RESEARCH PAPER

GENDER DIMENSION OF THE ENERGY CRISIS IN UKRAINE: PATHWAYS TO RESILIENCE

APRIL 2025
UN WOMEN

MINISTRY OF FOREIGN AFFAIRS OF DENMARK

WOMEN'S ENERGY CLUB OF UKRAINE

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The study was implemented by the NGO “Women’s Energy Club of Ukraine” within the UN Women’s project “Strengthening Women’s Leadership for Resilient and Peaceful Societies” funded by the Government of Denmark.

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OPENING REMARKS

Since the full-scale war began in 2022, Russian forces have repeatedly targeted Ukrainian power plants and other energy infrastructure. In 2024, power outages in most regions of Ukraine lasted for up to 2,000 hours. The UN Human Rights Office reported that there were nine waves of attacks from 22 March to 31 August 31, 2024, that damaged or destroyed facilities for power generation, transmission, and distribution. The attacks on energy have affected all aspects of the country's economic, social and civilian life.

The attacks on power infrastructure have a significant impact on all Ukrainians, especially during winter when cold weather and shorter daylight hours increase electricity demand by 20 to 25 percent. These attacks have specific consequences for women and girls. Power outages hinder women's ability to work and support their families. The lack of electricity affects food preparation and storage, which forces women—who already bear a disproportionate burden of caregiving—to spend more time on domestic tasks. As a result, they are less likely to participate in the labor force. Women who work from home are also affected by power cuts. While some businesses may have generators, the costs of running them can be prohibitively high.

In response to the crisis, several studies were initiated to examine the impact of the energy crisis in Ukraine on the civilian population. These studies focused on collecting data about attacks on energy infrastructure and their overall negative effects on human rights. However, existing reports do not provide a detailed analysis of how women experience the crisis differently from men or what specific needs they have.

To address this gap, UN Women partnered with the Women Energy Club of Ukraine to conduct research on the gender aspects of the energy crisis in Ukraine. The

aim is to identify ways to mitigate the negative impact on vulnerable groups, particularly women and girls. The study, titled «Gender Dimension of the Energy Crisis in Ukraine: Pathways to Resilience,» explores key aspects of how the energy crisis affects women, identifies barriers to accessing energy resources, and offers practical recommendations to enhance the resilience of women and households in this context.

Sabine Freizer Gunes
UN Women Representative in Ukraine

OPENING REMARKS

For the Women's Energy Club of Ukraine (WECU), this study has become something more than just a professional matter — we felt it as something deeply personal. Our sincerest gratitude goes to UN Women for trusting us and allowing us to conduct a thorough analysis of the gender-based aspects of the energy crisis in Ukraine, and to make this study a practical tool that can be used by government institutions, our international partners, and civil society in shaping policies tailored to the needs of women and girls during Ukraine's recovery and transformation.

Ukraine's energy sector has been targeted since day one of Russia's full-scale invasion. 63,000 energy infrastructure facilities have sustained varying degrees of damage. In 2024 alone, we lost over 10GW worth of generating facilities. However, this crisis entails more than just variables in energy production; it is deeply affecting people's lives. And sadly, women are the first to feel those effects, and the ones to carry the heaviest burden at that.

The lack of electric power and heating entails more than just cold and darkness — it also entails the inability to work, study, and take care of your family. This leads to women trying to juggle household chores, childcare, their jobs, and their own emotional well-being, constantly feeling belittled, and their efforts dismissed. A lack of electric power supply and internet access undermines the livelihoods of many people, while basic everyday chores like cooking meals, doing laundry, and heating one's home become physically and emotionally draining. There were plenty of situations where the electric power supply was restored for only several hours a day, and those were the hours where people had to manage and do all their chores, despite it being, say, 3 a.m.

Solutions that could partially alleviate the situation, like power generators and energy storage units, remain unaffordable for most of the population due to their high cost. Dark, unlit streets, too, present a safety threat, especially for women and girls.

Ukraine's current energy crisis is challenging both the infrastructure and human dignity. We strongly believe that Ukraine's sustainable recovery is only possible with consideration for women's voices, experiences, and needs. We need to make those voices heard.

One can't rebuild a country while leaving women in the dark, both literally and figuratively. Behind every dark, unlit window unfolds a unique story of struggling, pain, and faith in the future.

We share a strong conviction that Ukraine's recovery should be based on both technical solutions and ensuring equal rights and opportunities for everyone, specifically for women and girls.

Valentyna Beliakova
President of the Women's Energy Club of Ukraine (WECU)

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SUMMARY

Russia's mass attacks on Ukraine's energy infrastructure led to one of the direst crises in the socioeconomic life of its citizens, affecting every sphere of life. At the same time, female participants of surveys and focus groups consistently note additional challenges presented to them by this energy crisis in comparison with their male counterparts. Among the most vulnerable groups are older women, women living in rural areas, mothers with young children, and women with disabilities.

Key takeaways

Power outages increase the burden of household chores for women. The energy crisis in Ukraine has significantly increased women's burden of household chores and caregiving. Irregular supply of electricity and water force them to spend more time on their chores. 93% of respondents defined the stable power supply as 'important', with 84% of women (and only 75% of men) defining it as 'very important'. The issue is most acute among young adults (82% of young women versus 66% of young men).

Power outages complicate women's lives more (5.16 points) compared to the lives of men (4.86 points). Every third woman (37%) reports experiencing extreme challenges presented by electric power outages. 90% of respondents agree that women are now having a harder time taking care of children/older relatives and doing housework, while only 69% mentioned how the outages present additional challenges for men. The participants of this study believe that women with young children (65%), people with disabilities (64%), and elderly people (63%) are the groups most affected by the energy crisis.

The greatest difficulties occur in household chores (55%), heating (51%), charging devices (49%), cooking (42%), and work/education (42%). Women with young children are more likely to report challenges with caregiving (45% versus 20% overall). 22% of the surveyed respondents rely on lifts to get to their flats in high-rises, of which 62% experience significant inconvenience, with most of them being women, especially among the young adults (66% of women versus 56% of men) and the elderly (72% of women versus 55% of men).

The current energy crisis exacerbates regional and social disparities. The current energy crisis in Ukraine presented additional challenges in both urban and rural areas. According to the survey, 57% of respondents believe that rural residents are more likely to face additional burdens due to the energy crisis. The most affected groups include female residents of small towns (41%), women with average income (38%) and secondary education (45%). According to the scale, irregularities in electric power supply present the most significant challenges for women living in the southeast of Ukraine, where 48% of women rated it as 'extremely difficult' (compared to 31–33% in other regions).

Electric power outages increase safety risks. The lack of uninterrupted electric power supply has exacerbated the safety risks, specifically due to the lack of street lighting (88% of respondents). Women are more likely than men (92% versus 85%) to report concerns about street safety and additional challenges in keeping children safe while outdoors (65% of women versus 51% of men). The reported major safety concerns include lack of street lighting (62%), lack of lighting at home (57%) and workplace hazards (50%). Most people use flashlights and candles (71%), install backup lighting (27%), or limit their movement after dark (27%).

