

Financial and tax risks at implementation of "Chayanda-Lensk" section of "Sila Sibiri" gas transportation system construction project

I V Sharf¹, N V Chukhareva² and L P Kuznetsova³
Tomsk Polytechnic University, Tomsk, Russia

E-mail: irina_sharf@mail.ru, natasha@tpu.ru, kuznetsova-lp@mail.ru

Abstract. High social and economic importance of large-scale projects on gasification of East Siberian regions of Russia and diversifying gas exports poses the problem of complex risk analysis of the project. This article discusses the various types of risks that could significantly affect the timing of the implementation and effectiveness of the project for the construction of the first line of "Sila Sibiri", the "Chayanda-Lensk" section. Special attention is paid to financial and tax aspects of the project. Graphically presented analysis of the dynamics of financial indicators reflect certain periods of effectiveness in implementing the project. Authors also discuss the possible causes and consequences of risks.

1. Introduction

High social and economic importance of gas projects in regional [1] and national [2] scale actualize the task of analyzing the risks that could significantly change the plans for implementation, and hence the effectiveness of the project for the construction of "Chayanda-Lensk" section of gas transport system "Sila Sibiri", which is implemented by the subsidiary of "Gazprom".

2. Macroeconomic risks

Macroeconomic risks emerge at lower world prices for hydrocarbons at reducing of refining margins, inflation processes and other economic phenomena. These circumstances could affect the financial stability and solvency of mining companies - service users, and therefore a temporary delay in payments is possible, as well as decrease in need for transportation of gas due to a reduction in overall demand for hydrocarbons or high price assessment for transportation service customers. Indirect impact lies is the possible negative impact on volume and structure of investment flows into this project, and therefore on its deadlines.

Thus, the analysis of capital investments aimed at the construction of major communication facilities, transport and energy facilities, auxiliary and service facilities, as well as the site preparation the level of which for the year 2013 is more than 115 billion rubles, see figure 1.

Cost analysis on the construction of basic facilities shows that the costs for the construction of gas pipeline account for 91%, water crossings 3%, the introduction of gas pipeline condition monitoring - 6%.

Further funding layout shows a high proportion (31%) of investment in the construction of access roads, electrochemical protection, power lines, which in turn are part of the transport facilities,



communication and energy sector as a whole. The 32% share of capital investment foresees the construction of auxiliary and service facilities and realizing of site preparation work.

