress as it serves the internal market.

The main trends that may determine the SCC development strategy are identified as plans for constructing a MOX fuel plant and two VVER-1000 reactors, creation of non-nuclear industries, changing public attitudes, and economic factors, etc. They can have a positive impact on the region's development if accompanied by increased transparency (including opening up Seversk restricted area). At the same time there is a risk of accidents at the nuclear power facilities, which pose certain risks for the development of the region as a whole. At present the employment per unit of output in the Russian nuclear industrial sector also substantially exceeds the world average, and therefore a development strategy needs to look at decreasing employment in the sector.

The issue of protecting living environments has not been integrated into the economic development proposals. In particular, the lack of capital to fund environmental safety activities within SCC operations (such as radioactive waste storage and preservation of decommissioned industrial uranium-graphite reactors) is the main limiting factor to sector development. Proposed steps include establishing dialogue among the TOA, SCC and the Government of the Russian Federation.

The strategic analysis has also not addressed radiation and ecological load on the local community and the natural environment if SCC operations grow (see Figure 10). The analysis has also ignored risks resulting from transporting hazardous radioactive and chemical substances through residential areas of Tomsk City. A strategic risk associated with nuclear industry development is the issue of nuclear waste disposal. In Tomsk Oblast, injection of liquid radioactive waste into underground aquifers is practiced, which may result in long-term risks that are difficult to control and irreversible.

Figure 10: Prospects of the nuclear power sector



Recommendations: Develop a system of measures aimed at increasing the effectiveness of radiation monitoring and making the results publicly available. This will contribute to environmental protection and the green image of Tomsk region. It is also urgent to develop a legal basis for regulation and management of liquid nuclear waste disposal, and for emissions and discharges containing radioactive substances, through economic instruments such as:

- A legal basis for regulation and management of liquid nuclear waste disposal, and for emissions and discharges containing radioactive substances⁴.
- System of state payments for liquid nuclear waste disposal (accounting, rent, reclamation, compensation or repressive).

⁴ Federal laws «On Environmental Protection» from January 10, 2002, N 7-FZ, «On Subsoil Resources» from February 21, 1992, N 2395-1, and Water Code of the Russian Federation from November 16, 1995, N 167-FZ).

- Obligation of the subsoil user (SCC) to develop insurance and decommissioning funds to ensure financial support under *force majeure* circumstances.
- Payments for emissions and discharges containing radioactive substances.

4.5.3 Education and research complex

Education and research complex (ERC) is a new development priority for the region. Despite the high levels of scientific research and education in the region, these activities were hitherto not considered an individual economic sector. Identifying ERC as an economic sector of priority is an indisputable merit of *the Strategy*. According to the forecasts made in the framework of *the Strategy* development, a steady growth of output of the sector, accompanied by increasing employment and average salaries, is expected for the next 15 years (see Figures 11 and 12).

