

# PUBLIC ATTITUDE TO ENERGY SECURITY IN LITHUANIA

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*The relevance of this article is based on the aim to reveal public opinion towards the most important aspects of energy security and to compare the data of years 2017 and 2013. The results of empirical surveys (public polls carried out in 2017 and 2013) are used to demonstrate the public attitude to energy security and its main aspects.*

*Three main tendencies can be distinguished: since 2013, society has become better informed, more critical and more supportive at the same time. This resulted in the change of the position of six aspects (three went up and three — down) in the overall hierarchy of the most important energy security aspects.*

## Introduction

Traditional definition of energy security usually is based on three main aspects — availability, affordability, and reliability of supply. Energy security, however, is a multifaceted and highly complex issue to unravel. Even though the definition of energy security is variable and depends on diverse interests of different countries, it is possible to grasp a more consistent approach, which puts focus not only on the ability of the energy system to provide energy for the consumers in acceptable prices, but also on its ability to withstand the threats of technical, environmental, economical, political, and social nature<sup>1</sup>. Along with the discussions considering the political and economic consequences there is growing concern in academic literature to expand the definition by involving public perception<sup>2</sup>. The

engagement of the public into energy security usually is rationalised by three arguments: the public has a democratic right to be a part of the debate regarding risks, threats and solutions; the decision will be better and more inclusive; and solutions will be more readily accepted.<sup>3</sup>

It is not easy to balance the state's strategic objectives and public interest, especially if the latter is little known. Research on the public perception of energy security was rarely performed<sup>4</sup> until recently. A number of attempts of revealing different angles of the problem<sup>5</sup> have disclosed several tendencies. Even though the perception of energy security in Lithuania is quite broad, the main interest lays in cheap energy prices and reliable supply. A large part of society recognises threats deriving from Russia and support the

statement “Lithuanian government’s energy policy seeks to limit the interests of Russia”, but only a small part is willing to support energy security by personal contribution. However, a large part of society lacks information, especially regarding more specific and publicly less discussed aspects of energy security. The government has acknowledged that it might be very hard (or even impossible) to implement strategic projects if they fail to correspond with public interest (as is the case with the development of VNPP or shale gas<sup>6</sup>).

That was a picture a few years ago when Lithuania (along with other Baltic States) used to be deservedly referred to as “Energy Island”. A drastic but positive change happened in late 2015, when the LNG terminal “Independence” was launched, and successful completion of electricity links with Poland and Sweden has helped to dispose of the “island” status. Figuratively speaking, persistent efforts, careful planning, and smart politics have helped Lithuania to emerge as a new bright energy security star among many Eastern European countries.

Both integration and contribution of private business into the country’s energy system should be noted: Lithuania rapidly fulfilled the quota of renewable energy regarding the development of wind power and solar energy, meanwhile biomass in many cities has become a major raw material for centrally supplied heating. The success of the apartment building renovation programme has allowed reduction of formerly extremely high heating prices for a large part of society.

Finally, a global trend like the decline of oil and gas prices also has successfully contributed to mitigation of main energy security threats. Bearing in mind all of the above aspects, a question still remains: whether and how this has affected public attitude to energy security?

The goal of the article is twofold — to reveal public opinion towards the most important aspects of energy security and to compare the data of 2017 with results of 2013.

## Public perception of energy security

A representative survey was conducted by public opinion research company “Vilmorus” in March 2017. The number of respondents was 1002, interviewed were 18-year-old and older residents of Lithuania. Method of survey: questioning respondents at home using pre-made questionnaires. Method of selection: multi-stage, probabilistic sampling. The selection of respondents was prepared such that each resident of Lithuania should have an equal chance of being questioned. The results reflect the opinion of the entire population of Lithuania and distribution by age, sex, place of residence, education, purchasing power. Error of survey results — 3% (probability — no less than 97%).