The energy crisis in Ukraine limits people's access to key services and social support. This energy crisis led to a deterioration in living standards, compromised access to medical services (reported by 55% of women versus 49% of men), online education (reported by 92% of respondents), and digital activities (reported by 81% of women versus 71% of men). Social activities

in communities also dwindled, with 74% of respondents reporting limitations, especially women over 36 (41–42%) and women living in the southeastern regions of Ukraine (45%).

Power outages presented additional financial burdens. One major financial burden for households due to power outages was the need to buy power generators, batteries and power banks, with 34% of respondents reporting that as a problem. Another 26% reported the lack of available alternative power sources. The situation is especially grueling for middle-aged women (62%) and women living in the southeastern regions of Ukraine (66%).

Younger female respondents and families with young children were more likely to mention equipment costs due to a higher need for constant access to electricity. Overall, 73% of households purchased additional equipment: 26% purchased all they needed, 47% purchased some of the necessary items, 6% were planning a purchase, and 21% said they didn't buy any additional equipment.

The crisis is also undermining people's employment, with 41% of respondents fearing losing their job/income, especially middle-aged women (51%).

Government actions required to improve people's access to energy and jobs in the energy sector.

Energy challenges in Ukraine require quick solutions and alternative energy sources. Only 2% of respondents have received support from the government, although 56% rate the government's actions as effective. The respondents mostly required financial assistance (49%) and power generators (79%). 17% of respondents, mostly men (21% of men versus 13% of women), expressed their willingness to be and work in the energy sector, however, only 9% are aware of the current training opportunities. Involving more women in the sector requires awareness campaigns and educational programmes.

Results obtained from working in focus groups show that women are doing their best to adapt to the energy crisis. To gain a deeper understanding of how women adapt to irregular energy supply, we conducted a qualitative study based on focus groups with women.

Those focus groups revealed that while in the early days of this energy crisis, women had to perform more household chores, with time, they learned to adapt and implement energy-efficient solutions. The remaining major challenges include inconveniences in fulfilling basic domestic needs, difficulties in accessing financial and administrative services, increased caregiving burdens, and safety risks due to lack of lighting. The complexity of the situation in each specific region greatly depends on the degree of damage sustained by power grids in that region, creating disparity in challenges for the residents.

Female participants of focus groups reported worsened work conditions due to problems with heating and internet, and that increasing energy costs has undermined their financial security, forcing them to save and spend money on alternative energy sources. Most people respond to power outages by resorting to power banks, energy-saving lamps, lanterns, and battery-powered string lights. Some invest in batteries and generators, but such investments are rare due to their high cost.

In households, alternative energy sources remain underutilised due to implementation difficulties and financial obstacles, the major challenges being the high cost of equipment, long payback periods, lack of knowledge and complex bureaucratic procedures.

Women reported facing additional obstacles in the implementation of energy solutions due to technical complexity, lack of experience, and gender roles in the family. Female participants highlighted the lack of programmes and support for women willing to seek employment in the energy sector. Younger women support the idea of raising awareness through energy efficiency training.

To develop actionable recommendations, we conducted in-depth interviews with experts in the energy sector. Those in-depth interviews revealed that, according to the experts, the energy crisis in Ukraine dealt the hardest economic and social blow to low-income households, people with disabilities, and female caregivers. They noted that the main burden fell on women, forced to combine household chores with caregiving. Experts point to limited awareness of government support programmes and emphasize the need to promote autonomous power sources, energy efficient solutions, as well as coordination between the government institutions, NGOs, and businesses. NGOs play a key role in supporting vulnerable groups through education, funding, and advocacy.

Businesses can mitigate the effects of the energy crisis by supporting their employees and adapting their operational processes, however, they need financial incentives and expert support. Forging a partnership between the state and businesses will promote sustainability and energy efficiency. The state should support businesses financially by developing infrastructure and by ensuring comprehensive communication at the national and local levels.

Ukraine lacks international experience foe gender-sensitive management in energy security, as well as tools for supporting women's retraining and businesses. The social sector can promote the involvement of women in renewable energy.

Key recommendations of this study

1. To national government agencies and local governments:

- Implement comprehensive support programmes for vulnerable groups through financial assistance and counselling centres.
- Develop gender-sensitive energy policies and educational programmes for women in the energy sector.
- Ensure accessibility of information on energy-effective solutions.

2. To businesses and energy companies:

- Invest in autonomous power sources and energy efficiency.
- Support women's employment in the energy sector.
- Develop social support programmes for employees.

3. To international organisations and donors:

- Allocate more resources to gender equality projects and supporting women-owned businesses in the energy sector.
- Build NGOs' capacity in energy security.
- Fund more studies of the gender aspects of the energy sector.

4. To NGOs and advocates:

- Run advocacy campaigns and raise awareness in energy efficiency for:
- women, especially those from vulnerable groups (elderly women, women living in the rural areas, women with young children, women with disabilities) to improve their energy literacy and access to support programmes;
- female entrepreneurs owning small and medium-sized businesses, to help them optimise energy consumption and reduce cost;
- rural population — with an emphasis on autonomous and renewable energy sources;
- local communities and households — on energy saving, promoting autonomous energy solutions (solar panels, biogas plants, etc.), as well as developing projects to support residents, specifically IDPs and those from other vulnerable groups, in implementing energy efficient solutions;
- educational institutions — develop energy efficiency training programs for youth and local specialists.
- Support women's businesses through educational programmes.
- Forge partnerships with businesses to support women's initiatives.

INTRODUCTION

The energy crisis in Ukraine caused by the full-scale war has a complex impact on various aspects of the lives of people - particularly women and girls, who bear a disproportionate burden due to their increased caregiving responsibilities, economic instability, and the risk of social exclusion. In this crisis, it is crucial to explore the gender-specific aspects of vulnerability related to energy security and develop strategies that consider women's specific needs to strengthen the resilience of the society as a whole.

UN Women, building on the vision of equality enshrined in the Charter of the United Nations, works to eliminate discrimination against women and girls, empower women and achieve equality between women and men as partners and beneficiaries of development, human rights, humanitarian action, peace and security.

UN Women in Ukraine plays a pivotal role in supporting the government and civil society in advancing gender equality, implementing national and international commitments on gender equality and women's rights. In Ukraine, UN Women implements activities to achieve the following strategic objectives: gender-responsive governance, women's leadership and Women, Peace and Security Agenda, women's economic empowerment, humanitarian response and coordination.

From the early days of the full-scale invasion in February 2022, Ukraine's energy infrastructure has been subjected to numerous attacks by the Russian Federation. According to the Ministry of Energy of Ukraine, over 30 massive complex attacks on the country's energy infrastructure have been carried out during the three years of the war, resulting in significant destruction and damage.