Figure 11: Prospects of the research sector

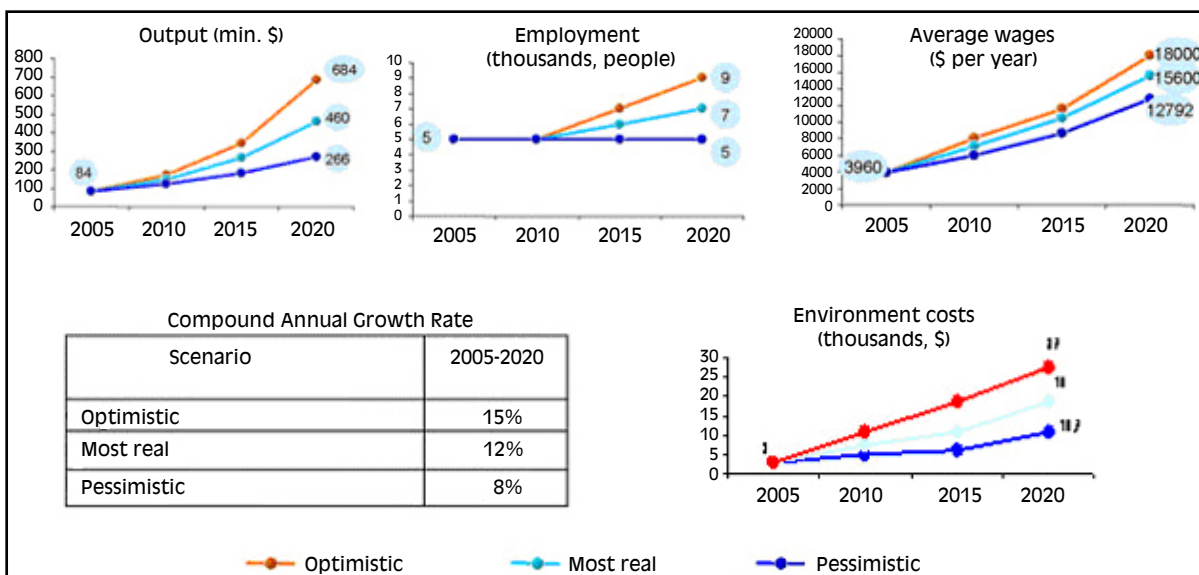
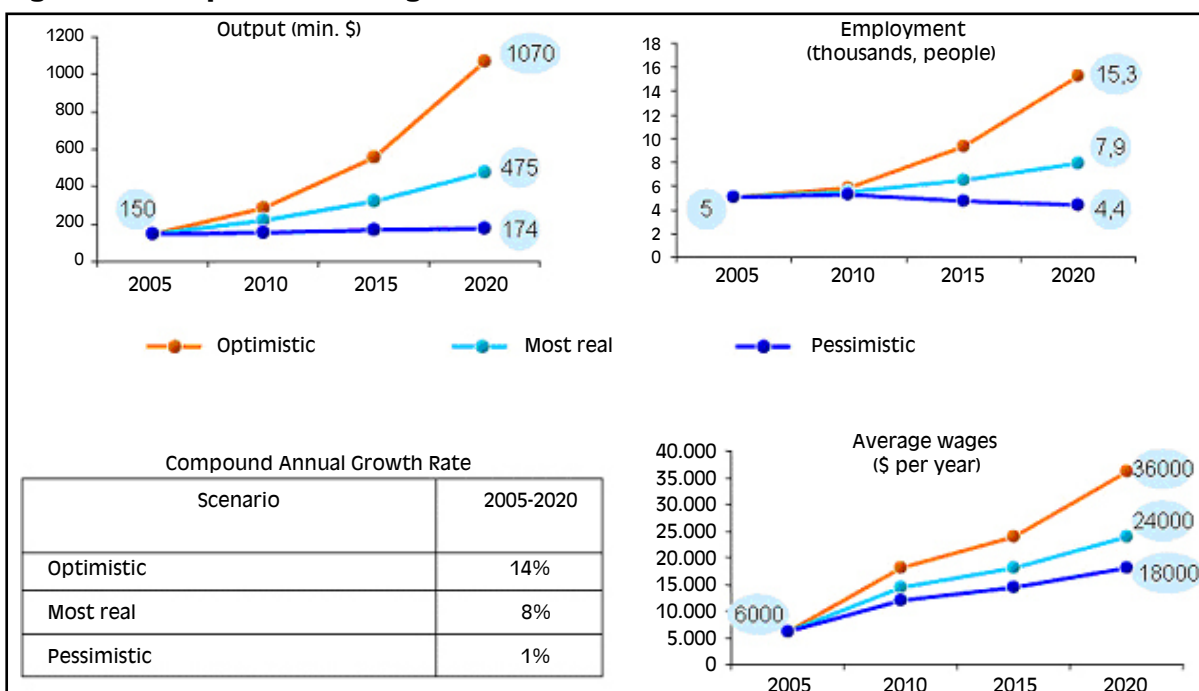


Figure 12: Prospects of the higher education sector



The issues most critical to the development of ERC include: research and development, legislation, export potential, domestic demand, living conditions and capital access. An unconditional advantage of the sector is that it does not create significant environmental risks yet helps reinforce the system of environmental learning in the educational institutions of Tomsk Oblast. One of the main competitors in the market of educational services is China. The education system of the country is rapidly and intensely developing, and the costs in China are much lower than in Russia, European countries, and the USA. At the same time, the quality of environmental education is much higher in Tomsk universities. Opportunities currently underused in the Oblast include continuous environmental education, training specialists of various profiles, and necessary knowledge in the fields of environmental protection and social accountability, which are valued by the modern labour market.

In general, the level of environmental impact created by ERC is low. At the same time the specificity of research institutions has resulted in weaker manageability and low predictability of potential impacts. Priority attention to the environmental aspects of ERC operations will not only increase environmental safety of the sector itself, but will provide reliable basis increasing environmental responsibility of all ERC “clients”, including nature users of the Oblast. In general, this will contribute to sustainable development. Related strategic risk is the possibility of not achieving the expected ERC development level.