Similarly as before, for identification of the most important energy security aspects, respondents were provided a vast variety of energy security aspects for evaluation according to personal opinion. The energy security aspects were formed in line with Lithuanian strategic interests and covered different angles of energy security: diversification (of energy suppliers as well as resources), reliability (of supply and infrastructure), independence (from foreign states (mainly Russia) as well as monopolistic practices), ability to take advantage of international political relations (e.g., EU, NATO) to defend Lithuanian interests, lastly — evaluation of strategic projects to be implemented in upcoming future (renewable energy, shale gas, nuclear energy). In order to have the opportunity of comparison, most of them were left the same as before. Having in mind some changes on the national level two additional aspects were added to the list (questions 15 and 16, see Figure 1). Question 15 is

related with new (or at least newly articulated) strategic aim — to synchronise the electricity grid with continental European zone. Question 16 — quite an ambivalent one — to mitigate the development of nuclear energy in neighbouring countries, first of all in Astravyets (Belarus) and Kaliningrad (Russia).

The survey revealed some interesting trends.

Almost all of the listed energy security aspects were evaluated as very important. Only three out of sixteen aspects scored less than 50%, meanwhile twelve scored more than 70%. The most important three aspects are: *The price of energy resource* (Q4) — 93.4%, *Reliability of energy service supply* (Q5) — 91.9%, and *Reliability of energy infrastructure (pipelines, electric transmission networks, power plants and so on)* (Q1) — 90.5%.

The research shows continuing ambiguous evaluation of nuclear energy. Only

a bit more than one-third of society mentioned nuclear energy as *important*, while 42.9% answered that the *Development of nuclear energy was absolutely unimportant or unimportant* for Lithuanian energy security, and one-fifth of the respondents (20.2%) were undecided concerning this issue.

Evaluation of *Development of shale gas extraction* has increased, but still remain ambiguous: 41.3% of respondents believe that it is an *important* aspect of Lithuanian energy security, and yet 37% believe that it is an *unimportant* aspect, finally, 21.7% were undecided on this issue.

Evaluation of two new aspects was quite different. 71.8% of respondents agreed with the importance of *The synchronization of Lithuanian electricity grid/system with the European Union synchronous zones (Continental European networks or the Scandinavian system Nordel)* (Q15). 46.3% of respondents agreed with the importance of

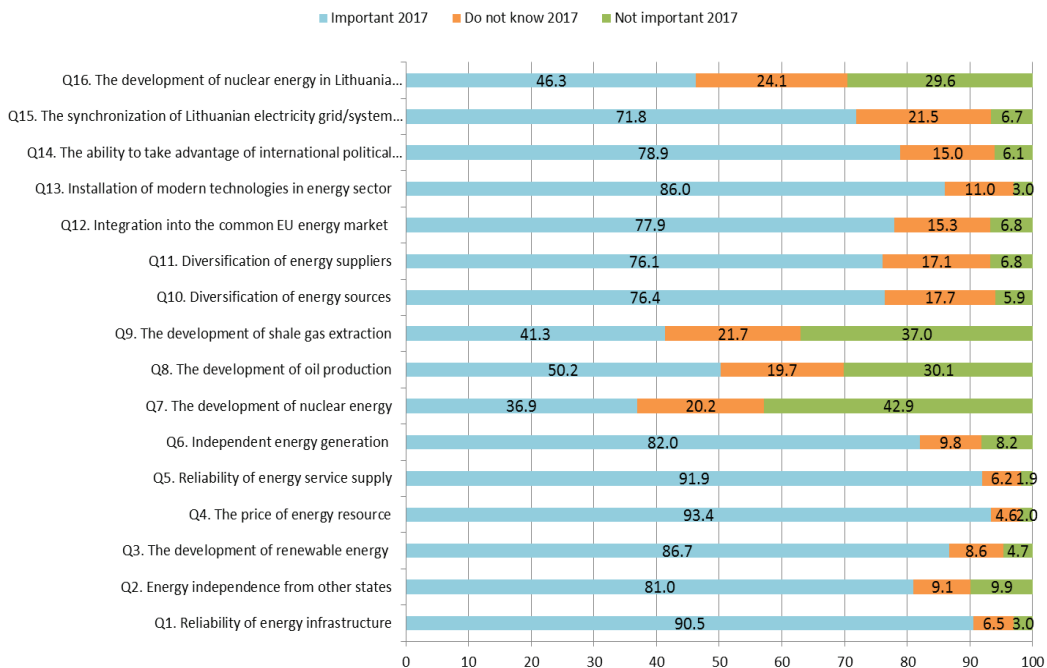


Fig. 1. The importance of energy security aspects for Lithuania

The development of nuclear energy in Lithuania neighborhood (Astravyets in Belarus and the Baltic Kaliningrad nuclear power plant) (Q16). The common similarity though is that in both cases more than one-fifth of respondents (21.5% in Q15, and 24.1% in Q16) agreed on its unimportance. However, 29.6% were undecided regarding the development of nuclear energy in neighbouring countries, and only 6.7% — regarding synchronisation.