The shelling was particularly intense between October 2022 and February 2023, when Russia systematically attacked Ukraine's energy facilities, including thermal power plants, electric power substations, and power grids. Those attacks caused significant power outages and other problems in the country's energy sector.

The losses were significant: by June 2024, about 73% of the power-generating units of thermal power plants (TPPs) became inoperable. As of July 2024, the loss of electric power generation capacity in Ukraine was estimated at 9 GW, which was approximately half of the country's peak electricity consumption during the previous winter. Overall, the experts estimate that Ukraine has lost over 40 GW in electricity generation capacity since the start of the war — which means that the nation currently has less than 20 GW of the pre-war 55 GW generation capacity. In response, the energy sector was forced to resort to nationwide power outages.

Financial losses have been quite significant, too. According to Forbes Ukraine, direct losses to Ukraine's energy sector are estimated at over USD 16.1 billion, with the largest losses caused by the destruction of power generation facilities (USD 8.5 billion), power transmission lines (USD 2.1 billion), and oil and gas infrastructure (USD 3.3 billion).

These data highlight the scale of destruction sustained by the energy sector of Ukraine due to the military operations and the challenges the country faces in restoring and ensuring an uninterrupted energy supply.

Frequent power outages have negatively impacted the lives of Ukrainians, affecting heating, lighting, and water supply in homes and offices, as well as cooking, food storage, telecommunications, transportation, and people's mobility. During the massive attacks on Ukraine's energy infrastructure between October 2022 and February 2023, some regions, including Kharkiv, experienced disruptions in the air raid warning system due to power outages. As a result, emergency services had to personally inform residents of the danger.

Therefore, during the winter of 2023–2024 and the summer of 2024, Ukraine faced significant challenges in the energy sector due to electricity shortages caused by damage to energy infrastructure resulting from military operations.

The winter of 2023–2024

In the winter of 2023–2024, the electricity deficit in Ukraine reached 9 GW, which was three times higher than that of the autumn and winter of 2022. This resulted in regular power outages for households and industrial facilities, the main reason for electric power supply shortages being massive attacks on thermal power plants (TPPs) and hydroelectric power plants (HPPs) — the very power plants that generated electricity for peak consumption hours in the morning and evening. As a result, consumers were often left in the dark during those specific hours.

According to the Ukrainian Energy portal (ua-energy.org), in the first heating season during the full-scale invasion (November 2022 — February 2023), household and industrial electricity consumption in Ukraine decreased by 42.5% YoY, totaling 18.9 billion kWh. Back then, households consumed 11.3 billion kWh, while industrial facilities consumed 7.6 billion kWh. During that period, industrial electricity consumption declined by 57.3%, while household consumption fell by 25.1%.

The summer of 2024

In the summer months of 2024, specifically in July, the electricity supply situation remained precarious. Power outages lasted a total of 582 hours, accounting for 78% of the month. In July, power outages were in effect 24/7 for 18 days in total. June and July also saw peak electricity imports into the United Energy Systems of Ukraine; however, this was still insufficient to fully compensate for the capacity deficit in the energy system.

In total, power outages for Ukrainian households lasted 1,951 hours in 2024, according to the summarised data published on the Energy Map portal.

These circumstances highlight the need to further strengthen and restore Ukraine's energy infrastructure to ensure the interrupted electric power supply in the face of the ongoing challenges.

UN sister agencies, specifically the Office of the United Nations High Commissioner for Human Rights (OHCHR), the United Nations Development Programme (UNDP), and the World Health Organization (WHO), have responded to this crisis by initiating a study on the impact of the energy crisis in Ukraine on the civilian population. In particular, the September 2024 OHCHR-CHMP bulletin, Attacks on Ukraine's Energy Infrastructure: Harm to the Civilian Population, was focused on collecting data on attacks on energy infrastructure and their overall negative impact on people in terms of human rights violations. The generalised context of attacks on Ukraine's energy infrastructure is given in this UNDP analysis. However, those documents do not provide detailed analysis of how women experience the crisis differently than men and what their specific needs are.

To fill this information gap, a study on the gender-specific aspects of the energy crisis in Ukraine and ways to minimise its negative impact on vulnerable groups (specifically women and girls) was required.

The main objective of this study, 'Gender Dimension in the Energy Crisis: Pathways to Sustainability', was to identify the key aspects of the impact of the energy crisis on women and obstacles preventing women from accessing energy resources, and offer practical recommendations to increase the resilience of women and households in this area.

The methodology of this study includes quantitative and qualitative methods of data collection and analysis. This approach provides for a holistic coverage of the issue, with consideration for socio-demographic characteristics of the respondents and specific challenges faced by women in the energy crisis.

The study consists of two components:

- quantitative component: 1,000 personal interviews with citizens of Ukraine aged 18 and older;
- qualitative component: 1 focus group of women of working age (18–60 year-olds) and 5 expert interviews with specialists in the energy sector representing from businesses, think tanks, and NGOs.

The quantitative component

Survey method: CA I (Computer Assisted Personal Interviewing; face-to-face questionnaire interview with the use of a tablet).

Sample size: 1,000 persons.

Sample description: citizens of Ukraine, male and female, aged 18 and older, residing in the areas controlled by Ukraine. The quota sampling and stratified sampling were done by the latest data from the State Statistics Service of Ukraine. The sample is representative by region of residence, type of settlement, age and gender.

The margin of sampling error: with the confidence interval of 0,95 (design effect not accounted for) does not exceed:

- for values close to 50% — +/- 3.1%;
- for values close to 25 or 75% — 2.68%;
- for values close to 10 or 90% — 1.86%;
- for values close to 5 or 95% — 1.35%;
- for values close to 1 or 99% — 0.62%.

Study timeframe: 11–22 January 2025

The qualitative component

Survey method:

- Focus group of women of working age
- Semi-structured expert interviews

Sample size:

- 1 focus group (10 female participants)
- 5 experts

Informants:

- Focus group: women of different ages (18-60 years old) representing different regions of Ukraine
- Expert interviews: male and female experts in the energy sector representing businesses, think tanks, and NGOs.

Study timeframe: 15 February to 8 March 2025.

This study may become an important data source for a variety of stakeholders, specifically:

1.National government institutions and local governments:

- will help government officials and local administrations develop effective programmes of to support women and vulnerable groups the face of an interrupted energy supply;
- contains recommendations on improving women's access to financial support tools (like grants and preferential loans for energy efficiency measures);
- will allow for taking into consideration the specifics of women's experiences while shaping state policies on recovery of the energy infrastructure (information on gender-specific obstacles).

2. Businesses and energy companies:

- to better understand the needs of households and adapt their services, focusing on gender-specific energy consumption;
- to develop corporate social responsibility programs aimed at supporting women and low-income households;
- Implement gender-responsive initiatives to ensure women's equal access to employment in the energy sector.