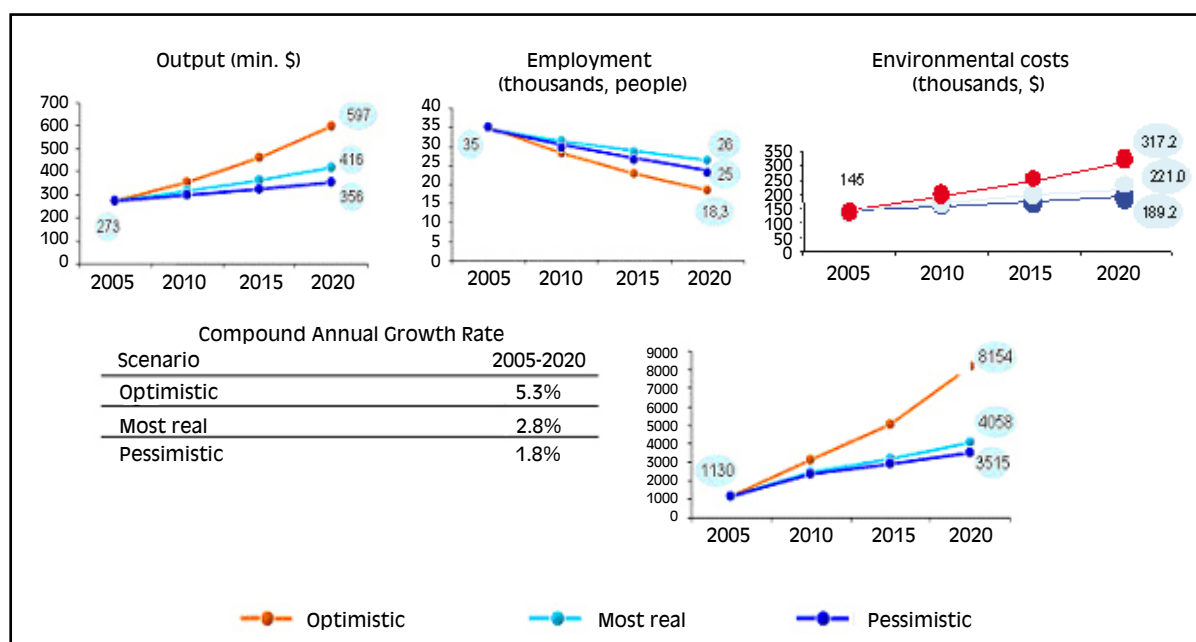
Recommendation: It is necessary to continuously monitor the dynamics of competitiveness of Tomsk’s ERC in the domestic and international markets. Maintain high levels of environmental safety of any ERC operations. The system of continuous environmental education can and should become one of the significant competitive advantages of the sector, even at the international level, which will also facilitate sustainable development.

4.5.4 Agricultural Sector

The agriculture is a sector traditional to the Tomsk economy. It provides employment for the rural population of about 35,000 but the income in this sector is much lower than in others. Low cost-effectiveness and substantial strategic risks (risky farming, underdeveloped infrastructure, accession of Russia to WTO resulting in elimination of tariff barriers, and more) has led *the Strategy* developers to classify the sector as third priority (see Figure 13). This implies reduction of state subsidies for the sector.

From a sustainable viewpoint, this results in two opposing trends. On one hand, the contraction of the agricultural sector will lead to reduced environmental impact. On the other, the decline in jobs in areas lacking other employment opportunities will result in serious social costs and risks. While not necessarily cost effective, the agricultural sector plays an important social role in many countries, and therefore there is significant attention to support and development of rural areas.

Therefore, the decision to reduce state support for the agricultural sector in Tomsk Oblast should be balanced with other measures supporting employment of the rural population and income growth. One of the promising activities is supporting traditional trades, particularly the use of non-timber forestry products.

Figure 13: Prospects of the agricultural sector

Recommendation: While reducing State support for the agricultural sector, a system of measures aimed at ensuring employment and income of the rural population is beneficial. Effective programmes on non-agricultural types of activity are useful.