Comparing the data with the results of 2013, several tendencies can be distinguished. By looking at what aspects were not important for respondents, the most notable difference, as might be expected, derives from *The development of nuclear energy*. While in 2013 it was one of the most irrelevant (24.1% — not important) project according to public, in 2017 it became the most irrelevant aspect of energy security (42.9% — not important). *Shale gas back*

in 2013 scored the worst result (28.6% — not important), and it seems society is sticking to the same opinion (37% — not important). The third so-called irrelevant aspect remained as it was in 2013 — 17.3% (not important) the *Development of oil extraction* — 30.1% (not important).

Figure 2 shows some other changes that are not as drastic as previously mentioned, but still notable. Unexpectedly enough, society became almost twice sceptical towards *The ability to take advantage of international political relations (e.g. EU, NATO) to defend Lithuanian interests* (not important — 3.5% in 2013, and 6.1% in 2017). Another notable drop of importance is related to public evaluation towards *Independent energy generation*: not important — 5% in 2013, and 8.2% in 2017. Finally, *Energy independence from other states* after four years also received worse evaluation: not important — 6.4% in 2013, and 9.9% in

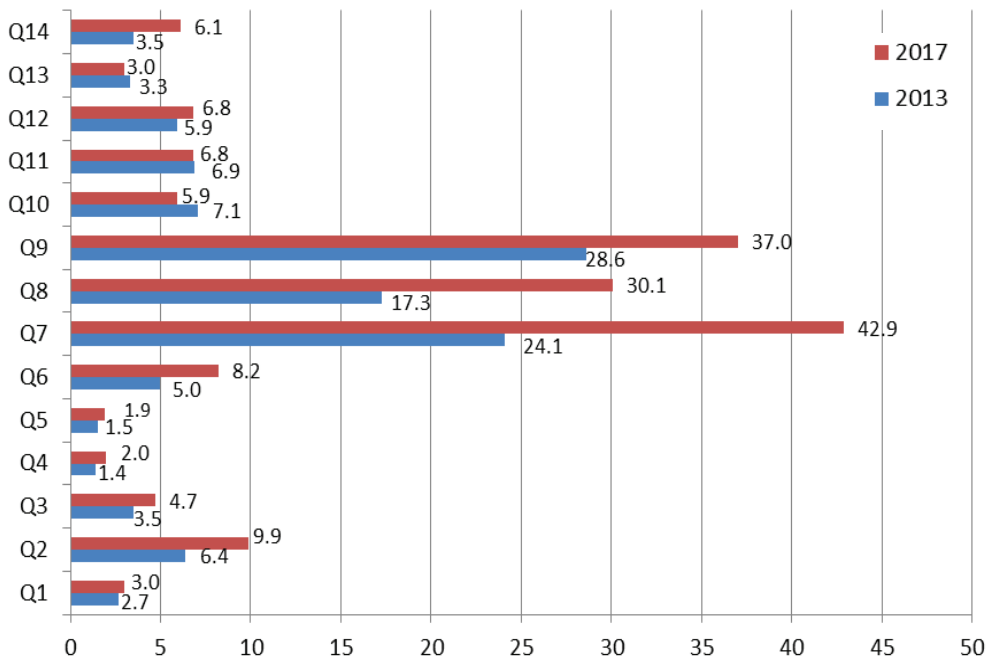


Fig. 2. Evaluation of energy security aspects. The results of Not important category