3. International organisations and donors:

- will offer additional analysis of the situation regarding women's participation in the energy sector of Ukraine, which can serve as a basis for international projects and relief programmes;
- will help international partners develop targeted initiatives to address specific issues, including women's unequal access to information on energy-efficient technologies and financing.

4. NGOs and advocates:

- will help NGOs in shaping their advocacy campaigns aimed at overcoming gender barriers to accessing energy resources;
- can serve as a basis for developing training programmes aimed at raising women's awareness of alternative energy sources and energy conservation methods.

GENDER DIMENSION OF THE ENERGY CRISIS: THE SURVEY RESULTS

The energy crisis in Ukraine has become one of the major challenges for the socioeconomic life of its residents. While the aftermath of this crisis is felt in every field of life, it has a particularly grueling impact on women due to their traditionally high involvement in domestic work and caregiving, as well as their limited access to financial and technical resources. In the context of electric power shortages, rising utility costs, and changes in the labour market, women face a number of specific challenges that have long-term effects on their social and economic security

1.1

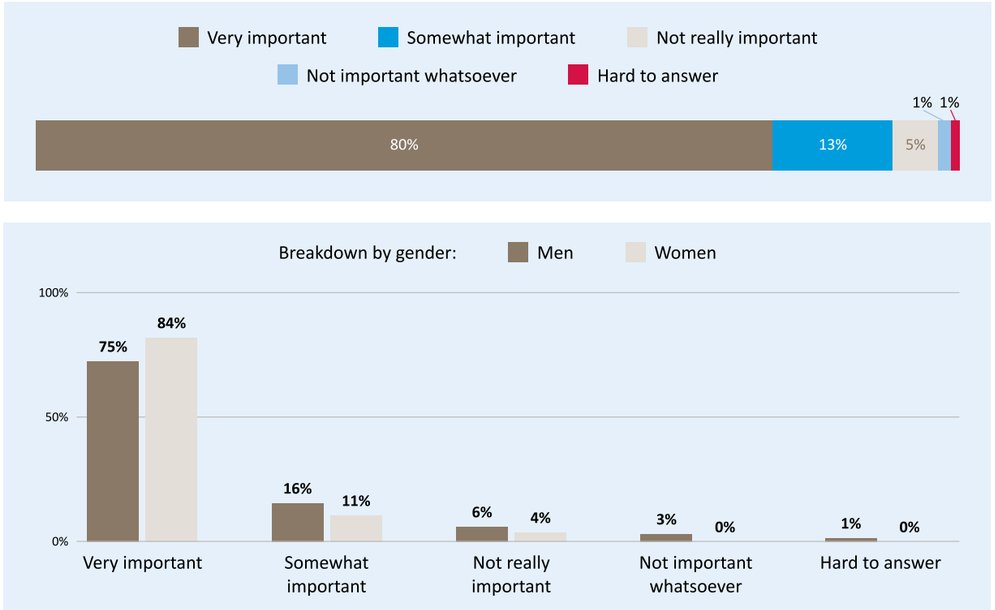
SOCIAL AND DOMESTIC CHALLENGES FACED BY WOMEN AND THEIR INCREASED WORKLOAD

The increased workload experienced by women in relation to household chores and caregiving has been one of the most noticeable effects of the energy crisis. The lack of an uninterrupted power supply led to daily tasks becoming more time-consuming and resource-intensive. The survey showed that uninterrupted access to electric power supply is important for 93% of respondents, both male and female. Still, this issue was revealed to be more pressing for women, with 84% of women and only 75% of men stating their high need for uninterrupted power supply (see Fig. 1.1).

This gender-based disparity most pronounced among younger women aged 18–35, with 82% listing the uninterrupted energy supply as 'very important' (versus 66% of younger men). In older age groups, the difference between the responses of men and women persists but is less pronounced.

FIG. 1.1.

How important is uninterrupted electric power supply for your daily activities?



A significant proportion of respondents, both male and female (61%), do not see major differences in how the energy crisis affects men and women (see Fig. 1.2). However, about a third (30%) of those surveyed believe that the lack of energy supply places a greater burden on women. This idea is predominantly supported by women — 36%, compared to 22% of men (see Fig. 1.3).

FIG. 1.2.

Do you believe the energy crisis affects the workload (or household chores) of men and women differently?

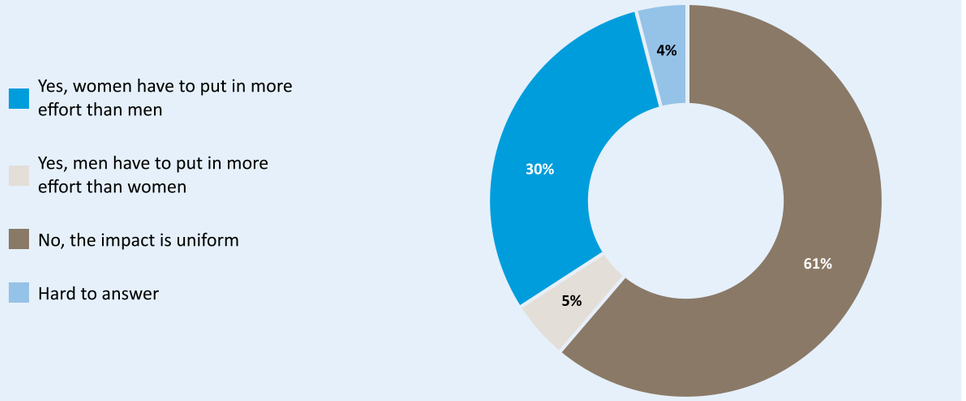
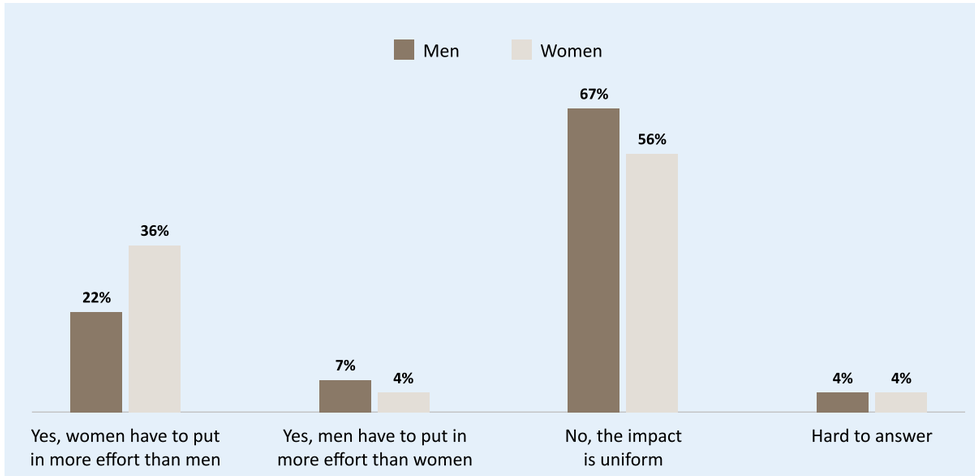


FIG. 1.3.