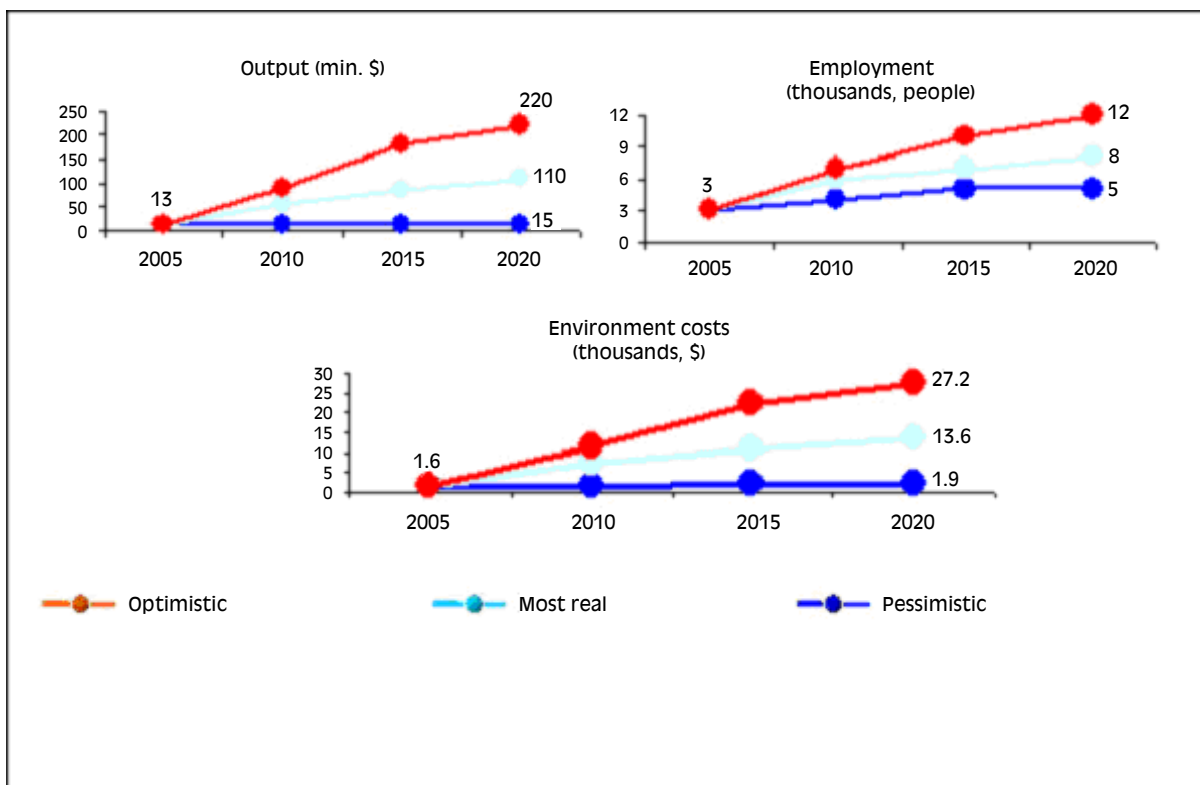
4.5.5 Traditional nature use

Traditional nature use has not been featured in development priorities of the Oblast. According to forecasts, the resource base of this sector in Tomsk is estimated to be 86 thousand tonnes of mushrooms, 23 thousand tonnes of berries (red whortleberry, cranberry, huckleberry, and blueberry), and 27 thousand tonnes of pine nuts. In monetary terms, the sector is worth more than US\$100 million (not counting harvesting and transportation costs). Hunting and fishing resources are also alternatives.

Despite the great potential of the sector, its actual contribution to Region's economy is relatively small. Estimated income of gatherers does not exceed US\$13 million per year (in comparison, Russian companies spent 373.4 million rubles to procure wild-growing products in 2004). At the same time this sector has a unique role in micro-economy that is difficult to analyse due to severe lack of official data. This assessment uses only data provided by the regional administration on one traditional nature use activity, namely the gathering of wild-growing plants (see Figure 14).

