

Gender-disaggregated analysis

of the availability of employment opportunities and benefits
created in the energy sector of Ukraine



1. Socio-demographic structure of the sample

The sample covers respondents employed by the companies of the energy sector of Ukraine and was formed based on the desire to ensure equal chances of being included in the sample population for women and men, representatives of all age and professional qualification groups. The questionnaire includes questions that relate directly to the respondents and questions that characterise the situation of their household members. This makes it possible to consider those employed in the energy sector of Ukraine as the general population with regard to the block of questions characterising the situation, and the entire population of Ukraine with regard to questions about the respondents' household members. The representation of women, men, IDPs, and persons affected by Russian military aggression in the sample allowed us to obtain statistically significant estimates for all these categories of the population.

Total number of respondents: 627 people found suitable for analysis (n): 618 questionnaires (Table 1.1). Women accounted for 55.5% of the total number of respondents whose questionnaires were found suitable for analysis, while men made up 44.5% of the working sample.

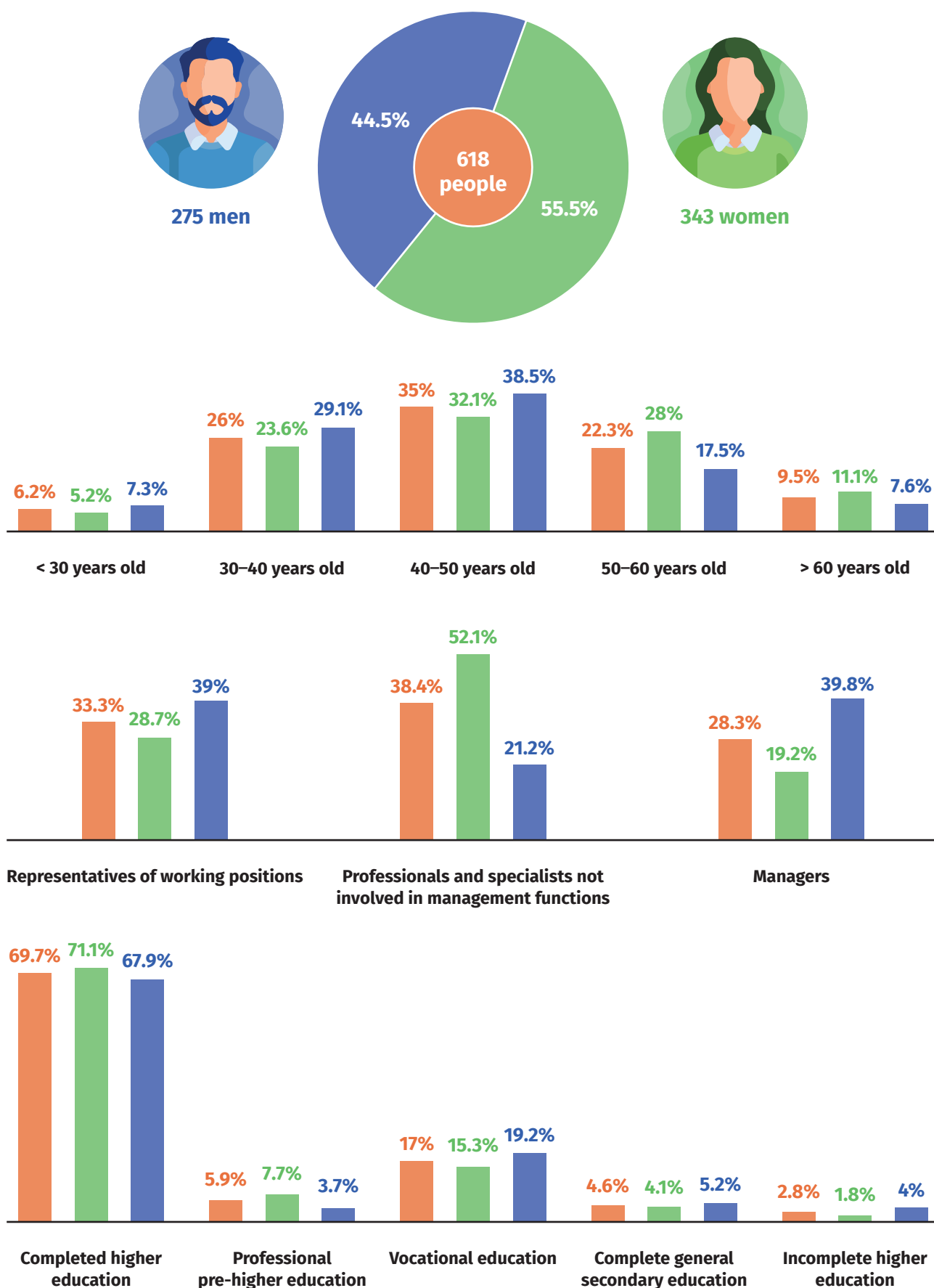
Table 1.1

Socio-demographic structure of the sample

	Total		Women		Men	
	people	% of those who gave answers	people	% of those who gave answers	people	% of those who gave answers
Respondents whose questionnaires were found suitable for analysis	618	100%	343	100%	275	100%
Under the age of 30	38	6.15	18	5.25	20	7,27
Aged between 30 and 40 years	161	26.05	81	23.62	80	29,09
Aged between 40 and 50 years	216	34.95	110	32.07	106	38,55
Aged between 50 and 60 years	144	23.3	96	27.99	48	17,45
Over 60 years old	59	9.55	38	11.08	21	7,64
Representatives of working positions	199	33.28	96	28.74	103	39,02
Professionals and specialists not involved in management functions	230	38.46	174	52.1	56	21.21
Managers	169	28.26	64	19.16	105	39.77
Completed higher education (master's, bachelor's degree)	425	69.67	241	71.09	184	67.9
Professional pre-higher education	36	5.9	26	7.67	10	3.69
Vocational education	104	17.05	52	15.34	52	19.19
Complete general secondary education	28	4.59	14	4.13	14	5.17
Incomplete higher education (currently studying at a university or have stopped/suspended your studies before receiving a diploma)	17	2.79	6	1.77	11	4.06

Figure 1.1

Socio-demographic structure of the sample



The average age and educational level of female and male respondents do not have statistically significant differences, both in terms of average values and proportions of distribution by age and educational groups.

In particular, the average age of female respondents is 46 years, and 43.6 years for men; young people under 30 years of age account for 5.3% of women and 7.3% of men, and the oldest age group over 60 years of age – 11.1% of women and 7.6% of men.

Among women, 71.1% of respondents have completed higher education, and among men – 67.9%; vocational education – 15.3% of women and 19.2% of men. The fairly identical structure of the male and female components of the sample makes the comparative analysis of general (average) indicators for women and men more important, as it will reflect differences in groups of women and men with comparable (close) age and educational structure.

2. Availability of employment in the energy sector

The first criterion used to assess the accessibility of career opportunities in the energy sector of Ukraine for women and men is the distribution of the number of respondents across three groups of jobs (positions): working positions, positions of specialists and professionals not involved in management functions, and positions of managers (Table 2.1).

There are statistically significant differences in the proportions of women and men in the categories of positions. Women are clearly dominated by those who hold positions with high qualification requirements, but whose work does not involve the management functions of labour collectives: 52.1% of female respondents who answered the question about their current position at the time of the survey indicated such a job.

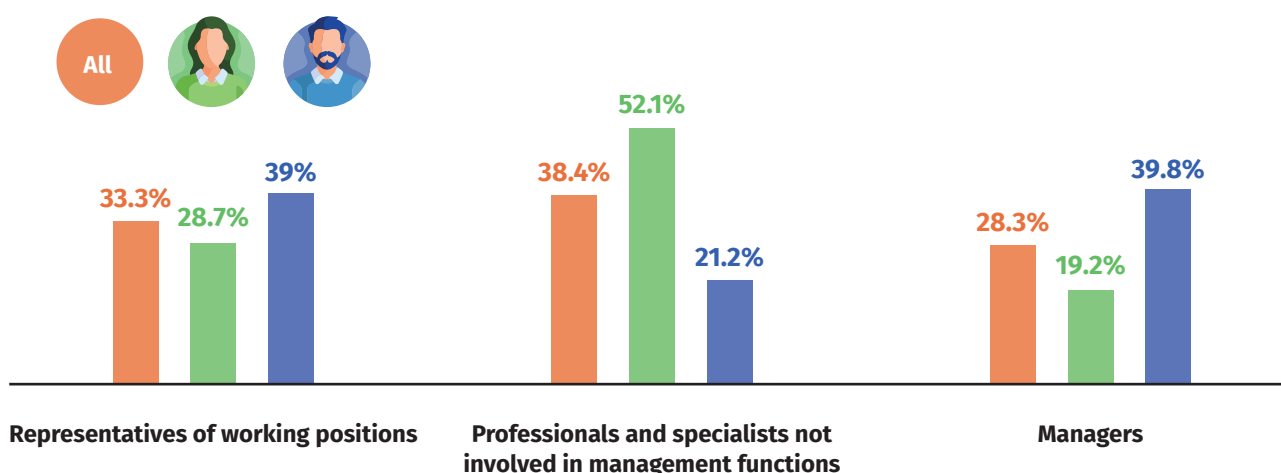
Table 2.1

Distribution of respondents by job categories (positions)

Category of jobs (positions)	All respondents		Women		Men	
	people	% of those who gave answers	people	% of those who gave answers	people	% of those who gave answers
Working positions	199	33.28	64	19.16	105	39.77
Specialists and professionals not involved in the management functions of labour collectives	230	38.46	174	52.1	56	21.21
Managers	169	28.26	96	28.74	103	39.02

Figure 2.1

Distribution of respondents by job categories (positions)



Among male respondents, only 21.2% are employed in positions of specialists and professionals that do not involve the management functions of labour collectives.

