Strategic Planning in Saint Petersburg as a Manifestation of Transition to Sustainable Development Economy

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Abstract: Solving economic and social problems is a priority in the development of Saint Petersburg. Modern good practice in management is using strategic planning as an efficient method for solving such problems, which makes it possible to keep the balance between the marketing management of the regional market in Saint Petersburg and a stiff system of centralized planning. All this makes it possible to define strategic objectives and tasks of the social-economic development of the city, use economic incentives in making solutions, select alternative variants of development, efficiently act in the market economy. The present article contains a detailed investigation into the issues of developing power supply and engineering infrastructure for determining the perspectives of stability of power supply and engineering system of the city.

Key words: Strategy • Infrastructure • Sustainable development economy

INTRODUCTION

The history of territorial strategic planning in Russia starts in 1997, when the first Strategic plan in the Russian Federation was developed for Saint Petersburg [1]. Until April, 2003, Saint Petersburg was the only one of the 12 largest cities in the RF that had a complete strategy plan for development. By early 2001, over 200 cities in the RF used some elements of strategic planning. It was then that it became clear that participation of the general public and social structures (local communities) was being underestimated and defining missions and tasks was carried out in a formal and unprofessional way. Now, only those issues shall be implemented that correspond with the interest of the urban community and is included into the Strategic plan after consultations and negotiations [2].

In 2004, large-scale activity was started in Saint Petersburg to form a new system of State planning. Its main difference is that it was intended to replace the passive approach, which is planning on the basis of an achieved level, with a detailed feasibility evaluation and substantiation of costs and results, defining concrete responsibility of the authorities before the population, businesses and organizations of the city. One of the most important stages of this work was organizing professional and public discussions of the projects of the authority policies in Saint Petersburg [3-4].

More than 700 people representing almost every branch of the economy and social sphere in the city participated in the discussion of Strategy development of Saint Petersburg (2013) The proposals accepted in the new Strategy (2014) were focused on the issues of stability of power supply and the engineering infrastructure. Unsolved issues in the infrastructure have long been one of the factors that have negative impact on the pace of the stable development of Saint Petersburg.

MATERIALS AND METHODS

The methodological basis of the investigation was the results of the investigations carried out by Saint Petersburg university of Architecture and Construction: “Methodological Problems of Efficiency of Investment-Construction Activity in the Non-Industrial Sphere” [5], “Methodological Problems of Efficiency of Regional Investment-Construction Complexes as a Self-Organizing...
and Self-Regulating System” [6]. The used methods were: the system, situational and expert analysis [7-8].

In the process of forming, traditional models BCG, GE/McKinsey, ADL matrix and others are used. The analysis of many scenarios, strategic alternatives for development of power supply and engineering infrastructure was done with the help of the following instruments:

- Method of cognitive maps (solution trees);
- Expert evaluations;
- Situational approach for developing different courses of action.

The Main Part: In order to implement the main task of urban development, which is the development of the urban infrastructure and environment, we chose the variant of engineering infrastructure and environment development strategy that implies forming detailed programs and projects [9-10].

The process of planning of power supply and engineering infrastructure development is based on considering external (competition conditions, market, technologies etc.) and internal changes (changes in organization, skills etc.) and it includes three stages: developing, implementing and evaluating the result of strategic planning. The stage of strategic plans development includes four stages: preparation, analysis, development and coordination.

The basis of the modern state of the social-economic development of the city is the infrastructure approach, with the highlight on some key infrastructure elements- civil engineering, transport and power supply. The purpose of the investigation is determining the demand for them and the capability of the economy to meet that demand. Basing on the obtained results, various scenarios (variants) were devised for future development of the city and their SWOT-analysis was carried out (analysis of strength and weaknesses, threats and opportunities).

In order to improve objectivity, a large number of experts were involved and they provided professional evaluation of the materials prepared by the planners. The Strategic plan was approved after public discussion and correction of weak points [11].

The Strategic plan for the city accepted on December 1, 1997 was the first one in the Russian Federation. Its main purpose was to form Saint Petersburg’s integration into Russian and world economy as a multi-functional city with high standard of living and industry. This formula not only specifies the objective, but also indicates the main ways of achieving it – integration into the world and Russian economy and improving the urban environment and social climate. A developed power supply and engineering infrastructure is required.

