

# Efficiency Assessment of Functioning and Prognosis of the Heat Power Economy Indices of the Big City

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**Abstract:** OJSC «Azerheatsupply» deals with the production of heat power, transmission, distribution, sale and providing services to the consumers for providing the houses and socio-cultural and household objects of Baku and regions of the Republic with heat. Joint stock company constructs boiler rooms provided with modern equipment on the base of small boiler rooms with old technology. Carrying out construction of new and modernization of the operating boiler rooms JSC constructs interestates heat lines, connecting all buildings in this housing area to the heat supply. In new housing areas heating systems are provided with modern equipment and apparatus meeting the requirements of energy economy, environment protection in correspondence with world standarts. To supply small and medium objects with heat the systems “comby”, “modul” and “cascade” have been implemented. In table 1 data characterizing consumers’ providing with heat by joint stock company have been given. Data of table 1 testify constant increase of the quantity of built objects OJSC “Azerheatsupply” has developed the measurements on the improvement of heating system in correspondence with world standarts.

**Keywords:** OJSC, kinds of activities, labour attributes.

Table 1  
Data on supply of consumers with heat provided by OJSC «Azerheatsupply», unit

On Baku													
Indices	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
boiler rooms	88	106	124	193	197	216	229	232	287	329	335	340	350
buildings	988	1519	1750	1930	2045	2150	2250	2366	2579	2780	3035	3140	3250
schools	102	120	141	188	173	180	185	180	183	180	184	183	185
nursery schools	75	101	113	117	135	146	151	141	124	124	124	118	120
health safety objects	21	33	45	66	74	77	84	87	89	100	102	102	105
other objects	59	75	93	148	157	200	249	257	292	361	460	520	700
On the regions													
boiler rooms	78	96	110	119	113	113	118	130	138	179	190	191	195
buildings				3	27	34	107	195	240	362	415	428	450
schools	44	56	77	89	69	64	75	86	84	95	102	93	90
nursery schools	9	10	11	6	6	7	12	17	22	32	36	36	35
health safety objects	40	45	52	61	52	56	51	42	45	47	55	49	45
other objects	32	37	38	55	68	65	57	53	58	67	93	83	80
Total on OJSC «Azerheatsupply»													
boiler rooms	166	202	234	312	310	329	347	362	425	508	525	531	545
buildings	988	1519	1750	1933	2072	2184	2357	2561	2819	3142	3450	3568	3700
schools	146	176	218	277	242	244	260	266	267	275	286	276	275
nursery schools	84	111	124	123	141	153	163	158	146	156	160	154	155
health safety objects	61	78	97	127	126	133	135	129	134	147	157	151	150
other objects	91	112	131	203	225	265	306	310	350	428	553	603	780

Financial resources of joint stock company include relations with founders, budget organizations banks, insurance

companies, deliverers, customers and working collective. That is, they participate in the purchase of raw materials, equipment in realization of its production and service, in forming joint stock capital, distributing income and dividends to the stock holders, in getting credits, paying taxes and so on.

In table 2, indices characterizing financial condition of OJSC have been given. The results of the analysis testify that JSC doesn't have financial strategy for the next year and at present financial politics is directed mainly to the solution of every day short time tasks. Insignificant increase of JSC assets-3506,377 thousand manats is watched during the analyzed period. Short term debtor debts increased 3,9%, which show consumers' low solvency of JSC production. 29,4% decrease of means shows insufficient condition of assets. A small increase of main means providing timely calculations on the accepted commitments is watched, capitals and reserves and quantity of JSC is 4809,37 manats, reserve capital is 14063 thousand manats and shortage of private circulating means is observed. It testifies the financial condition of «Azerheatsupply» JSC.

Table 2  
Financial condition of «Azerheatsupply» JSC, th.manats

<b>Indices</b>	<b>2011</b>	<b>2016</b>
<b>Other</b>		
<i>Long-term assets</i>		
Property and equipment	89594011	11574684
Urgent tax assets	57,92	43,836
Total on long-term assets	89594,0	111620,5
<b>Other assets</b>		
Goods and materials reserves	21429	1677,0
Short term debtors debts	11575,988	12026,8
Other short term assets	9890,23	14234,4
Means and equivalents of means	2801,7	1978,878
Total of other assets	26410,9	29917,2
Total assets	116004,9	141537,8
<b>Capital and liabilities</b>		
<b>Capital and reserves</b>		
Paid (fixed) capital	19266,0	19266,0
Undistributed income	57596,1	66849,8
Reserve capital	97090,8	111153,9
Total capital and reserves	58760,7	63570,0
<b>Current commitments</b>		
Creditor debts to suppliers and contractors	392246,8	41656,2
Other tax commitments	3266,1	4473,8
Other short-term commitments	14731,2	31837,6
Total current commitments	57244,2	77967,7
Total capital and commitments	116004,9	141537,8