In contrast, 28.7% of women who answered this question and 39.2% of men hold managerial positions. Similarly, a higher proportion of men hold working positions: 39.8% of male respondents versus 19.2% of female respondents.

Accordingly, men are much more likely to be in charge of labour collectives.

Similar results are obtained when we analyse separately those women and men who have and do not have completed higher education (Tables 2.2 and 2.3).

Table 2.2

Distribution of respondents with higher education by job categories (positions)

Category of jobs (positions)	All respondents with higher education		Women with higher education		Men with higher education	
	people	% of those who gave answers	people	% of those who gave answers	people	% of those who gave answers
Working positions	60	14.63	20	8.62	40	22.47
Specialists and professionals not involved in the management functions of labour collectives	205	50	155	66.81	50	28.09
Managers	145	35.37	57	24.57	88	49.44

Table 2.3

Distribution of respondents without higher education by job categories (positions)

Category of jobs (positions)	All respondents without higher education		Women without higher education		Men without higher education	
	people	% of those who gave answers	people	% of those who gave answers	people	% of those who gave answers
Working positions	139	73.54	76	74.51	63	72.41
Specialists and professionals not involved in the management functions of labour collectives	25	13.23	19	18.63	6	6.9
Managers	25	13.23	7	6.86	18	20.69

Figure 2.2

Distribution of respondents with higher education by job categories (positions)

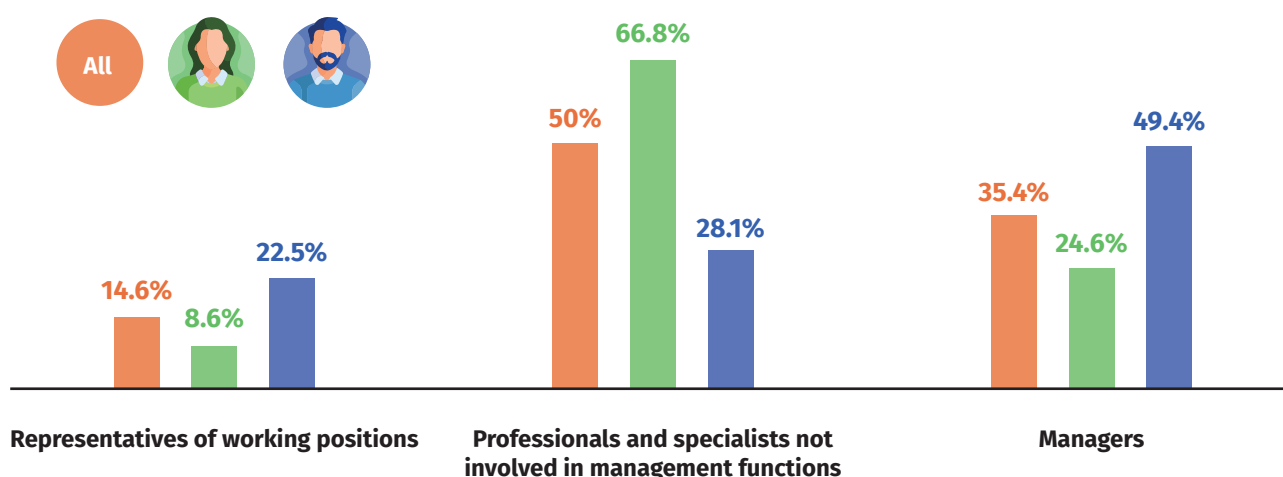
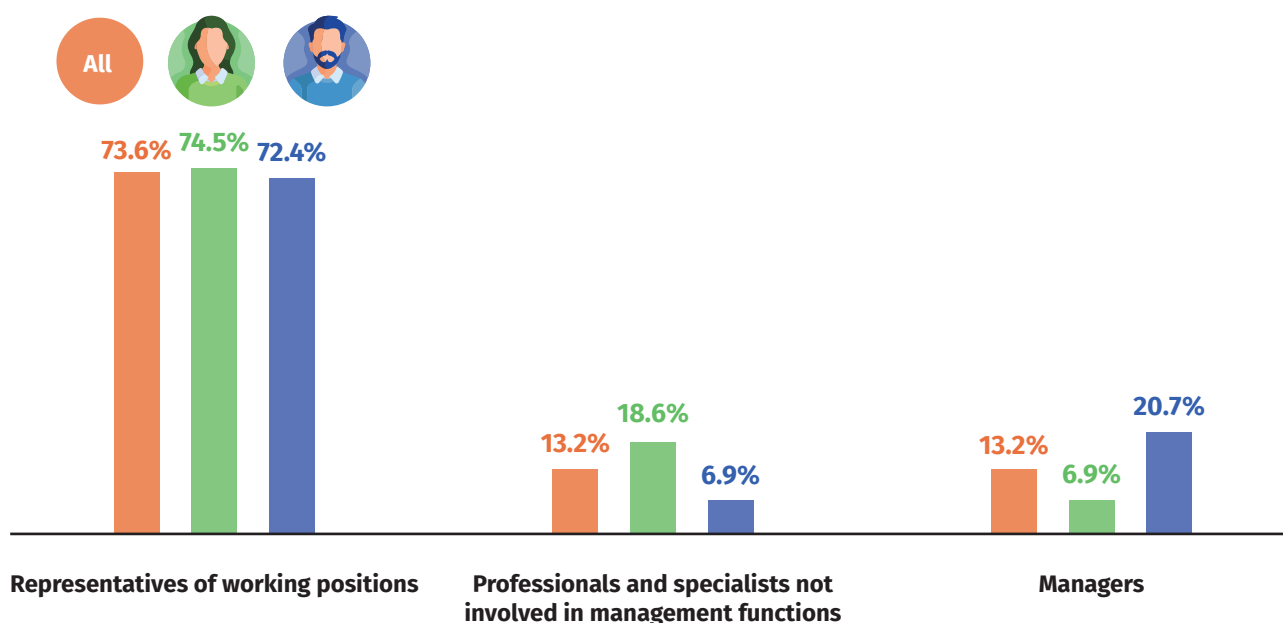


Figure 2.3

Distribution of respondents without higher education by job categories (positions)



Among the respondents with higher education, specialists and professionals who are not involved in the management functions of labour collectives clearly prevail: their share is 50% of all those who answered the relevant question.

Among women with higher education, 66.8% of all respondents hold such positions, and among men – 28.1% of respondents. Managerial positions are held by 24.6% of women with higher education and 49.4% of men with higher education. Finally, 8.6% of women with higher education and 22.5% of men with higher education are employed in working positions.

These data show, firstly, a clearly higher proportion of men employed in managerial positions. For all respondents, the excess of the proportion of men employed in managerial positions compared to women is 10.3 percentage points for all respondents and 24.9 percentage points for respondents with higher education. Thus, managerial positions are more accessible for men than for women, and the availability of higher education increases the gap in access to managerial jobs.

It is also noteworthy that the phenomenon of “overqualification” is much more widespread among men: when respondents with higher education are employed in working positions that do not require a higher education degree: 22.5% of men with higher education are employed in working positions, while only 8.6% of women with higher education are employed in working positions.

Respondents without higher education are clearly dominated by workers employed in working positions: 73.5% of respondents of both genders, 74.5% of female respondents without higher education and 72.4% of male respondents without higher education.

It is noteworthy that the lack of higher education is not an absolute limitation either for employment as specialists or in managerial positions (line management of primary labour collectives – positions of foremen, production site managers were also considered managerial – on the basis of the importance of managerial functions in the job description). In particular, only 13.2% of respondents of both genders without higher education were employed in managerial positions, with statistically significant differences between women and men: among women, only 6.9% of respondents without higher education were employed in managerial positions, and among men – 20.7%.

This distribution of responses may indicate the existence of unequal conditions for the availability of managerial positions for women and men, in particular, due to unequal application of formal requirements for compliance with the position for women and men. This phenomenon has been described in the scientific literature¹ and is called “men’s clubs”: being part of a certain gender monolithic (most often male, although “women’s clubs” are also potentially possible) environment allows to count on a more lenient application of formal requirements for “club members” (men), respectively, depriving women of such an opportunity.

The second criterion for assessing the availability of employment and careers in the energy sector is the speed of career advancement. The first measure of this rate is the number of times respondents were promoted. *Ceteris paribus*, this indicator will be higher for the group of respondents with longer work experience in the company, but the average work experience of women and men respondents is very close (14 years for women and 13.4 years for men), so even this initial indicator may well characterise differences in the dynamism of career advancement between women and men (Tables 2.4 – 2.6).