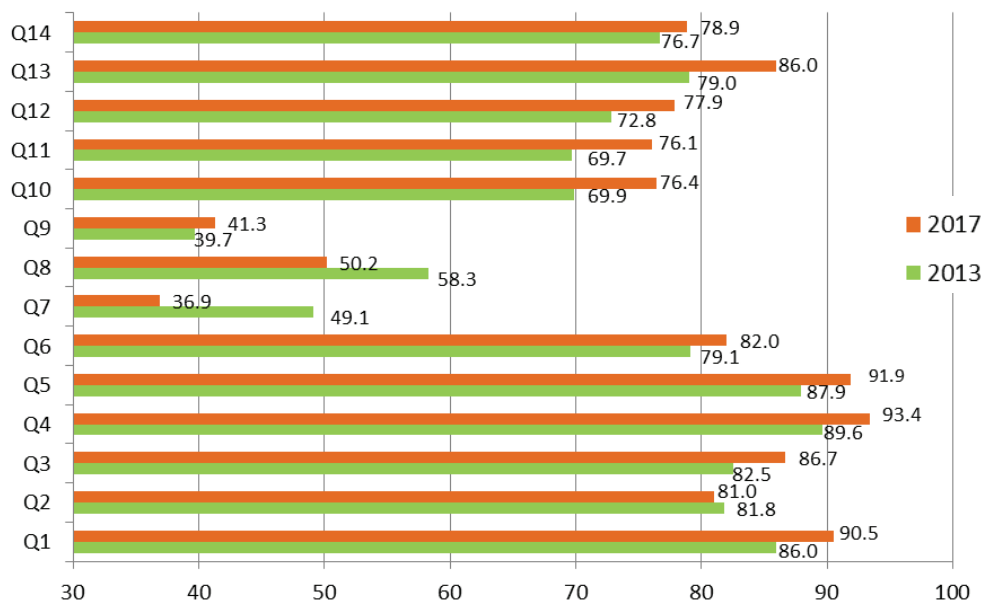


Fig. 3. Evaluation of energy security aspects. The results of Important category

2017. The aggregated average of responses increase is 3.65%.

A notable change between 2013 and 2017 data is the general increase in the importance of all aspects. In 2013, two aspects (*Prices of energy resources* (89.7% important or very important) and *Reliability of energy supply services* (87.9% important or very important)) dominated as the most important; in 2017, as it was already mentioned, the third (*Reliability of energy infrastructure*) aspect joined this list, and all of them exceed 90% barrier.

Figure 3 shows notable increase of importance of 11 out of 14 aspects. However, the aggregated average of responses increased only by 1.94%. The reason is quite obvious — the substantial drop of the importance regarding two aspects (Q8 by 8.1% and Q7 by 12.2%).

Finally, probably the most important differences in the change of public perception derive from the category *Do not know*. In 2013, the lack of information, especially re-

garding certain aspects of Lithuanian energy security, which were less discussed in mass media, we emphasised as worrisome. For example, about one-fifth of respondents were undecided about: *Development of oil extraction*; *Diversification (diversity) of energy resources*; *Diversification (diversity) of energy suppliers*; *Integration into the common European Union energy market*; *The ability to take advantage of international political relations (e.g., EU, NATO) to defend Lithuanian interests*. Four years later the picture is much better (Figure 4).

We see the decrease in undecidedness of the public not only regarding the three most irrelevant aspects, or some less in the media discussed aspects, but regarding every aspect to compare. There were six aspects in regard of which more than one-fifth of respondents did not have opinion in 2013, while in 2017 there was only one such aspect. To explain this change in another words: while in 2013 undecidedness of the public was measured in double digits in thirteen out of