Source: Materials of JSC «Azerheatsupply»

JSC can't exist without receipt of private investments, that's without effective system of tariff regulation. It is necessary to note that effective tariff regulation doesn't give a chance for wide attraction of private investments. In accordance with it sharp necessity in the development of the unique methodology for regulation tariffs in state, regional and municipal levels occurs. Unique approaches to the state tariff regulation are necessary which would provide coordination tariffs on gas, heatsupply and other services with the direct consumers' possibilities of these services (population, budget offices and other organizations). Regulation of «Azerheatsupply» JSC activity includes three main components: determination of company's aims, fixing and confirmation of tariffs and compulsory monitoring. It gives opportunity to the local municipalities to carry out their responsibilities on consumers: regular and qualitative providing with heat. It is necessary that the system of tariff regulation would stimulate O JSC to:

- formation of arranged production and investing programs of financial resource;
- wide attraction of private investments;
- reduce of the cost, increase of the quality of services;
- opportunities of finding the balance between financial resources and consumers' solvency.

Recently local markets of heatsupply formed by the division of monopoly transporters and energy producers are created. It is connected with that at a big number of municipality there is surplus of heat energy power, it means also

lower cost. Its purchase from “cheaper” producers appears. Availability of considerable numbers of subsidiary firms and branches with share capital which have both main gas pipelines and enterprises on energy production lay obstacles of to the implementation of local markets.

Investments of JSC to the building, reconstruction and modernization of boiler rooms were: in 2014 –15 mln.manats, in 2015–5 mln.man and for 3 quarters of 2016–4 mln.manat. It’s necessary to mention that further development of heatsupply and quality increase of offered services without financial support is impossible. The author shows that at present the special stress is laid on the strict control on the consumption of private financial resources and budget receipts subsidies and transfers. Subsidies for «Azerheatsupply» OJSC have been given in table 3.

As the budget banknotes are the base of financial resources of OJSC, their effective use is one of the important requirements to «Azerheatsupply». Achievement of the expected heatsupply efficiency an be done at the expence of:

- reduce of heat loss not less than 6% of total power of heat sources by using new means of heat protection of buildings and heating mains;
- wide implementation of local heat systems, which supply more than 20% of total power of heat sources and increase of reliability of operating enterprises and heating mains;
- application of modern energy saving technologies and innovations.

Table 3  
State subsidies on the development of «Azerheatsupply» OJSC infrastructure th.manats

Indices	2014	2015	2016
Deducted	21561,4	22614,7	18000
Consumpted	21561,4	22614,7	18000
Including			
For used natural gas	6599,4	9200,2	9594,6
For electroenergy	1200,0	1275,0	1307,8
For services of water supply and sewage	605,0	598,0	413,0
For energy received from «Azerheatsupply» OJSC	46,0	445,0	4260
Salary	7711,4	6267,9	2879,2
Deducted from the salary	1696	1378,9	633,4
Tax on added cost (TAC)	3289,1	3449,7	2746,0

Source: Materials of JSC «Azerheatsupply»

Present shortcomings qualitative level of farewell supply, availability of constructive-technical shortages and considerable share of living fund require increase of consumption of heat power resources and water. In the developed western countries by saving energy the accommodation payment decreases. For example, in the USA and Great Britain it is decreased 20-30%, and design companies providing economy of energy resources get low percent credits and privileges. Considering positive experience of western countries, (MGI [www.globalhousingindicators.org](http://www.globalhousingindicators.org)). Azerbaijan develops arrangements on the saving of heat power resources.

In the countries of western Europe multistage and mono-stage forms of income report are used. (A.Calza, T.Monacell & I.Suacca (2013).

Table 4  
Incomes from «Azerheatsupply» OJSC soles

Indices	2014	2015	2016
Population	2793,1	39,10,6	3950,3
Budjet	5256,7	5389,1	8069,0
Other	112,5	156,5	166,6
Total	8162,3	9456,2	1285,9

Source: Materials of «Azerheatsupply» OJSC

Data of the table show that incomes on all indices have been increased recently .

The main task of efficiency of commercial activity of joint stock company is the control of means movement, that is their receipt and payments for special purposes. Means movements are determined by the conceptions as finances, money funds, money flows in the given time period. Effective control of money flows determines the development plan of their movements, discount and analysis. In foreign countries means flows are associated with “cash flow” conception, “positive cash flow”, when means receipt exceeds their consumption. In contrary, “negative cash flow” occurs. Analysis of the available information makes possible to judge either about efficiency of investment financing and company prosperity or about its oncoming bankruptcy.