1 Windsor, Carolyn, and Pak Auyeung (2006). “The Effect of Gender and Dependent Children on Professional Accountants’ Career Progression.” *Critical Perspectives on Accounting* 17(6): 828–44. <https://doi.org/10.1016/j.cpa.2004.11.007>

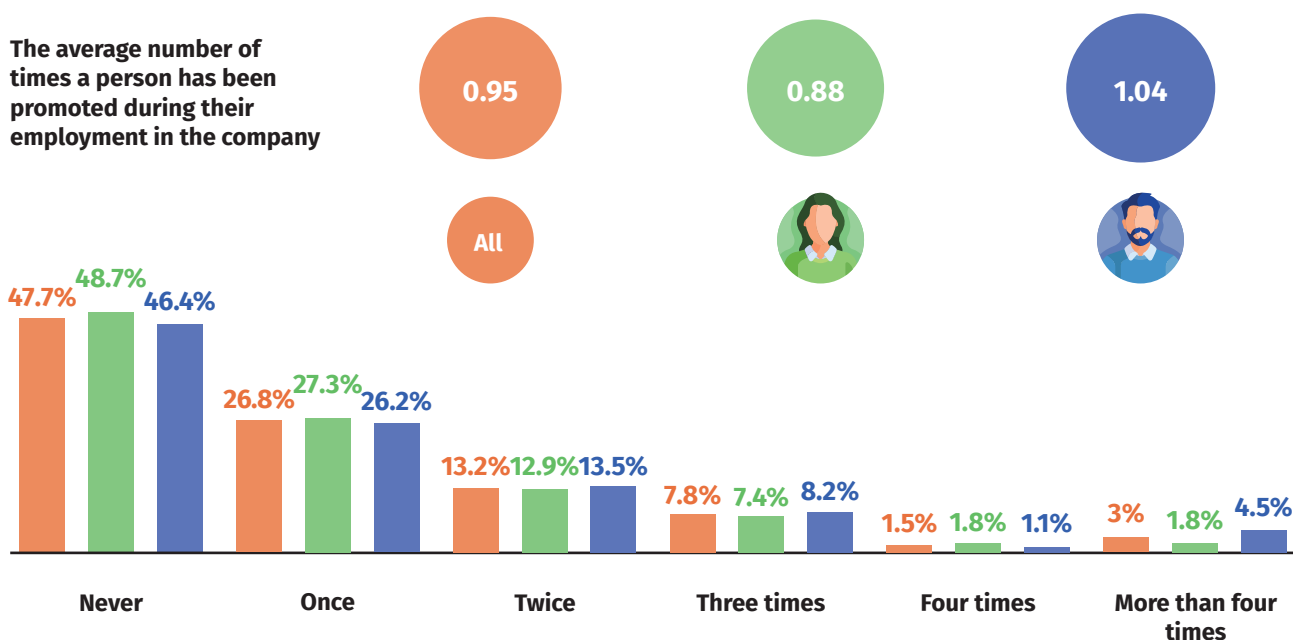
Table 2.4

The average number of promotions during the period of work in the company and distribution of respondents into groups with a certain number of promotions

	All respondents		Women		Men	
	people	% of those who gave answers	people	% of those who gave answers	people	% of those who gave answers
The average number of times a person has been promoted during their employment in the company	0.95		0.88		1.04	
Never	283	47.72	159	48.77	124	46.44
Once	159	26.81	89	27.30	70	26.22
Twice	78	13.15	42	12.88	36	13.48
Three times	46	7.76	24	7.36	22	8.24
Four times	9	1.52	6	1.84	3	1.12
More than four times	18	3.04	6	1.84	12	4.49

Figure 2.4

The average number of promotions during the period of work in the company and distribution of respondents into groups with a certain number of promotions



The data presented in the table shows moderate differences between women and men in terms of career advancement dynamics: on average, women have 0.88 promotions during their employment at the company, and men have 1.04. The distribution of the total number of female and male respondents into groups with different numbers of promotions is also very similar. Almost identical are the proportions of women and men who have not received any promotions at the time of the survey (48.8% of women and 46.4% of men); those who have received only one promotion so far (27.3% of women and 26.2% of men); and those who have received two promotions so far (12.9% of women and 13.5% of men).

The only typical case of unequal distribution concerns the respondents with the highest number of promotions: only 1.8% of women and 4.5% of men were promoted more than four times. This difference may indicate certain advantages that men have when it comes to the highest ranks in the energy sector. In particular, since such a large number of promotions require a fairly long period of employment in one company, it can be assumed that men are more strongly rewarded for loyalty and long employment in the company than women: for women, an increase in length of service leads to a smaller increase in the number of promotions than for men in the segment of particularly long employment in one company.

More pronounced differences in terms of equal availability of women and men to career opportunities are observed among respondents with higher education (Table 2.5). While for all respondents the average number of promotions for men was 18.1% higher than for women (1.04 vs. 0.88), for respondents with higher education the excess of the average number of promotions received during their employment by men over the average number of promotions for women is already 29.9% (1.25 promotions on average during their employment vs. 0.96 for women with higher education).

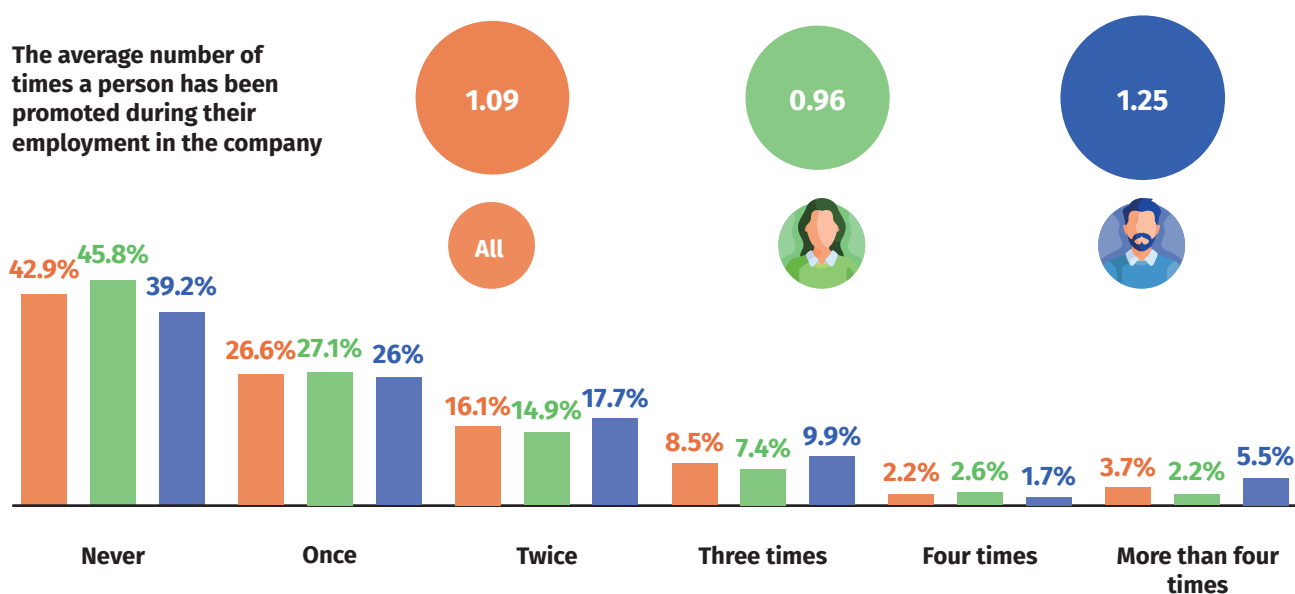
Table 2.5

Average number of promotions during employment and distribution of respondents with higher education into groups with a certain number of promotions

	All respondents		Women		Men	
	people	% of those who gave answers	people	% of those who gave answers	people	% of those who gave answers
The average number of times a person has been promoted during their employment in the company	1.09		0.96		1.25	
Never	176	42.93	105	45.85	71	39.23
Once	109	26.59	62	27.07	47	25.97
Twice	66	16.1	34	14.85	32	17.68
Three times	35	8.54	17	7.42	18	9.94
Four times	9	2.2	6	2.62	3	1.66
More than four times	15	3.66	5	2.18	10	5.52

Figure 2.5

Average number of promotions during employment and distribution of respondents with higher education into groups with a certain number of promotions



42.9% of respondents with higher education have never been promoted, including 45.9% of women and 39.2% of men. For the next three groups (one promotion, two promotions, three promotions), the proportions of women and men are very close (Table 2.5), and the share of those who had already received four promotions at the time of the survey is significantly higher among women (2.6% vs. 1.7% among men), and the share of those who had already received more than four promotions is twice as high among men (5.5% vs. 2.2% among women).

The data presented in Tables 2.4 and 2.5 can be interpreted as a sign that the return on investment in human capital is somewhat lower for women than for men: the transition to the group of respondents with only higher education is accompanied by a growing gap between the indicators of men and women, respectively, and the impact of improving educational level on career dynamics in the energy sector is more pronounced for men than for women. Thus, the average number of promotions received during employment at an company for men with higher education is 20.6% higher than for all men, while women with higher education received on average only 9.6% more promotions compared to all women. We can see that the advantage of the male indicator over the female one in the group of respondents with higher education (on average, men received 29.9% more promotions than women) is greater than the advantage of the group with higher education over the group of all respondents (14.8% for both genders).

This trend is confirmed by the data on respondents without higher education (Table 2.6).