Do you believe the energy crisis affects the workload (or household chores) of men and women differently?



Notably, women assess the effects of the power outages as significant (5.16), while men assess them as moderate (4.86) (see Fig. 1.4). Additionally, one in three women (37%) and one in four men (27%) reported experiencing extreme challenges presented by electric power outages. (see Fig. 1.5). Women from the southeastern regions face the greatest difficulties, with 48% of women reporting an extreme impact (7 points) compared to 31–33% in other regions.

FIG. 1.4.

To what extent are power outages making your life more difficult currently (this winter)?
(the average score on the scale from 1 to 7, where 1 is 'not difficult whatsoever' and 7 is 'extremely difficult) *Geographic variation is unique to women

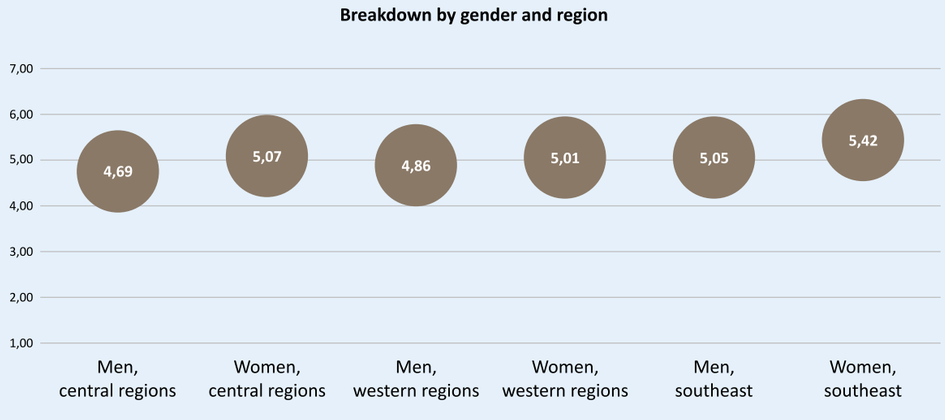
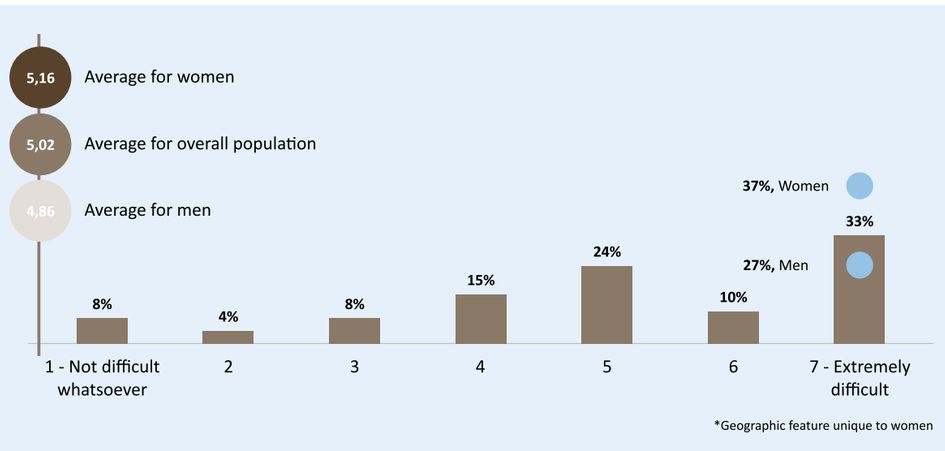


FIG. 1.5.

To what extent are power outages making your life more difficult currently (this winter)?
(the average score on the scale from 1 to 7, where 1 is 'not difficult whatsoever' and 7 is 'extremely difficult)



Power outages cause the most disruptions in the following aspects of life: household chores (55%), heating (51%), charging devices (49%), cooking (42%), and work/study (42%). Women with young children have also cite caregiving as a significant challenge (45% versus 20% in the overall population). Notably, women are more likely to report difficulties in doing household chores (cleaning, cooking, caring for children) than men.

The majority of this group of respondents (90%) agree that it has become more difficult for women to care for children and other relatives, as well as to do household chores during power outages (see Fig. 1.6). At the same time, only 69% of respondents report more difficulties for men in the same context (see Fig. 1.7). In particular, **80% of respondents providing care for children or other relatives** report a negative impact of power outages on their caregiving capabilities (see Fig. 1.8).

FIG. 1.6.

To what extent do you agree with the statement, 'Power outages have made it more difficult for women to care for children/relatives and manage household chores'?

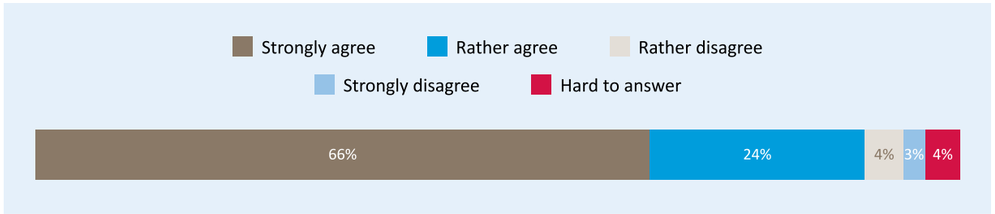
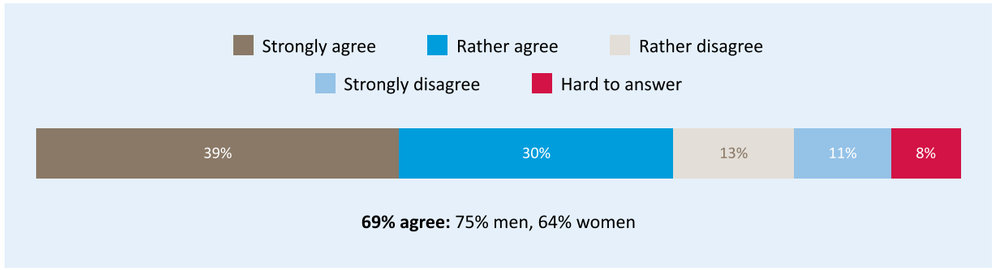


FIG. 1.7.

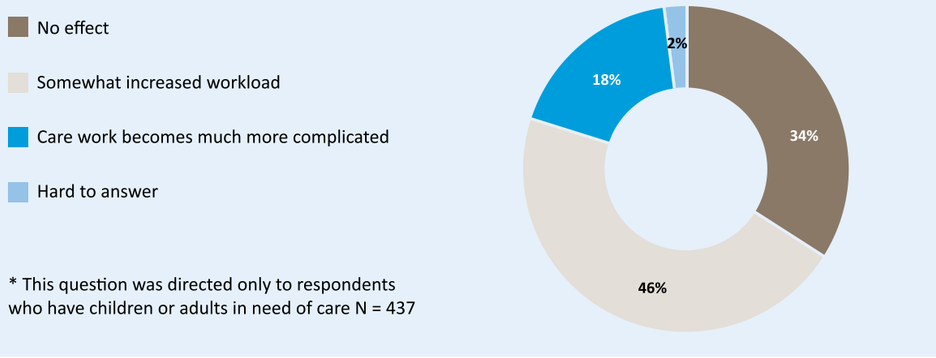
To what degree do you agree with the statement, 'Power outages have made it more difficult for men to care for children/relatives and manage household chores'?