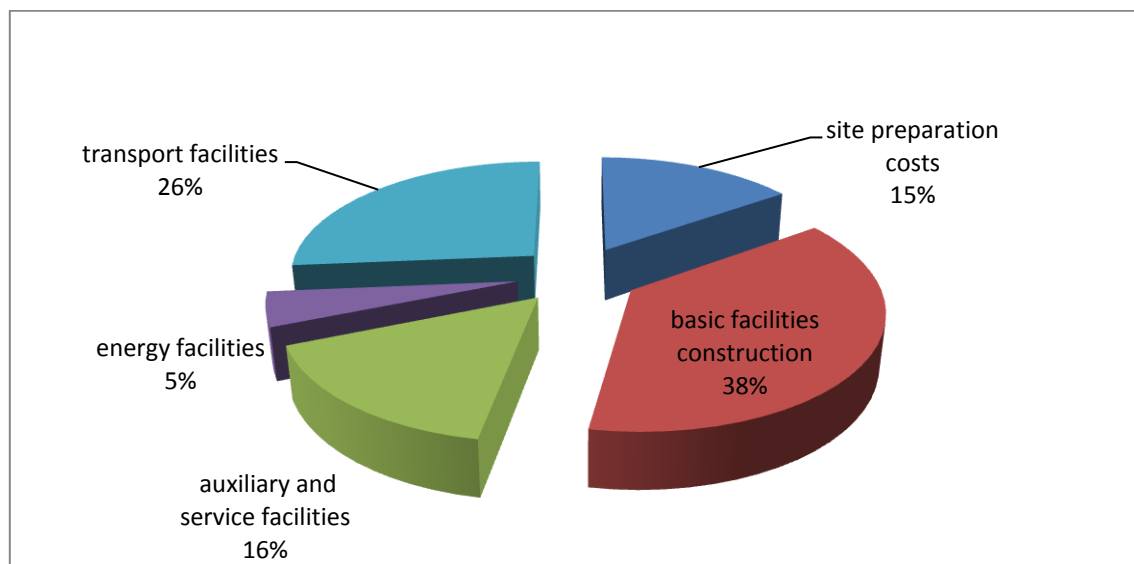


Figure 1. Structure of capital investments on basic facilities construction

In case of decreasing of the investment flow, from our point of view, the most vulnerable would be a completion works involving pipeline construction site improvement and the surrounding area. In addition, cheaper materials can be used, which in its turn increases the risk of accidents.

Note that hydrocarbon transportation tariff is set by the Federal Tariff Service due to assigning of pipelines to the objects of natural monopolies, which are regulated by the state. Sensitivity analysis was conducted by authors in accordance with the following efficiency criteria: the amount of investment and the cost of gas transport services. These are key indicators, as their influence is most effective on the internal rate of return, which is 12%.

The results of the sensitivity analysis are presented in table 1.

Table 1. Sensitivity analysis of efficiency indicator to the value of gas transport services change

		The volume of investments, bln. VAT included									
Internal rate of return		110	117	124	131	138	145	152	159	166	
	75	80	85	90	95	100	105	110	115	120	
	545	80	11,9	11,3	10,7	10,2	9,7	9,2	8,7	8,3	7,9
	579	85	12,6	12,0	11,4	10,8	10,3	9,8	9,3	8,9	8,5
	613	90	13,2	12,6	12,0	11,4	10,9	10,4	99,9	9,5	9,0
	647	95	13,9	13,2	12,6	12,0	11,4	10,9	10,5	10,0	9,6
	683	100	14,5	13,8	13,1	12,5	12,0	11,5	11,0	10,5	10,1
	715	105	15,0	14,3	13,7	13,1	12,5	12,0	11,5	11,1	10,6
	749	110	15,6	14,9	14,2	13,6	13,1	12,5	12,0	11,6	11,1
	783	115	16,1	15,4	14,7	14,1	13,6	13,0	12,5	12,0	11,6
Fees for transportation of gas, bln.	817	120	16,7	15,9	15,3	14,6	14,0	13,5	13,0	12,5	12,0

Table 1 shows that the internal rate of return (IRR) reaches 10% in two cases:

- an increase in investment by 21%;
- reducing the cost of gas transportation services by 17%.

Thus, the cost of gas transportation service is the most sensitive indicator of investment efficiency changes.

3. Financial risks

The group of financial risks can include such risks as interest rate and credit risks, liquidity risks, debt risks that emerge as a result of crisis and stagnation of national and world economy. Their importance is particularly experienced in the context of relationship between counterparties, primarily banking and real economy. Also either an increase in accounts receivable or refusal of a short-term loan from banking institutions may occur aimed to cover the insufficient amount of working capital.

Considering the effectiveness of the project [3] in the context of the two above-mentioned risks, the following deviations may be noted (table 2):

- increasing in duration of the project;
- decrease in volumes of transported gas;
- increase in operating costs;
- increase in the average cost of gas transportation;
- change in investment efficiency indicators.

Table 2. Basic technical and economic indicators of "Sila Sibiri" project.
 Phase 1. "Chayanda-Lensk" section.

Indicators	value
Cost-effectiveness planning horizon, years	25
The volume of transported gas, bln. m ³	
- total	728,3
- maximum annual level	32,6
- average annual level	29,1
Length of the route, km.	210,2
Construction period, months.	43
Capital expenditures excluding VAT, total, mln.rub.	110 000
Operation costs, million.	
- total	180 000
- maximum annual level	35 000
- average annual level	7 000
Specific capital investments, mln. / km (excluding VAT)	550
The average annual cost of transportation of gas, rub./1000 m ³	250
Investment efficiency indicator	
- net income, bln.	350
- net present value, bln.	20
- internal rate of return,%	12,0
- tariff for gas transportation, rub. / thousand m ³	935,3
- tariff for gas transportation, rub. / thousand m ³ per 100 km.	445,0
- payback period, years	10,4
- payback period discounted, years	18,5
- discount rate,%	10
- maximum negative cash, bill.	110
- yield index	1,23

4. Tax risks

Tax risks may be indirect and direct. Thus changes in oil and gas production tax, export duties on oil and oil products, excise duties may entail the above consequences as they affect the level of the financial viability of gas companies.