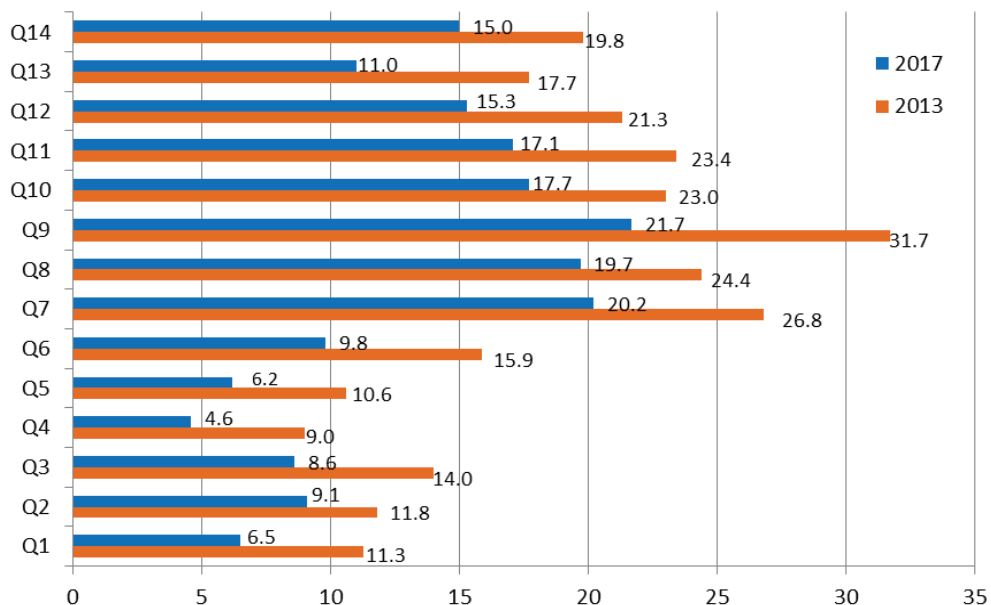


Fig. 4. Evaluation of energy security aspects. The results of Don't know/unanswered category

fourteen aspects, in 2017 only eight such aspects were left. The aggregated average of responses decrease is 5.59%.

### The most important aspects of energy security in public view

To list the most important aspects of energy security in public opinion we used the same five-point Likert scale. The disapproval of a particular aspect was marked 1, indecisiveness / not knowing — 3, and approval — 5. Increased average of the responses (e.g., when responses average is approaching 5) means a higher importance of the particular aspect from the point of view of respondents and conversely, lower average — lower importance (e.g., when responses average is approaching 1).

Table 1 reveals the ratings of the most important aspects of energy security in Lithuania amongst respondents in 2017 and 2013. The highest rank of 4.46 scored *The prices of energy resources*, while the lowest of 2.89 — *Development of nuclear en-*

*ergy*. The aggregated average of responses is 3.86, which means that most of the provided aspects according to respondents are important (where 1 = Not important at all, and 5 = Very important). We can see that only four aspects were evaluated distinctly below the average: *Development of nuclear energy* (2.89), *Development of shale gas extraction* (3.03), *The development of nuclear energy in Lithuania neighborhood (Astravyets in Belarus and the Baltic Kaliningrad nuclear power plant)* (3.20%) and *Development of oil extraction* (3.25).

By comparing the 2017 data with 2013 results, we see some notable differences. Even though we mentioned that the general average in the evaluation of the importance of energy security aspects has increased, the aggregated average of responses somehow decreased (from 3.87% to 3.86). The surprise is not the decrease (which is only 0.01%) itself, but the low number despite the increase in evaluation. This could be explained by the other tendency that has already been

*Table 1. The comparison of the importance of energy security aspects in 2017 and 2013*  
 (The increase of the aspect in position is marked in green, the decrease — yellow, new aspects — blue)

No.	Question	Evaluate the importance of the following aspects for Lithuanian energy security	Mean	SD	Mean	SD
			2017		2013	
1	Q4	The prices of energy resources	4.46	0.700	4.35	0.717
2	Q5	Reliability of energy supply services	4.36	0.697	4.25	0.715
3	Q1	Reliability of energy infrastructure (pipelines, electric transmission networks, power plants and so on)	4.27	0.729	4.12	0.730
4	Q13	Implementation of modern technologies in the energy system	4.24	0.781	4.05	0.807
5	Q3	Development of renewable energy	4.18	0.801	4.06	0.763
6	Q14	The ability to take advantage of international political relations (e.g., EU, NATO) to defend Lithuanian interests	4.05	0.880	4.01	0.817
7	Q6	Independent energy generation	4.05	0.893	4.00	0.811
8	Q2	Energy independence from other states	4.01	0.919	4.02	0.838
9	Q12	Integration into the common European Union energy market	3.97	0.878	3.88	0.842
10	Q11	Diversification (diversity) of energy suppliers	3.96	0.863	3.81	0.866
11	Q10	Diversification (diversity) of energy resources	3.95	0.833	3.80	0.860
12	Q15	The synchronization of Lithuanian electricity grid/system with the European Union synchronous zones (Continental European networks or the Scandinavian system Nordel)	3.91	0.882	-	-
13	Q8	Development of oil extraction	3.25	1.170	3.50	1.016
14	Q16	The development of nuclear energy in Lithuania neighborhood (Astravets in Belarus and the Baltic Kaliningrad nuclear power plant)	3.20	1.268	-	-
15	Q9	Development of shale gas extraction	3.03	1.229	3.08	1.117
16	Q7	Development of nuclear energy	2.89	1.235	3.30	1.101

discussed and the fact that the general average in the evaluation of unimportant energy security aspects also has increased. Hence, four aspects were evaluated distinctively below average and that is why the aggregated average remained almost the same.