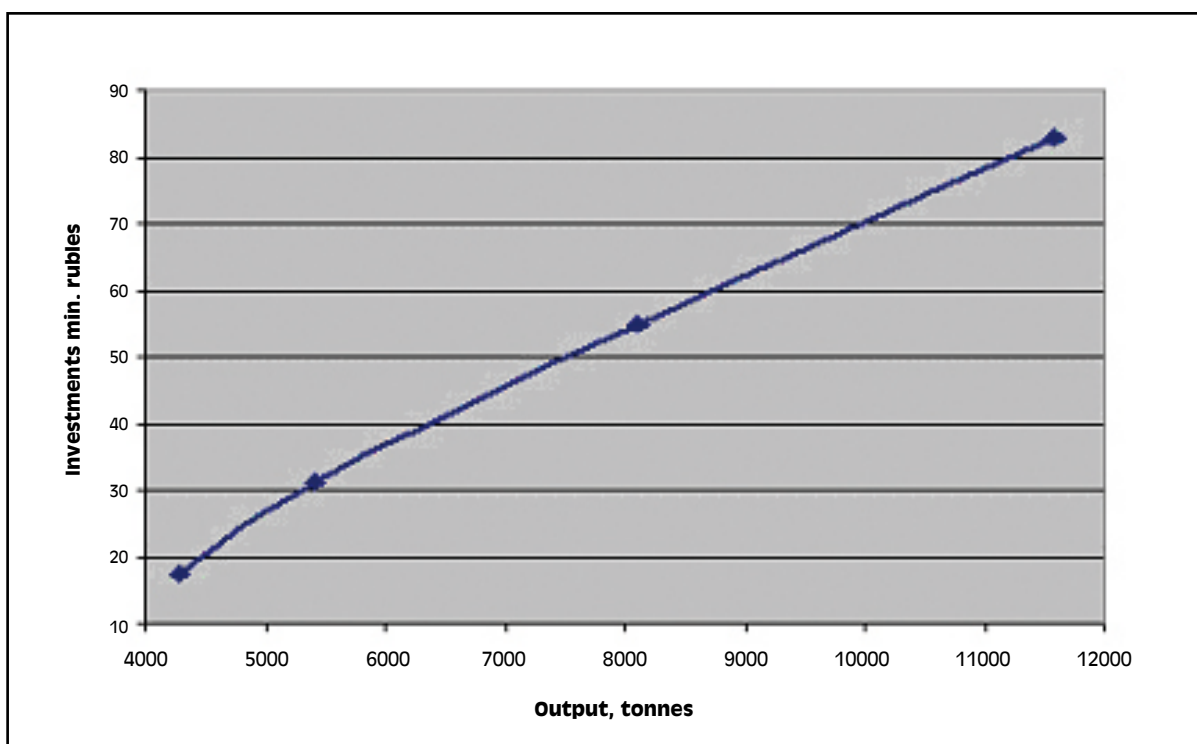
Although the number of employed in the sector is estimated as 3,000 people, this figure refers only to adult professional gatherers. Members of their families, involved in related activities, and "irregular" gatherers who emerge on the market only occasionally, are unknown in numbers. Actual income of the gatherers is difficult to identify as for many this is just an incidental kind of income and also because they hide their income from the authorities for a variety of reasons.

Figure 14: Main characteristics of traditional nature use



Since 2000, private companies are making significant investments in the sector of harvesting wild-growing plants. The average annual investment growth rate is around 60 per cent (see. Figure 15).

Figure 15: Dependency between tonnage harvested and investments



An increase of investment by one million rubles results in output increase of 124 tonnes. Assuming the average weighted price of one kg of the sector product is 100 rubles, revenue per million rubles invested equals 12.4 million rubles. The profit to companies, provided there are no processing costs after buying wild-growing plants from gatherers, is 8.4 million rubles, which generates 480,000 rubles of tax revenue.

The main advantages of traditional nature use are its availability to the residents of remote areas not the strategic focus of Oblast development, and low dependency on external investments. As the result, the sector performs an important social function. In fact, traditional nature use has become a survival strategy in many Russian regions nowadays. An important obstacle for development of this sector is the lack of reliable business schemes that ensure market access for a producer without numerous intermediaries. As the result the products are often bought up at dumping prices from producers. Nevertheless, Tomsk Oblast has successful experience of organizing business to ensure high income for a primary producer. The strategic risk is the possibility of depletion of valuable natural resources resulting from inefficient exploitation.

Recommendation: Develop a regional policy to support traditional trades based on the principles of sustainable nature use, taking into account actual opportunities and needs of the area as well as opportunities in the external markets. This will make a significant contribution to sustainable development in Tomsk Oblast.

4.5.6 Comparison of economic sectors

A summary of the assessment of strategic environmental and social aspects, and risks related to implementation of *the Strategy*, is provided here (see also Figure 16). The proposed change of strategic focus and development priorities of Tomsk Oblast by the policy will result in reduced environmental impact due to:

- Shift of the development focus toward ERC and IT sector, which cause relatively small environmental impact and provide strong social benefits (increased employment and income of the residents).
- Reduced growth of environmentally problematic sectors like oil/gas, nuclear power and agricultural.