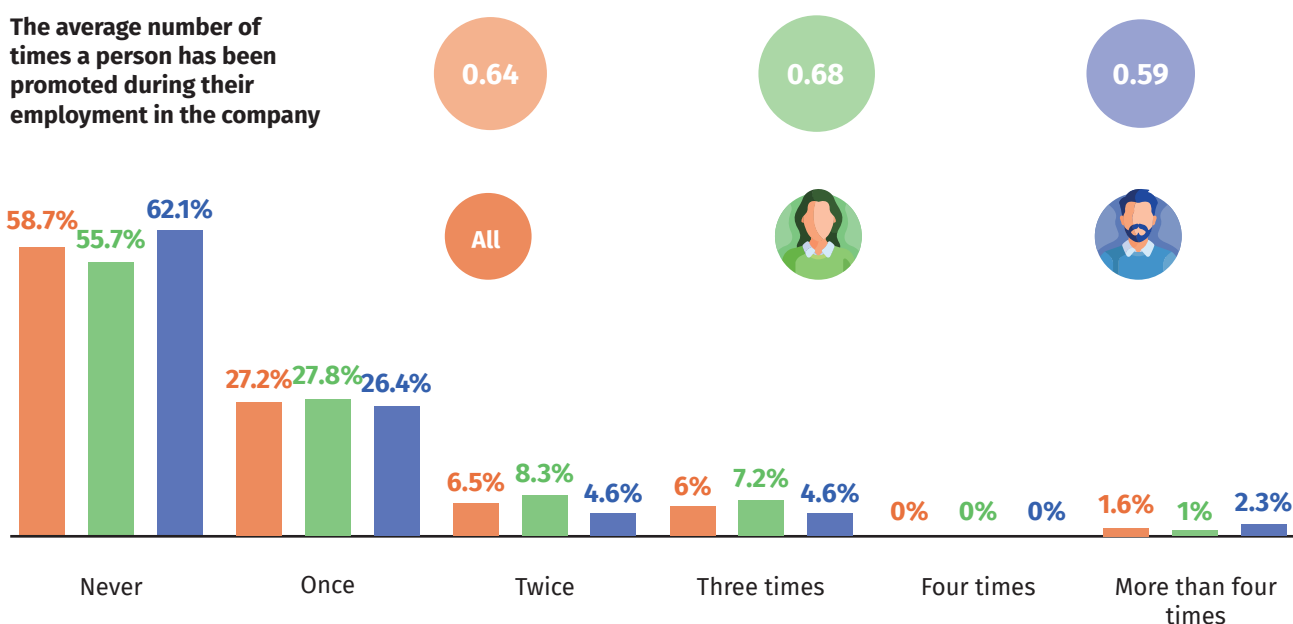
Table 2.6

Average number of promotions during employment and distribution of respondents without higher education into groups with a certain number of promotions

	All respondents		Women		Men	
	people	% of those who gave answers	people	% of those who gave answers	people	% of those who gave answers
The average number of times a person has been promoted during their employment in the company	0.64		0.68		0.59	
Never	108	58.7	54	55.67	54	62.07
Once	50	27.17	27	27.84	23	26.44
Twice	12	6.52	8	8.25	4	4.6
Three times	11	5.98	7	7.22	4	4.6
Four times	0	0	0	0	0	0
More than four times	3	1.63	1	1.03	2	2.3

Figure 2.6

Average number of promotions during employment and distribution of respondents without higher education into groups with a certain number of promotions



Women without higher education demonstrate a higher average number of promotions received during their employment in the company at the time of observation: 0.68 vs. 0.59. These data do not contradict the above hypothesis about the existence of additional obstacles for women who face formal restrictions on their career development. Indeed, women without higher education demonstrate higher activity in terms of career advancement than men of the same educational group, but these promotions leave them within the same group of jobs (positions). Moving up to positions with managerial functions remains more accessible for men, who face fewer barriers to accessing managerial jobs due to their lack of higher education.

The impact of higher education on the average number of promotions during employment is very significant: for both genders, representatives of the group with higher education received on average 70.8% more promotions than representatives of the group without higher education. Women with higher education received 41.6% more promotions than women without higher education, and men with higher education received 111.3% more promotions than men without higher education. The difference in the impact of higher education on the average number of promotions during employment clearly indicates that the acquisition of a higher education level has a greater positive impact on the dynamics of career advancement for men than for women.

3. Accessibility of energy sector products for consumers

The first characteristic of the achieved level of accessibility of those components of consumer welfare that depend on the functioning of the energy sector is the ability of consumers to maintain a comfortable indoor temperature (Table 3.1).

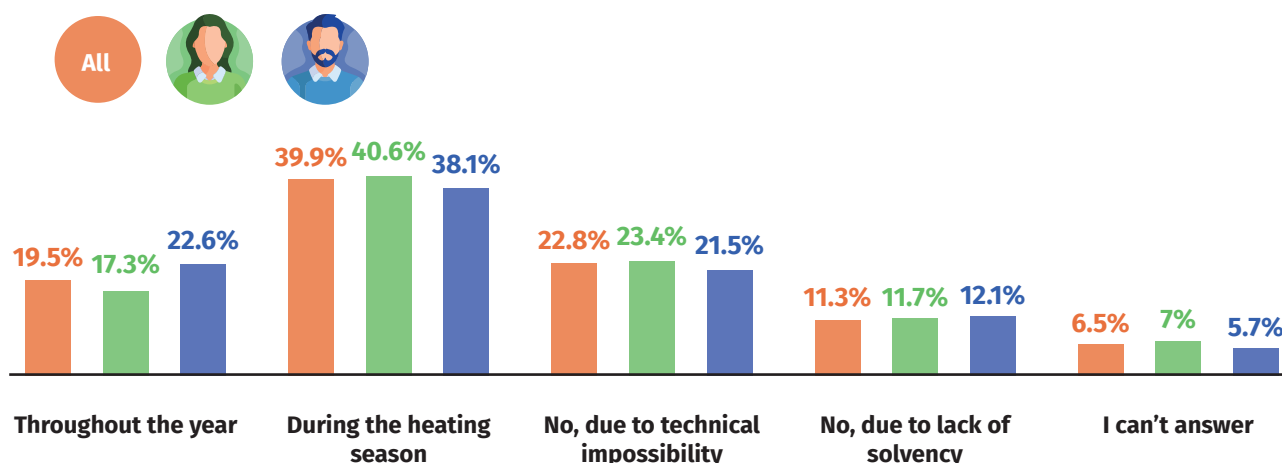
Table 3.1

Distribution of respondents by answers about their ability to maintain a comfortable temperature in their homes

	All respondents		Women		Men	
	people	% of those who gave answers	people	% of those who gave answers	people	% of those who gave answers
Throughout the year	117	19.47	59	17.25	60	22.64
During the heating season	240	39.93	139	40.64	101	38.11
No, due to technical impossibility	137	22.8	80	23.39	57	21.51
No, due to lack of solvency	68	11.31	40	11.70	32	12.08
I can't answer	39	6.49	24	7.02	15	5.66

Figure 3.1

Distribution of respondents by answers about their ability to maintain a comfortable temperature in their homes



This characteristic summarises the impact of a complex system of technological, economic, natural and climatic factors, and the extent to which the desired values are achieved depends not only on the parameters of the functioning of the energy sector. However, the analysis of such characteristics allows us to outline a range of urgent tasks for the inclusive development of the energy sector and the realisation of its potential to strengthen Ukraine's resilience to military aggression and ability to recover quickly.

Throughout the year, 19.5% of respondents (17.3% of women and 22.6% of men) can maintain a comfortable temperature in their homes. Accordingly, this is a group of respondents for whom the combination of technological and socio-economic conditions for access to the benefits provided by the energy sector can be considered favourable to meeting household needs. This is evidenced by the presence of indoor air conditioning, which indicates the diversification of sources of satisfaction of one of the basic needs: maintaining a comfortable temperature in the home.

The needs of households that answered that they were able to maintain a comfortable temperature in their homes “during the heating season” are met at an acceptable level. The total share of these two groups of respondents (59.4% of all respondents, 57.9% of women and 60.8% of men) characterises the share of the population with normal access to energy products that meet their needs for heating and air conditioning.

The next two groups of respondents are those who are unable to maintain a comfortable temperature in their homes (the total share of such respondents is 34.1% among respondents of both genders, 35.1% among women and 33.6% among men). This indicator roughly describes the scale of unmet needs and the size of the target audience for measures to improve access to energy products that meet the needs for a comfortable indoor temperature for households.

Among those who are unable to maintain a comfortable temperature in their homes, there are respondents who are unable to do so for technical reasons (22.8% of all respondents, 23.4% of women and 21.5% of men) and those who are unable to maintain a comfortable temperature in their homes due to lack of solvency (11.3% of all respondents, 11.7% of women and 12.1% of men).

Accordingly, the proportion of respondents who are unable to meet even basic needs due to the discrepancy between their income and the prices of utilities and energy resources (pricing for which is determined mainly by the economic performance of the energy sector) is about 11%. This estimate characterises the scale of the target audience of programmes aimed at improving the affordability of energy products for the population and shows that targeted assistance to improve the solvency of vulnerable groups of the population appears to be more appropriate than large-scale subsidies to energy companies (either directly through government subsidies or indirectly through regulation of pricing in the markets for energy generating companies) aimed at reducing utility prices. In the terminology of cost-benefit analysis, this means that it is more appropriate to make a corrective impact on the demand side (through targeted subsidies for the demand of insolvent segments of the population) rather than on the supply side (large companies, whose benefits from lower prices for their products cannot be localised only among the target audience of programmes to promote the affordability of energy products).

The proportion of respondents who face technical limitations that do not allow them to meet the basic need to maintain a comfortable temperature in their homes is 22.8% (23.4% of female respondents and 21.5% of male respondents).

Accordingly, the extent of technologically driven problems – those that require investment levers and cannot be solved in the current period – is much greater than the extent of the lack of current ability to pay to maintain a comfortable indoor temperature. At the first level of interpretation of such indicators, the presence of technically determined restrictions on maintaining a comfortable indoor temperature indicates a significant need for investment to change the technological parameters of access to the benefits created by the energy sector. And at the second level, there is a significant need for institutional changes in the relations between energy companies and consumers and operators of energy markets. After all, the lack of technological capabilities to properly meet the need for goods created by the energy sector indicates the absence (insufficiency) of incentives for participants in the markets for energy resources and related services to invest in the development of the technological base that forms the basic conditions for the availability of energy goods.