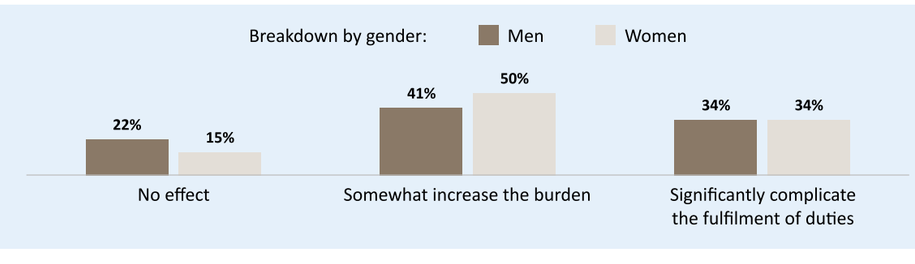


69% agree: 75% men, 64% women

FIG. 1.8.

How do power outages affect your household's ability to care for children or adults who require care?





Power outages significantly affect cooking in 32% of households surveyed, with 3% unable to cook at all. Another third (35%) of households experience minor inconveniences (see Fig. 1.9). Women from south-eastern regions are more likely to have to put up with difficulties while cooking (see Fig. 1.10).

FIG. 1.9.

How do the power outages affect cooking meals in your household?

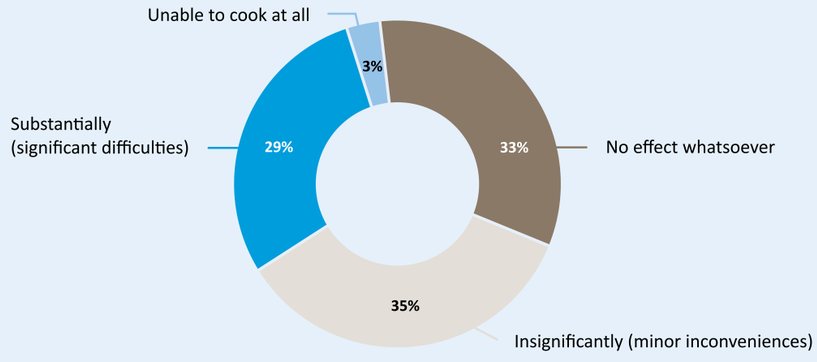
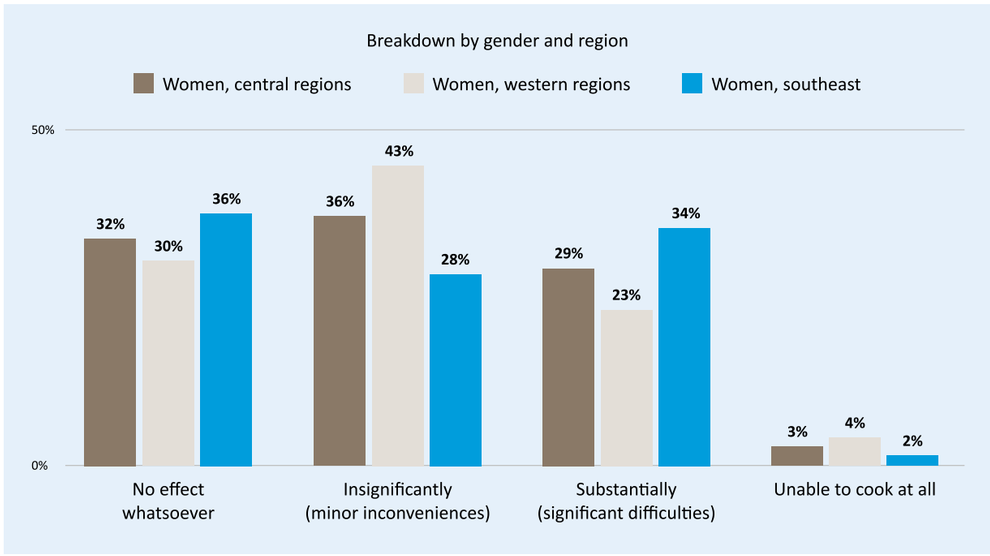


FIG. 1.10.

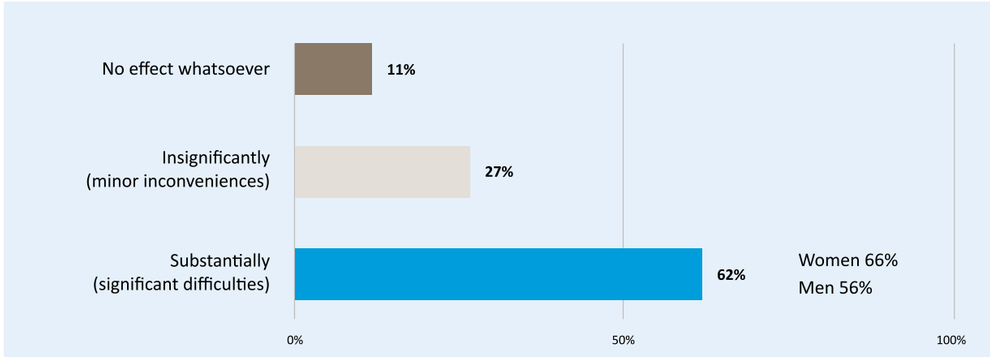
How do the power outages affect cooking meals in your household?



The survey revealed that 22% of families rely on using lifts to access their homes. Among them, 62% experience significant inconveniences: 66% of women and 56% of men (see Fig. 1.11). That difference is even more pronounced among the elderly, with 72% of women and 55% of men reporting experiencing significant difficulties.

FIG. 1.11.

How do the power outages affect your comfort when accessing the floor where your flat is located?



1.2.

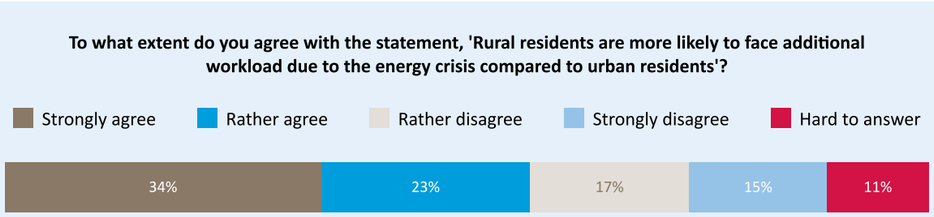
ENERGY CRISIS AND SOCIAL DISPARITIES

The energy crisis in Ukraine has had a significant impact on the lives of the country's residents, presenting additional challenges in both urban and rural areas. Rising energy prices and regular power outages have become a new reality for citizens across the country. However, the negative impact of the crisis varies depending on the region, gender, household income, and educational level. That said, socio-economic factors strongly determine how people perceive the challenges presented by the crisis.