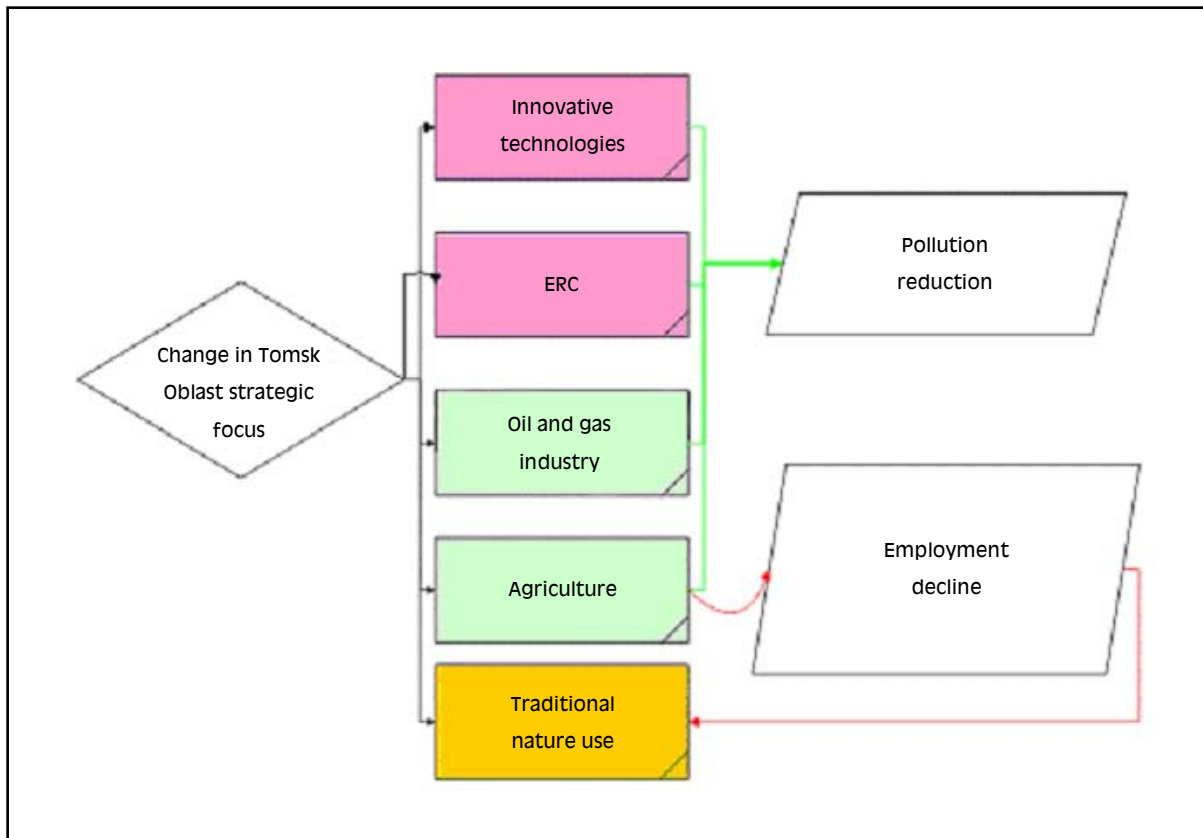
At the same time oil/gas and nuclear sectors pose significant environmental risks demanding priority attention of Tomsk Region Administration, like:

- Inefficient use and degradation of valuable natural resources
- Large-scale and irreversible environmental pollution.

Even now regulatory instruments in place are insufficient for these strategic risks. Further development of these sectors may result in increased environmental risks. Therefore special efforts by the TOA are necessary.

The most significant category of risk is in reduction of the state subsidies to agriculture. A well-elaborated system of compensating measures aimed at creating new development opportunities for such areas is needed. One of the promising is supporting traditional trades. Positive social effects can also be facilitated by formation of infrastructure that foster traditional trades.

Figure 16: Significant environmental and social impacts of the Strategy



Comparing development trends of various economic sectors can be achieved by making a qualitative estimation of their contribution to sustainable development of the area (see Figure 17)⁵.