This thesis is confirmed by the data in Table 3.2, which illustrates the share of respondents who cannot regulate the intensity of heating in their homes.

Table 3.2

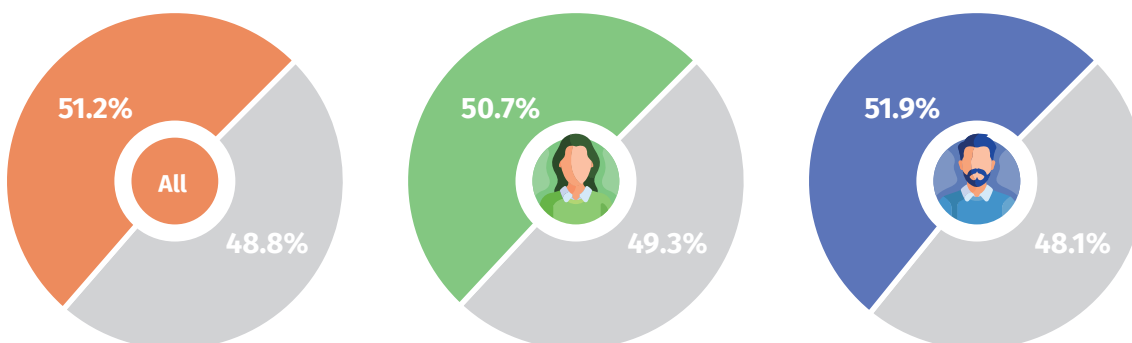
Distribution of the number of respondents by the availability of the ability to regulate the intensity of heating in their homes

	All respondents		Women		Men	
	people	% of those who gave answers	people	% of those who gave answers	people	% of those who gave answers
Can regulate the intensity of heating in the room	311	51.24	172	50.74	139	51.87
Can't regulate the intensity of heating in the room	296	48.76	167	49.26	129	48.13

Figure 3.2

Distribution of the number of respondents by the availability of the ability to regulate the intensity of heating in their homes

Can regulate the intensity of heating in the room



Can't regulate the intensity of heating in the room

In fact, the absence of such an opportunity indicates fundamental distortions in the use of the potential of market relations in Ukraine's energy markets. Consumers deprived of the ability to regulate even the basic characteristics of a service (a good created by energy companies) cannot be considered to have normal access to the benefits created by the energy sector. This situation, firstly, means that there are multibillion-dollar losses due to excessive heat carrier temperature during periods of rising external temperature. Given the critical shortage of resources and capacities in Ukraine's energy system, hundreds of thousands of consumers continue to receive services in excess (undesirable for them during periods of rising outside temperatures). The stability of this situation is indicative of the shortcomings in the organisation of market interaction, as the current institutional structure does not encourage energy companies to allocate resources to improve existing heating technologies. At the same time, the vast majority of consumers are deprived of the opportunity to accumulate the necessary resources to improve the energy efficiency of their homes.

The potential for economic incentives to improve energy efficiency and meet the needs for maintaining a comfortable indoor temperature is shown in Table 3.3.

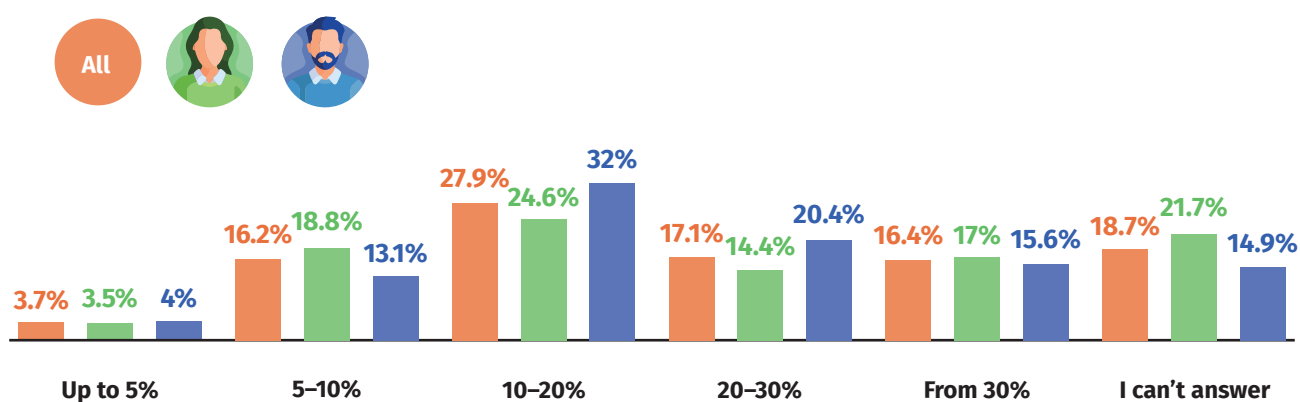
Table 3.3

Distribution of respondents by the share of heating costs

	All respondents		Women		Men	
	people	% of those who gave answers	people	% of those who gave answers	people	% of those who gave answers
Up to 5%	23	3.73	12	3.52	11	4
From 5 to 10%	100	16.23	64	18.77	36	13.09
From 10 to 20%	172	27.92	84	24.63	88	32
From 20 to 30%	105	17.05	49	14.37	56	20.36
From 30%	101	16.4	58	17.01	43	15.64
I can't answer	115	18.67	74	21.7	41	14.91

Figure 3.3

Distribution of respondents by the share of heating costs



Only 3.7% of respondents (3.5% of women and 4% of men) indicated that the share of expenditures on heating in the cold season in their households did not exceed 5% of total consumer expenditures. For comparison, across the Eurozone, household expenditures on energy (electricity, gas, and other fuels for home heating) range from 5.7% (in the lowest income quintile) to 3.7% (in the highest income quintile). In particular, in Germany, households spend about 6.5% of their consumer expenditures on energy, and in France – about 4.8%. These data are not fully comparable, as in many European countries it is common practice to spread heating costs over all months of the year, which levels the burden on the budget throughout the year, and thus reduces it somewhat during the heating season. However, even with the use of a special coefficient to ensure comparability of the data (multiplying the share of expenditures of Ukrainian households by five twelfths, which would make the figures for Ukraine correspond to an even distribution of the heating load over 12 months of the year, rather than five months of the heating season), there remains a very significant share of households for which energy consumption puts too much strain on the consumer budget, limiting the ability to meet other basic needs and the ability to accumulate savings. In almost all European countries, exceeding the 10% limit of fuel expenditures in the consumer budget is a sign of relatively low-income households that are at risk of fully performing their social functions and need state assistance to ensure a normal level of basic needs². For example, in the UK, the share of energy costs for such households is 15%, in the Netherlands – 13%, in Italy – 10%, and in Germany – only 5%³.

Another 16.2% of respondents (18.8% of women and 13.1% of men) said they spend between 5 and 10% of their consumer expenditure on heating during the cold season. Between 10 and 20% of consumer expenditures were forced to be spent on heating by 27.9% of respondents (the largest modal group of respondents). A critically high share of energy costs for heating (over 20% of consumer expenditures) is observed for 17.1% of respondents, and a catastrophic share (over 30% of consumer expenditures) for another 16.4% of respondents.

Such a high burden of energy costs for heating on households' consumer budgets indicates the extreme limitations of the Ukrainian population's own resources to meet at least current needs and the high proportion of the population (over a third) for whom the affordability of energy-related benefits is unacceptably low, which creates risks for the normal functioning of households.

The above characteristics of the economic affordability of the benefits created by Ukrainian energy companies in the context of extremely limited internal resources of the Ukrainian economy make it extremely important to seek external, international assistance to implement programmes to maintain the sustainability and reform of Ukraine's energy sector in wartime and during the post-war recovery period.

2 Energy costs share in total income of low income households in Europe 2022 by country. Statista.com

3 Ibid.

4. Wartime load distribution and factors of energy sustainability in wartime conditions

Russia's full-scale aggression against Ukraine has caused irreparable damage to Ukrainian society, pushing all spheres of public life and most Ukrainians personally to the limit of adaptive capacity: maintaining the functionality of the production, socio-political and military subsystems of society comes at the cost of huge human losses. These losses come in many forms: from direct killing of soldiers on the battlefield and civilians under shelling to gradual disability due to excessive workload, neglect of safety standards, or inability to take time for one's own health. The task of preserving the human potential of the Ukrainian energy sector is being addressed in the context of a constant overload of both technical and human resources in the industry, and understanding how this additional burden is distributed among professional and socio-demographic groups of those employed in the industry, where there are threats of destruction of the functional capacity of labour collectives in the short or long term, is a prerequisite for effective management of the industry and preservation of its development prospects in the post-war period.

Table 4.1 illustrates the scale and intensity of the impact of general social events that uproot people from their usual way of life and put additional strain on their adaptive capacity.