Note that under Paragraph 10, 11 Article 342 of the Tax Code of the Russian Federation [4] oil and gas production tax for gas-producing organization is planned to increase. Thus the oil and gas production tax for the year 2014 is 647 rubles and for the year 2015 - 679 rubles per 1 ton of gas condensate from all types of hydrocarbon reservoirs. For flammable natural gas production from all types of hydrocarbon reservoirs tax rate on mining for the year 2014 is 700 rubles, and for the year 2015 - 788 rubles per 1,000 cubic meters of gas. Discount rate, for taxpayers nonowning (during the whole tax period) Unified Gas Supply System objects, i.e. not included in the structure of "Gazprom", is established in the amount of 0,673 for the year 2014, and in 0,701 for the year 2015.

Analysis of gross and net margins, tax and non-tax payments clearly shows the presence of definite periods (figure 2). In the first phase rapid growth of revenues and overall costs almost with stable gross margin is observed (from 1 to 7 years from the beginning of construction in 2012). Second (from 8 to 17) and third (18 to 25 year) stages are characterizes by stable income, the cost begins to increase in the third stage, and gross profit, on the contrary, decreases. The results obtained characterize the project life cycle: growth stage (Phase 1), maturity (Phase 2) and aging (Phase 3).

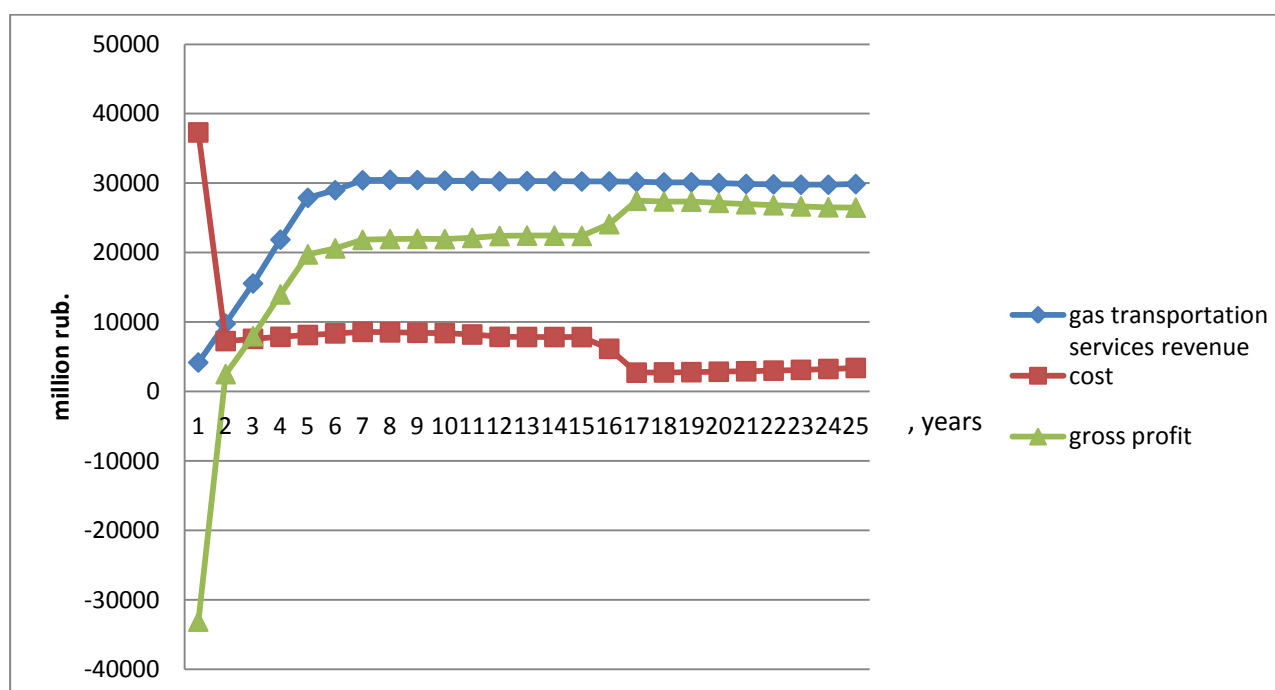


Figure 2. Dynamics of key financial indicators during the project implementation.