Employment in a sector has been selected as the parameter representing social benefits⁶. Information on environmental payments is the indicator of environmental costs⁷. Inert and absolute values cannot provide insight into actual contributions to sustainable development, but for the the purpose of analysis, an area on the graph characterized by acceptable ratios of social (and economic) benefits and environmental costs can be marked as the “sustainable development zone”. Qualitative insight can be provided by time trend of cost-benefit ratio. An assumption is made that sectors trending toward sustainable development area have high sustainable development potential. Only one dimension representing correlation between costs and benefits is presented for demonstration purposes, although several such dimensions are possible.

At the basic level of qualitative analysis, one can state that the highest sustainable development potential is demonstrated by such sectors as ERC and traditional trades. Estimated growth index by 2020 for ERC is 5.48, and for traditional nature use, 8.46. The levels of environmental expenditures are also relatively low.

The trends for nuclear and oil/gas sectors look the least optimistic. There is a negative social effect (stable decrease in employment) accompanied by growth of environmental expenditures. One should note that

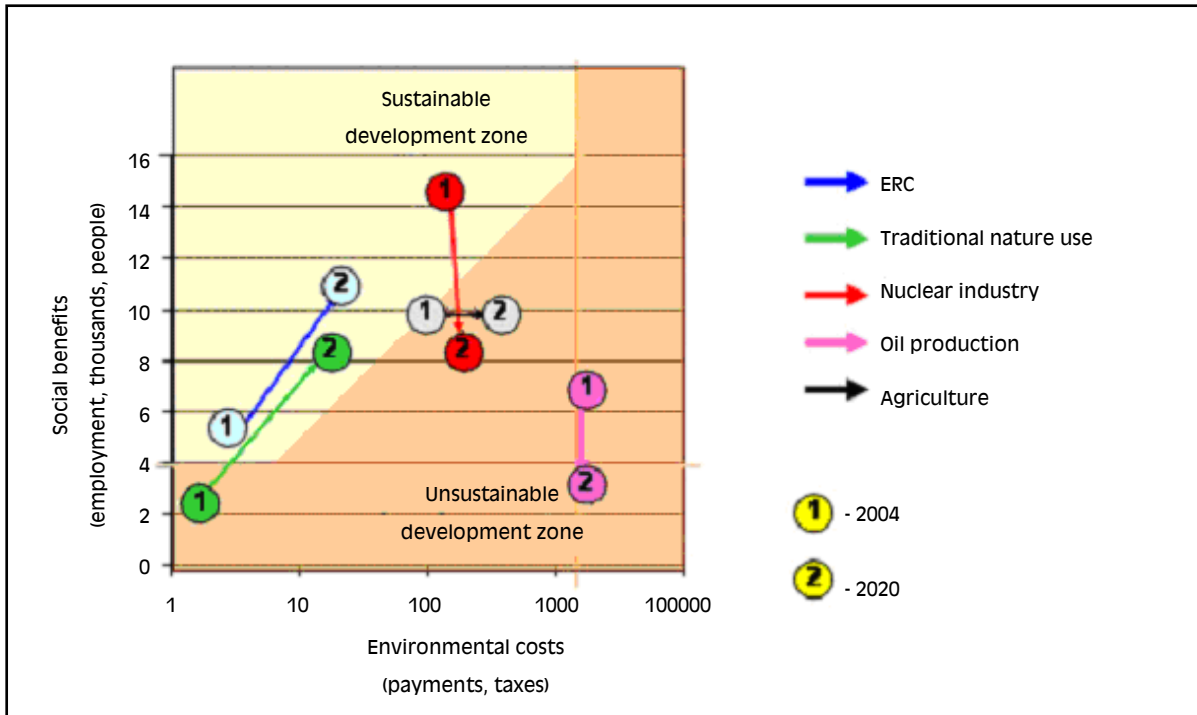
⁵ This chart is presented for illustration only and does not claim to fully represent the situation.

⁶ Data of strategic analysis of Tomsk Region Development Strategy performed by Strategica Ltd. in 2005 are used for all sectors (ERC, nuclear industry, oil and gas complex, agriculture, and traditional nature use), in 2005 and 2020.

⁷ Data on the environmental payments in 2004 are taken from official records. Estimates for 2020 are made under assumption that relative environmental payments per a (monetary) unit of output remain the same.

these sectors have inherent strategic risks, so the environmental costs can be substantially higher from risk prevention and/or accident elimination costs. These sectors have lower sustainable development potential. These trends can be changed only if optimization of the sector is accompanied by multi-sectoral employment of excess workforce and improvement of needed qualifications in the same sector, which also reduce environmental risk.