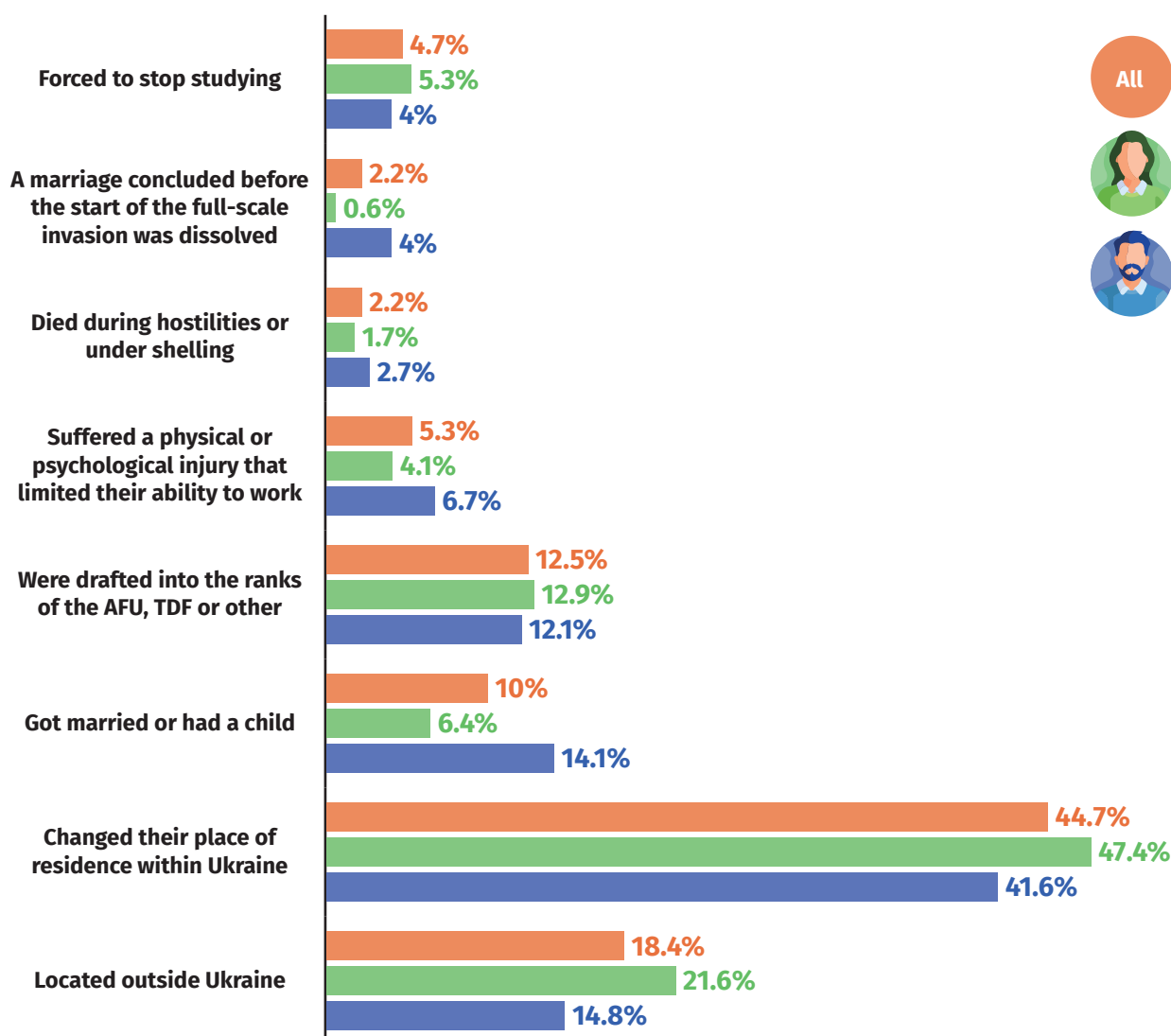
Table 4.1

Distribution of respondents' answers about changes that have occurred to their household members since the beginning of full-scale russian military aggression

	All respondents		Women		Men	
	answers	% of answers provided	answers	% of answers provided	answers	% of answers provided
Forced to stop studying	15	4.69	9	5.26	6	4.03
A marriage concluded before the start of the full-scale invasion was dissolved	7	2.19	1	0.58	6	4.03
Died during hostilities or under shelling	7	2.19	3	1.75	4	2.68
Suffered a physical or psychological injury that limited their ability to work	17	5.31	7	4.09	10	6.71
Were drafted into the ranks of the AFU, TDF or other	40	12.5	22	12.87	18	12.08
Got married or had a child	32	10	11	6.43	21	14.09
Changed their place of residence within Ukraine	143	44.69	81	47.37	62	41.61
Located outside Ukraine	59	18.44	37	21.64	22	14.77

Figure 4.1

Distribution of respondents' answers about changes that have occurred to their household members since the beginning of full-scale russian military aggression



These data indicate the extent of the losses caused by the Russian aggression. In particular, 2.2% of the responses indicated that someone close to the respondents had been killed, and another 5.3% had suffered a severe physical or psychological injury that limited their ability to work. Another 12.5% of responses mentioned household members who were called up to the Armed Forces of Ukraine or other units of the Defence Forces of Ukraine. 4.7% of all responses mentioned the presence in the respondents' households of those who were forced to stop studying due to the full-scale invasion. Almost half of the responses refer to the presence in the respondents' households of those who have changed their place of residence within Ukraine (44.7%), and another 18.4% refer to the presence in the household of those who are outside Ukraine.

For comparison, we present the proportion of responses related to the presence in respondents' households of those who experienced events typical for "ordinary life" – they characterise the frequency of mentions of events typical of normal social conditions and serve as a basis for comparison, allowing us to see how much more intense the changes caused by the war are than those inherent in the "normal" course of events.

Thus, the mention of those household members who divorced accounts for 2.2% of the total number of responses, and “marriage or birth of a child” is mentioned in 10% of responses. We can see that the death of someone close to them has the same frequency of mention as divorce – the heaviest, most destructive burden of war turns into an event as common as a change in marital status. And the combined frequency of mentions of death and severe physical or psychological trauma (7.5%) is almost equal to the frequency of mentions of marriage or childbirth – also evidence of the severe consequences of war becoming an ingrained, widespread life event.

Changes caused by the war, such as conscription to the Ukrainian Defence Forces (12.5% of all responses), are mentioned more often than “ordinary” changes in family status (divorce, marriage or birth of a child).

War-related territorial displacement was the most common factor of influence: 44.7% of respondents mentioned the presence of people in their households who had changed their place of residence, and 18.4% mentioned the presence of people who had moved outside Ukraine.

The above shows that the scale and intensity of the impact of war-related changes on the functional capacity of respondents is very high and far exceeds the impact of events that are inherent in ordinary life, and the burden of their family and professional responsibilities can become critical. And this is not an isolated case, but a typical situation that radically changes the conditions for the functioning of labour collectives and puts forward new requirements for labour management.

The economic burden on the employed has increased significantly, while maintaining the stability of the workplace, the company providing employment, and the conditions and content of work is an exception rather than a modal category of responses (Table 4.2).

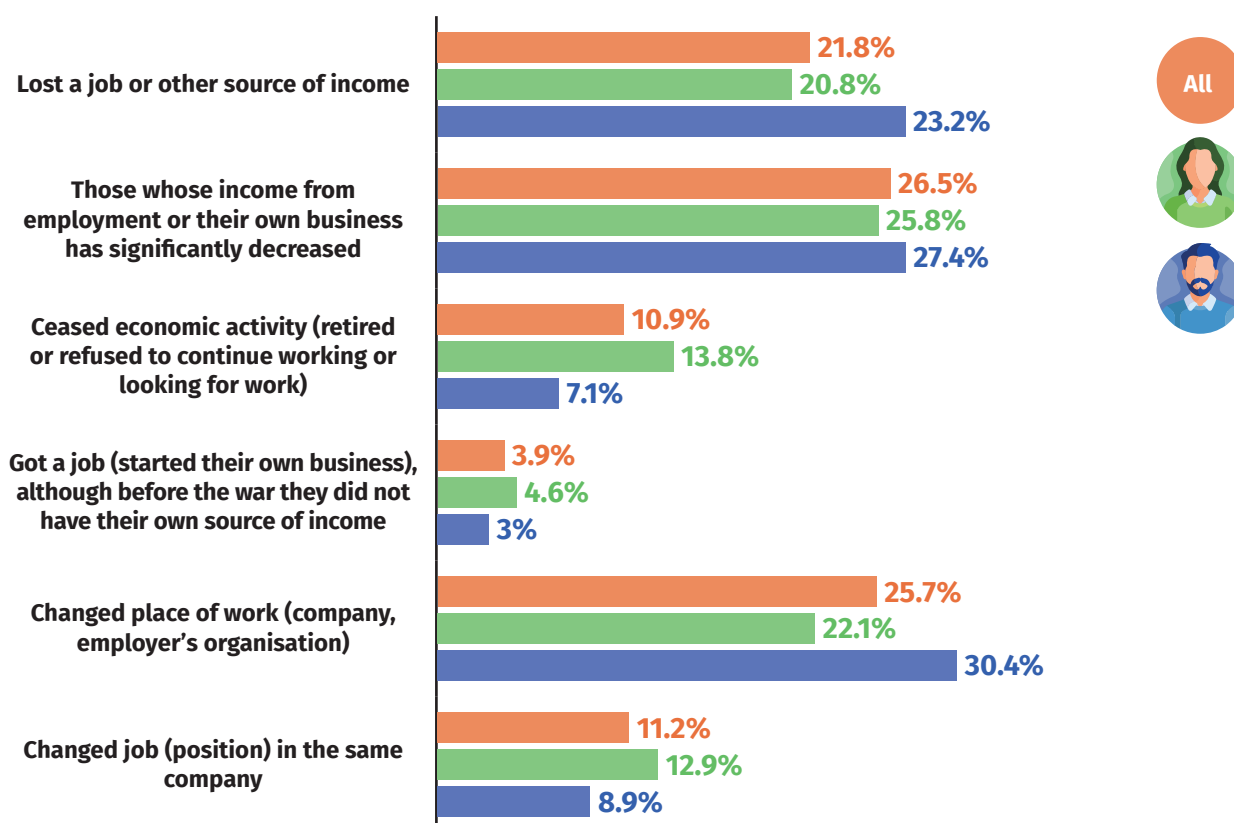
Table 4.2

Distribution of respondents’ answers about changes in the economic situation of their household members since the beginning of full-scale russian military aggression