Finally, we see that all these changes resulted in the change of position of six aspects: when three of them (*Development of renewable energy*, *Energy independence from other states* and *Development of nuclear energy*) dropped down even while some of its score has increased, and four other (*Implementation of modern technologies in the energy system*, *The ability to take advantage of international political relations (e.g. EU, NATO) to defend Lithuanian interests*, *Independent energy generation* and *Development of shale gas extraction*) — increased even on the contrary, some of its score has decreased.

## Conclusions

The research shows that a variety of aspects are taken into account in public perception on energy security. Three of the most important aspects are *The prices of energy resources* (Q4) — 93.4% important, *Reliability of energy supply services* (Q5) — 91.9% important and *Reliability of energy infrastructure (pipelines, electric transmission networks, power plants and so on)* (Q1) — 90.5% important. The three less important ones: *The development of nuclear energy* (42.9% not important); *The development of shale gas* (37% not important); *The development of oil extraction* (30.1% not important).

Two new aspects were added for public evaluation. 71.8% of respondents agreed with the importance of *The synchronization of Lithuanian electricity grid/system with the European Union synchronous zones (Continental European networks or the Scandinavian system Nordel)* (Q15). 46.3% of respondents agreed with the importance of *The*

*development of nuclear energy in Lithuania neighborhood (Astravyets in Belarus and the Baltic Kaliningrad nuclear power plant)* (Q16).

Comparing the data with the results of 2013, three main tendencies can be distinguished. First, society has become better informed. The aggregated average of *don't know* or *unanswered* category dropped by 5.59%. Second, society has become more critical. Only two out of fourteen aspects in 2013 were evaluated with stronger scepticism/critical attitude comparing with 2017 data. The significant decrease in the importance of three aspects (which we already presented as the most irrelevant in public view) is worth mentioning: *The development of nuclear energy* (in 2013 — 24.1%; in 2017 — 42.9% not important); *The development of shale gas* (in 2013 — 28.6%; in 2017 — 37% not important); *The development of oil extraction* (in 2013 — 17.3%; in 2017 — 30.1% not important). Third, the importance of 11 out of 14 aspects increased. However, the aggregated average of responses increased only by 1.94%. The reason is quite obvious — the substantial drop of the importance regarding two aspects (Q8 by 8.1% and Q7 by 12.2%). This resulted in the change of the position of six aspects (three went up and three — down) in the overall hierarchy. However, the most important aspects remained the same as in 2013.

The society seems to hold on to the opinion that the development of nuclear energy and shale gas extraction is dangerous. It could be related not only to the criticism of Visaginas Nuclear Power Plant in the media but also to the development of nuclear energy in Lithuanian neighbourhood (Astravyets in Belarus and the Baltic Kaliningrad Nuclear Power Plant). However, the overall conclusion can be made that after four years the Lithuanian population feels more secure in respect to the energy security issues.



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## Kopsavilkums

**Atslēgas vārdi:** *enerģētiskā drošība, sabiedrības priekšstats, cena, piegāžu drošums*

Raksta nozīme izriet no tā mērķa — atklāt sabiedrības attieksmi pret svarīgākajiem enerģētiskās drošības aspektiem un salīdzināt 2017. un 2013. gada datus. Lai parādītu sabiedrības attieksmi pret enerģētisko drošību un tās galvenajiem aspektiem, izmantoti 2017. un 2013. gadā veikto empirisko sabiedrības aptauju rezultāti.

Var izcelt trīs galvenās tendences: kopš 2013. gada sabiedrība ir labāk informēta un kļuvusi kritiskāka un vienlaikus arī atsaucīgāka. Tā rezultātā seši aptaujā iekļautie aspekti ir mainījuši nozīmīgumu kopējā svarīgāko enerģētiskās drošības aspektu hierarhijā (triju aspektu nozīme ir paaugstinājusies, triju — pazeminājusies).