Balance of joint stock company reflects its financial state at definite time period. Receipt of means directly affects both stock holders- dividends receivers and creditors returning their debt. Joint stock is interested in the availability of free means, as possibility to attract private investments and paying off debts.

In western countries direct and indirect methods for calculation of receipts are used, however they are both based on division of receipts and consumptions to 3 groups (table 5):

- from operation activity;
- from investment receipts;
- from financial activity.

Operation activity characterizes money turnover in the sphere of main activity of joint stock company. Flows for payments to suppliers for wages to the workers, for tax and etc are included into the structure of money flows from operation activity.

Investment activity of the joint-stock company is usually followed by receipt of money from the sale of securities and shares. In «Azerheatsupply» OJSC shares 100% belong to the state. Inflow of finance is mainly running on construction and buying of equipment in OJSC enterprises. Financial activity of joint stock characterizes balance between financial flow coming from outside and inside the company. In flow of finance include receipt from placing emission shares, getting credits, but outflow of finance-credits payment.

Table 5  
Means movement of «Azerheatsupply» OJSC, manats

	2014	2016
<b>Operation activity</b>		
Means coming from customers	1634392	2870420
<b>Total:</b>	1634392	2870420
<b>Outflow of finance</b>		
Means to suppliers and workers	-	-
Means paid to supplier	2516450	28801270
Means paid to workers and from their name	3686616	3719611
Settle accounts with the staff on other operations	588606	608534
Paid income tax	-	-
<b>Total</b>	6791372	35129415
Pure means received from operations	5157280	32258995
<b>Investment activity</b>		
Pure means used in burancid activity	156680	-
Pure growth (decrease) of means and means equivalents	156680	-
<b>Financial activity</b>		
Expedient financing and recerpts	5016649	31436116
Pure means used in burancid activity	5016649	31436116
Pure growth (decrease) of means and means equivalents	297311	822879
Means and means equivalents at the beginning of the year	3099068	2801757
Means and means equivalents at the end of the year	2801757	1978878

Source: Materials of «Azerheatsupply» OJSC

Real data on workers' quantity and labour payment for 2014-2016 in «Azerheatsupply» OJSC have been presented in table 6. In comparison with 2014 in 2016 new work places were created and the number of workers increased more than 20%. However, level of average wage remained about at the same level. It testifies though the country went out of the crisis conditions reviving of economy stabilization of finance, any noticeable improvements and structural changes haven't taken place in «Azerheatsupply» OJSC.

Table 6  
Wage payment and number of workers in «Azerheatsupply» OJSC

Indices	Measure unit	Years		
		2014	2015	2016
Average number of workers	man.	1974	2191	2409
Labour payment fund	th.manat	7498,4	8567,1	9366,5
Average wage		316	329	324
Including				
Managers of the sections, boiler rooms and services		411/1439,6	593/1680,4	503/1841,6

Specialists and workers	manat	318/1112,2	229/915,4	260/927,1
Workers	manat	292/4946,6	224/5911,3	304/6597,8
Total:	manat	7498,4	8567,1	9366,5

Source: Materials of «Azerheatsupply» OJSC

Note: Wage fund is shown in denominator.

Fluctuation of workers is the complex socio-economic process which causes damage both to the stock companies and economy of the country in whole.

Annually approximately 113 min or 5,2% are dismissed at their own will, for shirking and other infringements of labour discipline in «Azerheatsupply» OJSC. Fluctuation of workers in 2014 was 5,6% (110 mln), in 2015-4,9% (107 man), but in 2016-5,1% (123 mln). Fluctuation of engineer-technical personnel isn't observed.

Corresponding researches for complex study of fluctuation in the sections of joint stock company have been carried out by the author by questioning workers and ETP and processing the data in ECM. The investigation has been organized so that each dismissed had answered questions concerning dismissal motives, living standarts, income of each member of the family education and others. As a result the following structure of dismissal has been obtained due to: the unsatisfactory level of labour organization–25,5%., unsatisfactory living conditions–18,2%, change of profession–14,6%, change of place of living–5,7% absence of kindergartens, nursery schools and other conditions of life–10,2%, hard labour conditions–5,6%; low wage– 20,2%.

Thus, three main groups of dismissal on their own will characterizing structure and size of fluctuation of manpower in the joint stock company have been determined: 1) dismissal connected with the level of labour organization; 2) dismissal connected with unsatisfactory size of wages; 3) dismissal connected with shortage of accommodation, kindergartens, nursery schools and other living conditions. It has been seen here that more than half are dismissal motivating their leaving with the reasons among which labour and living conditions are in the first place. Generalization of research materials showed that manpower fluctuation in the joint stock company influences negatively on a number of industrial indices: labour productivity decreases, cost increases, psychological climate in lower industrial teams worsens, qualification of workers reduces and etc. All these cause the cases of accidents in the industry.

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