	All respondents		Women		Men	
	answers	% of answers provided	answers	% of answers provided	answers	% of answers provided
Lost a job or other source of income	84	21.82	45	20.74	39	23.21
Those whose income from employment or their own business has significantly decreased	102	26.49	56	25.81	46	27.38
Ceased economic activity (retired or refused to continue working or looking for work)	42	10.91	30	13.82	12	7.14
Got a job (started their own business), although before the war they did not have their own source of income	15	3.9	10	4.61	5	2.98
Changed place of work (company, employer's organisation)	99	25.71	48	22.12	51	30.36
Changed job (position) in the same company	43	11.17	28	12.9	15	8.93

Figure 4.2

Distribution of respondents' answers about changes in the economic situation of their household members since the beginning of full-scale Russian military aggression



21.8% of all responses mentioned those household members who lost their jobs or other sources of income after the start of the full-scale invasion, and another 26.5% mentioned those whose income from employment or their own business had significantly decreased. Another 10.9% of responses mentioned those household members who had stopped economic activity. Accordingly, 59.2% of all responses are related to losses in the use of human potential in the economy: more than half of all cases mentioned are references to close respondents whose economic situation has undergone negative changes. The number of such mentions among women is 60.4%, and among men – 57.7% of all responses. Statistically significant differences between women's and men's responses are observed in terms of the frequency of mentions of cases of discontinuation of economic activity: 13.8% of all responses among women and only 7.1% among men. Since these answers refer to respondents' households, not to them, the differences between the distribution of answers of male and female respondents cannot be interpreted in the context of assessing gender inequality in the distribution of the additional burden caused by the war. However, the results obtained may serve as a basis for further research on the role of women and men in ensuring the resilience of various subsystems of social life.

It is also important that the frequency of mentions of job loss or termination of economic activity is much higher than the frequency of mentions of effective moves between jobs. In particular, 25.7% of respondents mentioned their relatives who got a job at another company. Those who did not have a source of income before the war and got a job or started their own business during the war were mentioned in 3.9% of responses. Accordingly, the frequency of mentions of events that compensate for the negative impact of losing a job or other source of income, both in terms of

household economic capacity and human potential involved in the economy, is much lower than the frequency of mentions of events that cause such a negative reduction in employment and household economic capacity.

The immediate consequences of social events and changes in the respondents' immediate environment are manifested in two main dimensions: the burden of family and professional responsibilities.

The nature and prevalence of challenges faced by respondents in terms of their family life conditions are directly reflected in Table 4.3.

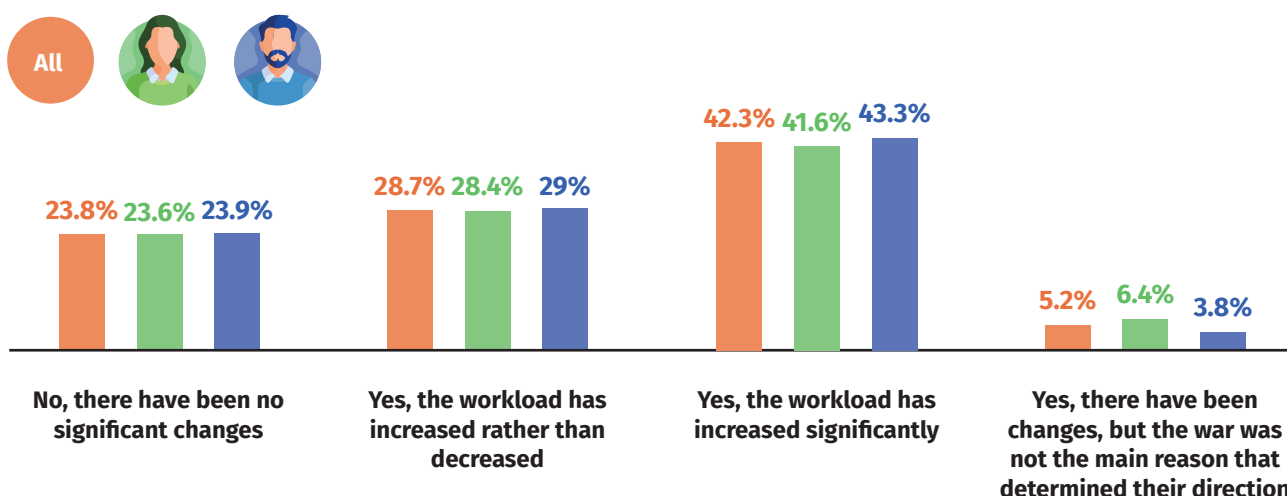
Table 4.3

Distribution of respondents' answers about changes in the burden of family responsibilities since the beginning of full-scale russian military aggression

	All respondents		Women		Men	
	people	% of those who gave answers	people	% of those who gave answers	people	% of those who gave answers
No, there have been no significant changes	127	23.78	70	23.65	57	23.95
Yes, the workload has increased rather than decreased	153	28.65	84	28.38	69	28.99
Yes, the workload has increased significantly	226	42.32	123	41.55	103	43.28
Yes, there have been changes, but the war was not the main reason that determined their direction	28	5.24	19	6.42	9	3.78

Figure 4.3

Distribution of respondents' answers about changes in the burden of family responsibilities since the beginning of full-scale russian military aggression



A significant increase in workload was reported by 28.6% of all respondents, including 28.4% of women and 29% of men. A very significant increase in the burden of family responsibilities was experienced by 42.3% of all respondents, 41.6% of women and 43.3% of men. Only 23.8% of all respondents (23.7% of women and 24% of men) did not experience any changes in the burden of family responsibilities.

The largest group of respondents, both among women and men, are those whose family responsibilities have increased significantly compared to the pre-war period. Among both men and women, the proportion of respondents who gave this answer is almost identical (differences are within tenths of a percentage point).

The almost identical distribution of responses among women and men indicates that Ukrainian families tend to evenly distribute the additional burden between men and women in times of war, which is an additional factor in family resilience and preservation of the functional capacity of each of its members.

Characteristics of changes in the workload in the professional activities of respondents are presented in Table 4.4.

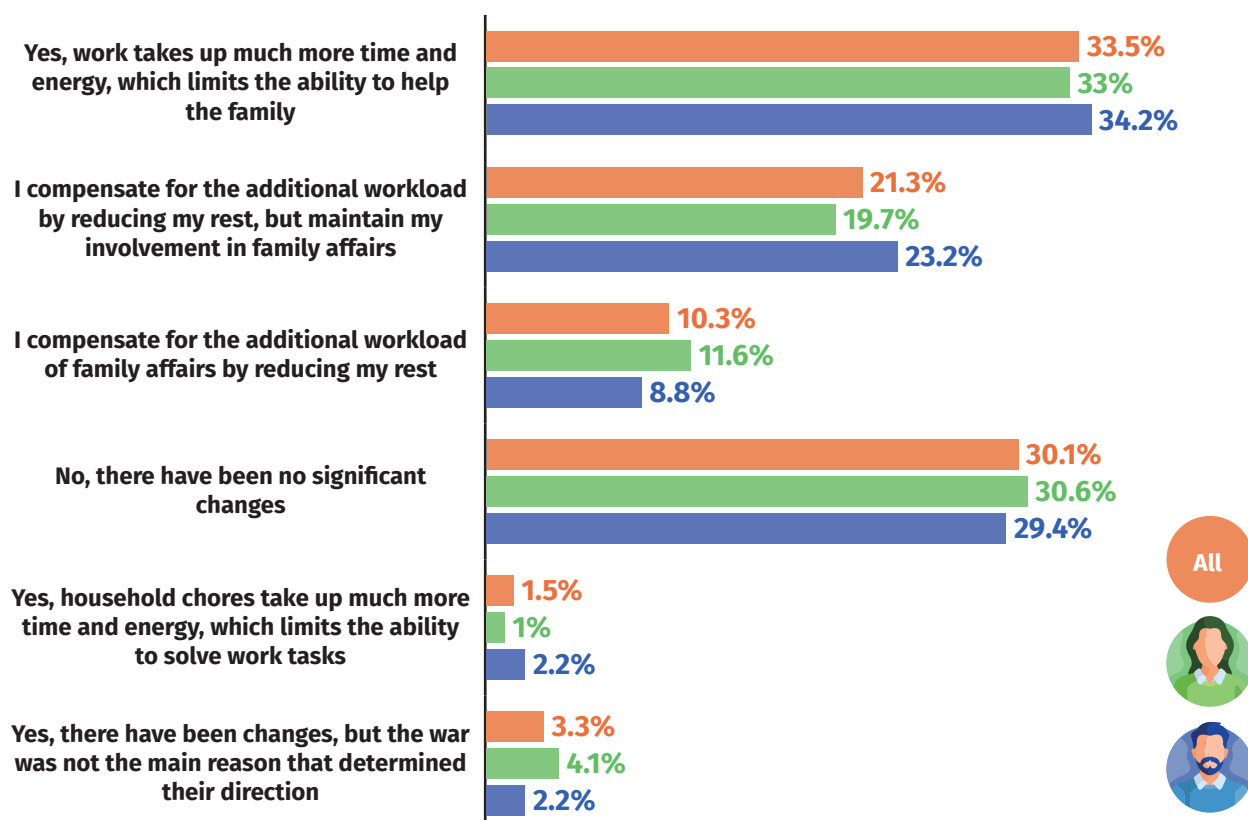
Table 4.4

Distribution of respondents' answers about changes in the workload of professional responsibilities since the beginning of full-scale russian military aggression

	All respondents		Women		Men	
	people	% of those who gave answers	people	% of those who gave answers	people	% of those who gave answers
Yes, work takes up much more time and energy, which limits the ability to help the family	175	33.52	97	32.99	78	34.21
I compensate for the additional workload by reducing my rest, but maintain my involvement in family affairs	111	21.26	58	19.73	53	23.25
I compensate for the additional workload of family affairs by reducing my rest	54	10.34	34	11.56	20	8.77
No, there have been no significant changes	157	30.08	90	30.61	67	29.39
Yes, household chores take up much more time and energy, which limits the ability to solve work tasks	8	1.53	3	1.02	5	2.19
Yes, there have been changes, but the war was not the main reason that determined their direction	17	3.26	12	4.08	5	2.19

Figure 4.4

Distribution of respondents' answers about changes in the workload of professional responsibilities since the beginning of full-scale russian military aggression



A modal group of respondents (33.5%) noted that since the outbreak of full-scale war, work has taken up much more time and energy, which limits their ability to help their families. Such a forced (due to increased workload) reduction in participation in family life was reported by 33% of women and 34.2% of men respondents – almost the same proportion of respondents who adapt to the war by giving priority to professional duties and reducing participation in family life among women and men.