According to the survey, 57% of respondents believe that rural residents are more likely to face additional burdens due to the energy crisis compared to urban residents (see Fig. 1.12).

FIG. 1.12.

Distribution of all responses to the statement, 'Rural residents are more likely to face additional workload due to the energy crisis compared to urban residents'

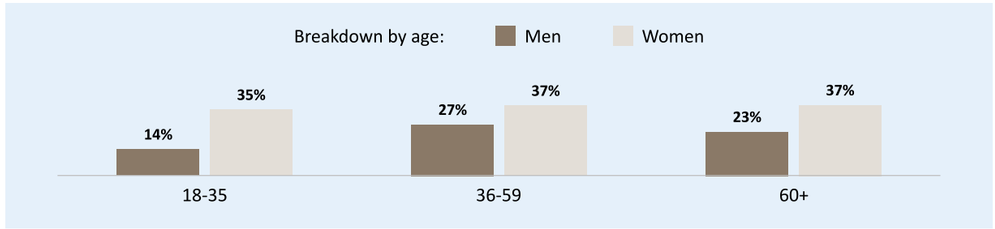


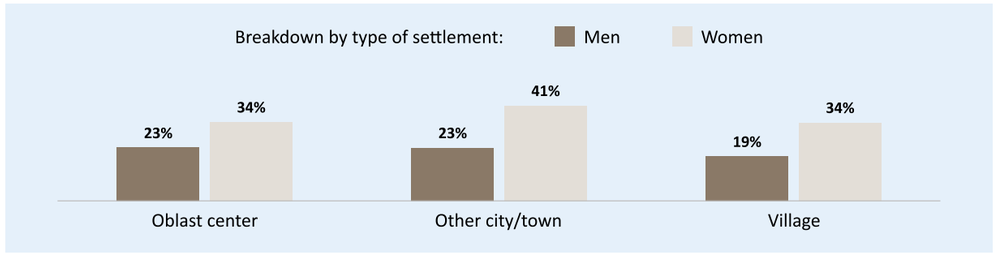
It is also noteworthy that in smaller towns (41%) are more likely to report increased workloads than women in the oblast centres (34%) and villages (34%). Regional specifics also come into play, with women from the central regions of the country (42%) more likely to report increased workload than women from the west (38%) and southeast of Ukraine (28%) (See Fig. 1.13).

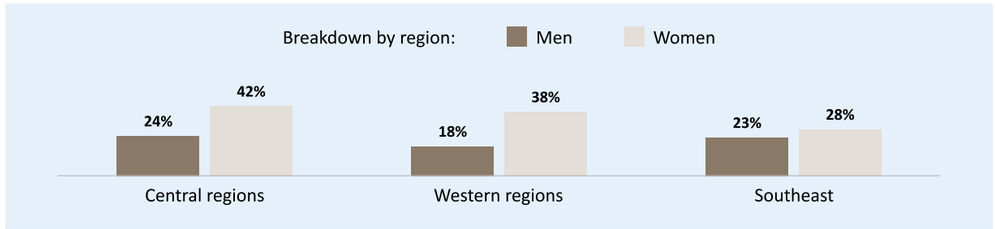
Socioeconomic factors also influence the perception of workload. In particular, women with secondary vocational education are more likely to report increased workload (45%) compared to women with other educational levels (32–33%). In addition, women with average or below average household income are more likely to indicate an increase in workload (38%) compared to women with higher incomes (27%) (see Fig. 1.13).

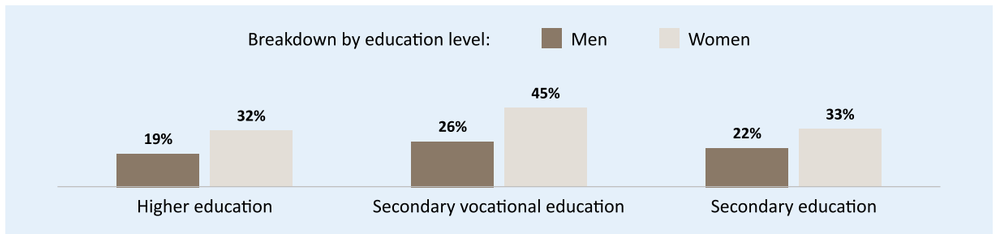
FIG. 1.13.

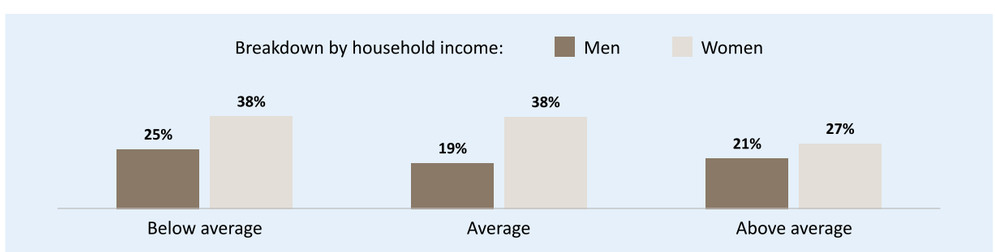
Distribution of all responses to the statement, 'Women have to put in more effort than men'







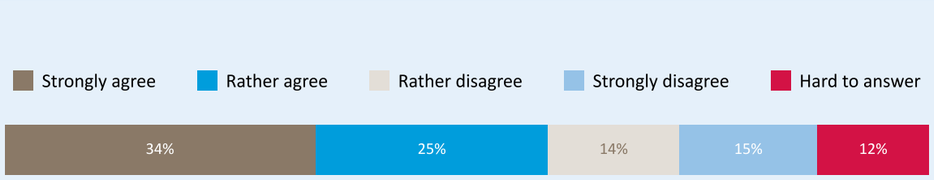




A significant number (59%) of respondents (both male and female) believe that women with lower incomes are more likely to suffer from economic hardships during the energy crisis than men, while 29% disagree with this opinion (See Fig. 1.14). Remarkably, the wealthier and more educated women and men are, the less likely they are to recognise the impact of the crisis as more pronounced for women.

FIG. 1.14.

To what extent do you agree with the statement, 'Due to their lower income, women are more likely to suffer during the energy crisis than men?