Figure 17: Sectors under sustainable development scenario



Sustainable development potential of the agricultural sector under the conditions of reduced state subsidies will decrease compared to earlier. The social benefits and environmental costs ratio shows trending out of the sustainable development area. Insufficient performance despite intensification of production processes will result in reduced workforce demand of the sector. However, the lack of migration opportunities and low standard of living, especially in the remote areas, will prevent substitution of primary activities.

In general, the overall sustainable development potential of Tomsk Oblast needs to be strengthened. Necessary measures are considered in the next chapter.

5. Main conclusions on the road to sustainable development

1. *The Strategy* is a radically new document in Russian regional planning and development according to modern strategic planning principles. It clearly defines development priorities of Tomsk Oblast, along with goals, objectives, principal implementation mechanisms, performance criteria and indicators.
2. A downside of a well-defined system of priorities is the lack of flexibility. Proposed review and adjustment mechanisms guide performance towards goals and objectives. However there are no tools that can identify the opportunities to modify *the Strategy* itself (including priorities, goals and objectives) due to changing external conditions.
3. The IAP has identified contradictions with the sustainable development principles. The most significant gaps include:
 - Insufficient reliance on stakeholders' interests and opportunities; the primary orientation toward the vision of leaders and successful social groups only; and lack of appropriate integration of interests and opportunities of vulnerable groups, including small indigenous peoples. In fact *the Strategy* is a "Leaders' Strategy".
 - Lack of vision concerning the future of the districts that have no development opportunities within the context of the current strategic priorities.
 - Lack of integration of environmental development aspects, opportunities and risks.
4. An important gap is the lack of formalized linkages between *the Strategy* assessed and other strategic documents of Tomsk Oblast (such as the Poverty Reduction Strategy).

6. Conditions for success: IAP recommendations

The *Tomsk Oblast Development Strategy to 2020* can and should become the main document determining sustainable development of the Oblast. In order to fully realize this potential, official adoption of *the Strategy* should not be considered as final approval and carved in stone, but a first step towards formation of the Sustainable Development Strategy, a set of documents determining social and economic development of the area as well as environmental protection. The Strategy assessed nonetheless will form the core of the Sustainable Development Strategy. Other policy documents in the field of sustainable development should be explicitly linked to it.

To facilitate successful implementation of *the Strategy* and the Oblast's transition to sustainable development, the following recommendations are proposed:

1. New Sustainable Development Council. It is necessary to create a strategic mechanism that ensures continuous development and “self-learning”. This mechanism can be implemented as a Council attached to the Oblast Administration. The Council including representatives of all stakeholders and social groups would determine sustainable development of the area and align strategic processes with sustainable principles.
2. From “Leaders’ Strategy” to “Strategy for Everyone”. *The Strategy* should become a strategy for all active residents of the Oblast, not only for TOA and the technology/business elite. Development and implementation processes should be linked to the needs, resources and views of the Oblast residents. The process of developing or adjusting municipal development strategies has started. Of significance are initiatives of some municipal districts and large companies developing their own strategies on the basis of *the Strategy*. These are rather important activities which ensure continuity and require particular attention and support from TOA.
3. “Strategic conversations”. *The Strategy* should be linked to global trends and processes related to sustainable development and not limited to market liberalization, but also:
 - Climate change and resulting political and economic activities at the international level.
 - Promotion of new technologies, in particular the energy and information/communication sectors.
 - Dynamics of educational and research complex, and strategies of the key players in the field.
 - Growing role of Asia-Pacific Region.

- Other international trends and commitments concerning sustainable development, such as Millennium Development Goals.
 - Strategies of neighbouring and competing regions, both within the country and abroad.
4. Relating *the Strategy* to these trends can be through more strategic analysis, scenario building, or “strategic conversations” within the Oblast Sustainable Development Council. The results of such analysis should be widely available to prepare stakeholders for strategic eventualities.
 5. Strategic radar. It is necessary to increase adaptability of *the Strategy* by refining the system of performance criteria and indicators, and by creating a mechanism to monitor the validity of initial assumptions on which *the Strategy* is based and take into account changing external conditions.

In general, *Tomsk Oblast Development Strategy to 2020* is an example of a modern approach toward strategic planning in the Russian Federation. Implementing the recommendations of the Integrated Assessment and Planning team would make it an effective instrument of sustainable development.

²⁶ By mechanizing the pruning process.

²⁷ Based on observations from NGO representative on the Steering Committee.

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