These phases as well in figure 3, illustrate the evolution of the net profit in relation to profit and income tax.

This is due to the following factors:

a) reaching of project capacity of Chayandinskoye gas condensate field and the subsequent introduction of new fields of natural gas and condensate;

b) terms of calculations, where certain parameters, such as gas transportation tariff, the income tax rate (20%), other taxes and the size of tax payments are taken as steady value;

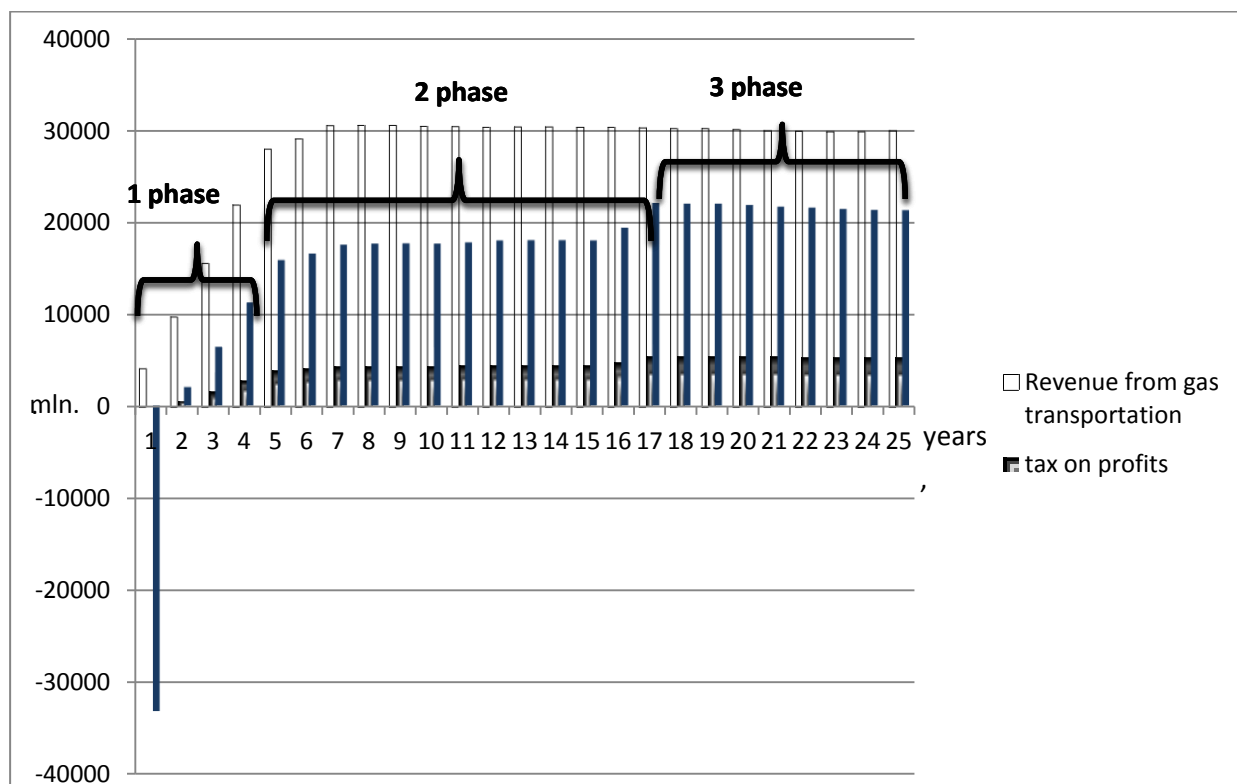


Figure 3. Change in net profit.

c) steadiness fo makroenergetic changes, for example, the lack of competition on the oil and gas market, in particular in the form of alternative energy sources.