In order to successfully develop the power supply and engineering infrastructure, on the basis of the analysis of dependence of these indexes across time, the new development Strategy for Saint Petersburg provides for a complex of measures in the following directions [12] (Fig. 1).

For development of central heating systems, it is provided to ensure coordinated development of heat transfer networks from boiler rooms with capacity above 50 GCal/h during their reconstruction, with decommissioning morally and physically obsolete equipment (to be done mainly before 2020); construction of new heat supply stations with vapor-gas and gas turbine equipment in the regions that have shortage of power supply; construction and reconstruction of local sources of central heating in the regions where centralized central heating is impossible or impractical; sectioning and cross-feeding of heat supply networks and manifolds of central heating sources in order to improve reliability of central heating systems [13].

In order to provide stable supply of drinking and industrial water, it is necessary to: increase the net capacity of the existing water-collecting facilities and water-supply stations up to 3 million 733 thousand m³ of drinking water per 24 hours by 2015 with consideration of the existing and perspective consumers in Saint Petersburg; construction and reconstruction of boost water supply pumping stations; construction and reconstruction of power supply pipelines with adequate capacity; construction of interlink water pipelines between water station zones, which makes it possible to redistribute loads in emergency situations; replacement of all the reinforced-concrete water pipelines by 2015; reconstruction and applying internal coating on all the steel water pipelines and replacement of all the defective sections of such pipelines by 2020; reconstruction of worn carbon steel water pipelines by 2025.

Regarding the water-discharge system, the following shall be done: construction and reconstruction of tunnel manifolds of adequate capacity; improving reliability of tunnel manifolds; commissioning the main sewage water manifold in the Northern part of Saint Petersburg (by 2020); ceasing discharges of sewage water into water
bodies by means of implementation of the program of switching direct discharges (by 2020); construction and reconstruction of sewage pipeline systems using modern technologies, with restoring their water-tightness and capacity; construction of surface-water control systems for collecting surface water in the regions where sewage systems are not separated; construction of a plant for burning hard sediment in sewage facilities in the village Metallostroi for recycling the entire volume of sewage sediments by burning (by 2015); implementation of sewage water deactivating equipment (by 2020).

Regarding gas supply systems, the following shall be done: increase the coverage of Saint Petersburg territory with gas distribution networks (GDN) to supply gas to perspective residential areas and transfer all the existing consumers to gas fuel; construction of main sources of gas supply systems - GDN to ensure an increase in gas consumption and improving reliability of gas supply systems, including construction of particular GDN’s for supplying gas to new heat supply stations; improving reliability and stable operation of gas supply systems of the city due to additional cross-feeding of gas distribution networks, construction of new sources of gas supply systems in Saint Petersburg- high-pressure gas-regulating stations.

Implementation of the above-mentioned directions for development of the infrastructure and power supply systems of the “Northern capital” will make it possible to achieve the following results by 2030: the infrastructure and power supply systems will fully comply with the effective normatives; the polling of the population will show 90% satisfaction with the quality of housing and public services; the transformer capacity of the 110 kV network shall be increased to 21356.0 mWA; the installed heat capacity of the sources of central heating shall be at least 31003.2 GCal/h; the capacity of the main facilities of the water supply system shall be 2800.0 m³/day; the capacity of the water discharge system shall reach 2444.5 m³/day.

CONCLUSIONS

The dynamic model for development of power supply and engineering infrastructure, which is the basis of strategic planning, is a complex iteration process; its main stages are:

- Monitoring and analysis of the main indexes of activity on the basis of integration of data from multiple sources;
- Strategic analysis of the external and internal environment of the region;
- Defining the purpose and mission of regional development with consideration of the preferences of the engineering infrastructure;
- Generating strategic alternatives;
- Dynamic scenario analysis on the basis of the possibilities of development of the power supply and engineering infrastructure;
• Selection of the strategic alternative;
• Implementation of strategic and operative plans by the main functional indexes of the regional economy;
• Correcting and specifying the plans with consideration of the dynamics of the changes in development of Saint Petersburg.

REFERENCES