21.3% of respondents said they were adapting to the increased workload by reducing their rest time, but maintaining their involvement in family affairs. In particular, this answer was given by 19.7% of female respondents (which means that the leading factor in the increase in workload was changes in working conditions, but adaptation to a greater workload is done by reducing rest time, without compromising participation in family affairs) and 23.3% of male respondents.

Another 10.3% of respondents (11.6% of women and 8.8% of men) said they had to reduce their rest time to compensate for the additional workload of family responsibilities without compromising their professional activities.

Accordingly, the total proportion of respondents forced to compensate for the additional workload (both due to changes in family life and professional activities caused by the war) by reducing their rest time is over 30% and is almost identical among women (31.3%) and men (32%). Such a high proportion of respondents who are forced to approach the limit of their working capacity and put their health at risk requires special attention to the working conditions and recovery of working capacity of energy sector employees.

Conclusions

■ On the availability of employment at energy companies

At energy companies managed by the Ministry of Energy of Ukraine, there is a clear predominance of men in positions that involve performing managerial functions (management of labour collectives) and a clearly higher proportion of men in managerial positions. Across all respondents, the excess of the proportion of men in managerial positions compared to women is 10.3 percentage points.

It is also noteworthy that if only respondents with higher education are taken into account, the gap between the share of men and women in managerial positions increases to 24.9 percentage points. This is evidence that investing in human capital has a greater impact on the career prospects of men than women: a similar (higher) level of education increases the likelihood of a man being able to take a managerial position more than a woman. Thus, the above evidence of inequality in returns to education investment for men and women suggests that managerial positions are more accessible to men than to women, and that higher education increases the gap in access to managerial jobs.

Lack of higher education is not an absolute limitation for employment either as specialists or in managerial positions (line management of primary labour collectives – positions of foremen, production site managers were also considered managerial positions – on the basis of the importance of managerial functions in the job description). In particular, only 13.2% of respondents of both genders without higher education were employed in managerial positions, with statistically significant differences between women and men: among women, only 6.9% of respondents without higher education were employed in managerial positions, and among men – 20.7%.

This distribution of responses may indicate the existence of unequal conditions for access to managerial positions for women and men, in particular due to the unequal application of formal requirements for job suitability for women and men. This phenomenon has been described in the scientific literature and is called “men’s clubs”: being part of a certain gender-monolithic (most often male, although “women’s clubs” are also potentially possible) environment allows to count on a more lenient application of formal requirements for “club members” (men), thus depriving women of such an opportunity.

The study revealed moderate differences between women and men in terms of career growth dynamics: on average, women have 0.88 promotions during their employment at the company, and men – 1.04. Almost identical are the proportions of women and men who have not received any promotions at the time of the survey (48.8% of women and 46.4% of men); those who have received only one promotion so far (27.3% of women and 26.2% of men); and those who have received two promotions so far (12.9% of women and 13.5% of men). The only typical case of unequal distribution concerns the respondents with the highest number of promotions: only 1.8% of women and 4.5% of men have been promoted more than four times. This difference may indicate certain advantages that men have when it comes to climbing the highest career ladder in the energy sector. In particular, since such a large number of promotions require a fairly long period of employment at one company, it can be assumed that men are more strongly rewarded for loyalty and long employment at a company than women: for women, an increase in length of service leads to a smaller increase in the number of promotions than for men in the segment of particularly long employment at one company.

If only respondents with higher education are taken into account, the differences between the dynamics of career growth for women and men increase: the average number of promotions received during the time of work at the company for men is 1.25 versus 0.96 for women (almost 30% more). This is yet another proof of the greater return on investment in education for men compared to women.

■ On the availability of goods created by energy companies

The proportion of respondents who are unable to maintain a comfortable indoor temperature (34.1% of respondents of both genders, 35.1% of women and 33.6% of men) roughly characterises the scale of unmet needs and the size of the target audience for measures to improve access to energy products that meet the needs for a comfortable indoor temperature for households.

Among those who are unable to maintain a comfortable indoor temperature, there are respondents who are unable to do so for technical reasons (22.8% of all respondents, 23.4% of women and 21.5% of men) and those who are unable to maintain a comfortable indoor temperature due to lack of ability to pay (11.3% of all respondents, 11.7% of women and 12.1% of men).

Accordingly, the proportion of respondents who are unable to meet even basic needs due to the discrepancy between their income and the prices of utilities and energy resources (pricing for which is determined mainly by the economic performance of the energy sector) is about 11%. This estimate characterises the scale of the target audience of programmes aimed at improving the affordability of energy products for the population and shows that targeted assistance to improve the ability of vulnerable groups to pay is more appropriate than large-scale subsidies to energy companies (either directly through government subsidies or indirectly through regulation of pricing in the markets for energy generating companies) aimed at reducing utility prices. In the terminology of cost-benefit analysis, this means that it is more appropriate to make corrective action on the demand side (through targeted subsidies for the demand of insolvent segments of the population) rather than on the supply side (large companies, whose benefits from lower prices cannot be localised only among the target audience of programmes to promote the affordability of energy products).

The proportion of respondents who face technologically-based constraints that do not allow them to meet the basic need to maintain a comfortable temperature in their homes is 22.8% (23.4% of female respondents and 21.5% of male respondents).

Accordingly, the prevalence of technologically driven problems - those that require investment and cannot be solved in the current period - is much greater than the lack of current ability to pay to maintain a comfortable temperature in the home. At the first level of interpretation of such indicators, the presence of technically determined restrictions on maintaining a comfortable indoor temperature indicates a significant need for investment to change the technological parameters of access to the benefits created by the energy sector. And at the second level, it indicates a significant need for institutional changes in the relations between energy companies and consumers and operators of energy markets. After all, the lack of technological capabilities to properly meet the need for goods created by the energy sector indicates the absence (insufficiency) of incentives for participants in the markets for energy resources and related services to invest in the development of the technological base that forms the basic conditions for the availability of energy benefits.

Between 10 and 20% of consumer expenditures were forced to spend on heating by 27.9% of respondents (the largest modal group of respondents). A critically high share of energy costs for heating (over 20% of consumer expenditures) is observed for 17.1% of respondents, and a catastrophic share (over 30% of consumer expenditures) for another 16.4% of respondents.

Such a high pressure of energy costs for heating on households' consumer budgets indicates the extreme limitations of the Ukrainian population's own resources to meet at least current needs and the high proportion of the population (over a third) for whom the affordability of energy-related goods is unacceptably low, which creates risks for the normal functioning of households.

The above characteristics of the economic affordability of the benefits created by Ukrainian energy companies in the context of extremely limited internal resources of the Ukrainian economy make it extremely important to seek external, international assistance to implement programmes to maintain the sustainability and reform of Ukraine's energy sector in wartime and during the post-war recovery period.

On wartime load and factors of energy sustainability in war conditions

The economic burden on the employed has increased significantly, with the preservation of the stability of the workplace, the company providing employment, and the conditions and content of work being the exception rather than the modal category of responses. Among all the answers given, 59.2% are related to losses in the use of human potential in the economy: more than half of all cases mentioned are references to close respondents whose economic situation has undergone negative changes (they have lost their job or other source of income, or their income has significantly decreased).

The proportion of mentions of events that compensate for the negative impact of losing a job or other source of income, both in terms of household economic capacity and human potential involved in the economy, is much lower than the proportion of mentions of events that cause such a negative reduction in employment and household economic capacity – there has been a significant reduction in both the employment capacity of the Ukrainian economy and its human potential, with the employment capacity declining faster, which increases the likelihood of unemployment.

A noticeable increase in the burden of family responsibilities was experienced by 28.6% of all respondents, including 28.4% of women and 29.0% of men. A very significant increase in the burden of family responsibilities was experienced by 42.3% of all respondents, 41.6% of women and 43.3% of men.

A modest proportion of respondents (33.5%), faced with a significant increase in workload, are forced to limit their participation in family affairs. Another 21.3% of respondents indicated that they are adapting to the increased workload by reducing their rest time, but maintaining their involvement in family affairs. Accordingly, more than half of the respondents are directly interested in measures that would facilitate the reconciliation of family and professional responsibilities, which would help reduce the loss of human potential in the energy sector both through the forced abandonment of career plans due to the difficulty of combining them with family responsibilities and through a decrease in the level of fatigue of employees who compensate for the additional workload by reducing their rest time.