Net income increased from 1% to 49% over the project duration from the first to the third period (the average value calculated as a proportion of net income from the income, according to figure 2).

As a consequence, a gradual increase in monetary income tax is observed (figure 4). Note that payments as a part of production costs (payment for environmental management, property tax) have a wavy trend, and, maximum values occur in the transitional period between the first and second stage.

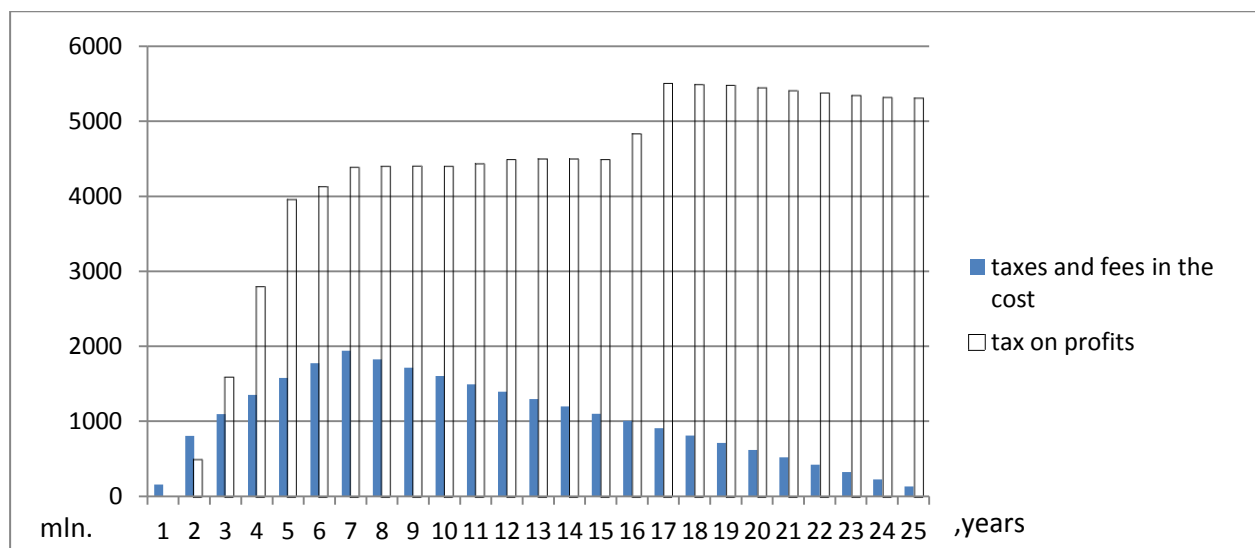


Figure 4. Dynamics of tax payments for the entire period.

The direct impact of the tax system is to change the tax law regarding tax exemptions. Thus, in accordance with Paragraph 3 of Article 380 of the Tax Code, the tax rate on business property tax in respect of pipelines and facilities, which are an integral part of the process, may not exceed 0.7 % for the year 2014, 1.0% - 2015, 1.3% - 2016, 1.6% - 2017, 1.9% - 2018 [2]. Note that the rate of property tax in the Russian Federation is, as a rule 2.2% - maximum permissible value.

Thus, this exemption significantly affects the amount of property taxes in production cost, and hence the dynamics of the cost itself.

5. Conclusion

Dual influence of the above described risks, both positive and negative, requires constant monitoring and operational control over the implementation of the project by the company's management in order to maintain and improve the effectiveness of the project.

References

- [1] Chukhareva N V, Sharf I V and Tikhonov T V 2013 Socio-economic factors of the gas transportation system of the Republic of Sakha (Yakutia) *Oil and gas : the electron. scientific. journal* **6** 416-431
- [2] Main provisions of the draft Energy Strategy of Russia until 2035 *Ministry of Energy* <http://minenergo.gov.ru/documents/razrabotka/>
- [3] Guidelines for evaluation of investment projects. ratified. RF Ministry of Economy, Ministry of Finance and the State Construction Committee of Russia June 21, 1999 **477** <http://base.consultant.ru/cons/cgi/online.cgi?req=doc; base = LAW; n = 28224>
- [4] The Tax Code http://www.consultant.ru/popular/nalog2/3_8.html # p13551