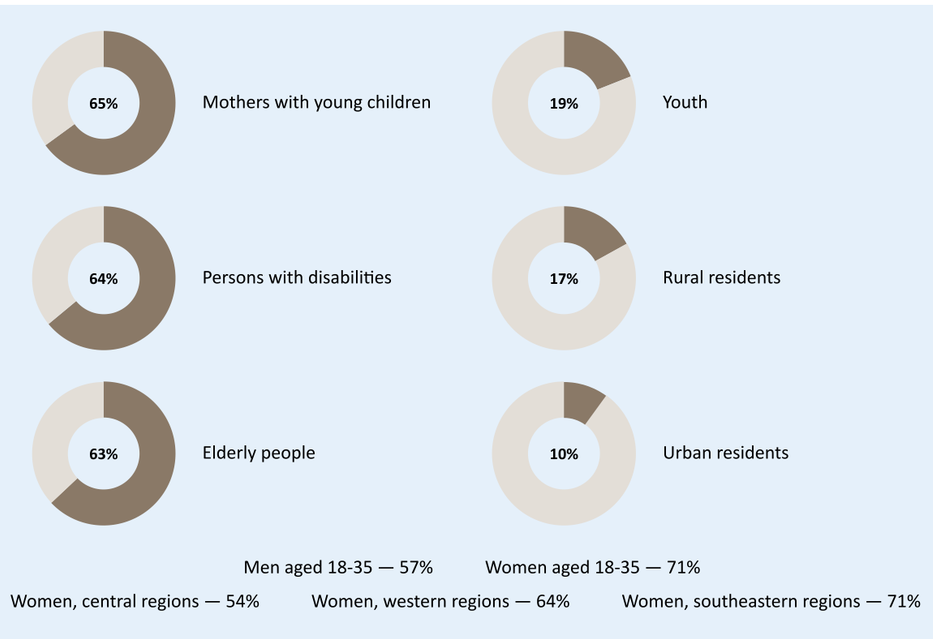


Participants of this study, both male and female, believe that of all the vulnerable groups, the following are most affected by the energy crisis: women with young children (65%), people with disabilities (64%), and elderly people (63%) (See Fig. 1.15).

FIG. 1.15.

In your opinion, which groups are the most affected by the energy crisis?

*This regional trend is not unique to women



1.3.

POWER OUTAGES AND SAFETY

The energy crisis in Ukraine has presented new challenges not just in social and economic areas but also in the matters of safety and health protection. The lack of an power supply affects the safety in public spaces and households, increasing the risks of injury for both adults and children. This is particularly true for the lack of street lighting, which creates unsafe conditions for travelling in the evening and at night. Most respondents (88%) believe that the energy crisis exacerbates the safety risks in public spaces. Women are a lot more likely to be concerned about safety than men (92% of women versus 85% of men).

Women express greater concern concern about their own safety and that of their children, especially in urban environments. In addition, a significant portion of the population faces the risk of injury at home when using temporary lighting sources such as flashlights and candles.

According to the survey, 8% of respondents noted that adults in their families have sustained injuries and burns during electric power outages. Another 5% of respondents reported children being injured under similar circumstances.

Overall, 96% of respondents believe that power outages pose a risk of injury to both adults and children. The greatest safety hazards are:

- lack of street lighting (62%);
- moving around in the dark at home (57%);
- workplace hazards due to the lack of lighting (50%).

Women are more likely than men to express concern about children being injured while walking on the street after dark (64% versus 51%) or using lighting sources (65% versus 45%), with women living in urban areas manifesting higher levels of concern.

In families with children, women are more likely to express concern about street safety (63% of women versus 47% of men), which may be related to women's greater responsibility for taking care of children.

To mitigate the risks of injury during power outages, most respondents resort to alternative light sources, the most common of them being:

- torches (flashlights) and candles (71%);
- restrictions on travel after dark (27%);
- installing backup lighting (28%).

Younger and wealthier respondents are more likely to have access to backup lighting, which is indicative of socioeconomic disparities in the society. Women without children are more likely to report having backup lighting at home (38%) than women with children (22%).

Therefore, the findings of this study confirm the significant impact of the energy crisis on people's safety, especially in vulnerable groups like women and children. In addition, the level of preparedness for crises depends significantly on socioeconomic factors, which require a comprehensive approach to ensuring security in the face of energy challenges.

1.4.

ENERGY CRISIS AND THE QUALITY OF LIFE IN THE COMMUNITY

The energy crisis in Ukraine has significantly affected various aspects of people's lives, including the availability of medical services, opportunities for online learning and work, and social activities in communities. Power outages and unstable internet connections have significantly disrupted the organisation of the educational process and professional activities, presenting new challenges for both adults and children. In addition, social life in communities has been significantly affected by the lack of opportunities to hold events and meetings.

The findings of this study reveal that the energy crisis has significantly affected the availability of medical services in different regions of Ukraine. In particular, 54% of respondents report a significant deterioration in the situation in their area. Gender analysis shows that women are more likely to report difficulties in accessing healthcare services than men (55% versus 49%).

In addition, the energy crisis has also significantly affected people's ability to use the Internet, disrupting their education, work, and remote communication. The majority of respondents (90%), both male and female, agree that unstable energy supply complicates their digital activities, with 76% strongly agreeing with this statement and 14% tending to agree. Women are more likely to report difficulties in accessing digital services (81%) than men (71%). This may be indicative of women being particularly vulnerable to limited access to online work and education.

According to the survey, 92% of respondents agree that the energy crisis significantly undermines opportunities for online learning, leading to a decline in children's academic performance. Of these, 79% completely agree with this statement, and 13% tend to agree. At the same time, women are more likely than men (82% versus 74%) to admit significant difficulties in organising their children's educational process and supporting children's learning under such conditions. This may be due to the greater responsibility that women often bear for managing the educational process within families.

The energy crisis also undermines the social life in communities, particularly by limiting their capacities to hold events, meetings and cultural gatherings. The majority of respondents (74%) note the negative impact of the crisis on social activities in their communities, with 38% reporting significant limitations and 36% reporting moderate difficulties.

In particular, women over 36 are more likely to face limitations in their social lives, with 41–42% reporting significant negative effects, compared to just 31% of younger adults.

An analysis of regional differences reveals that women in the south-eastern regions experience the most extreme social restrictions due to the energy crisis (45%), while in the western regions, this figure is significantly lower (31%). In the central regions, this is a concern for 40%.

1.5.

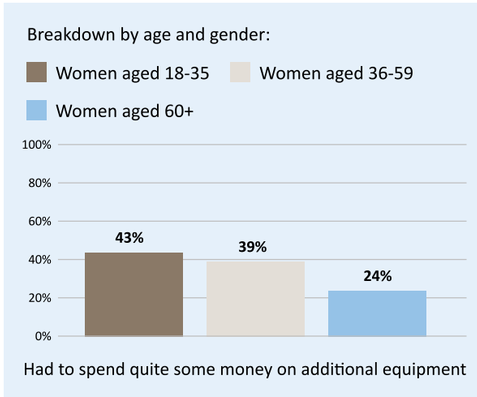
THE IMPACT OF POWER OUTAGES ON WELL-BEING

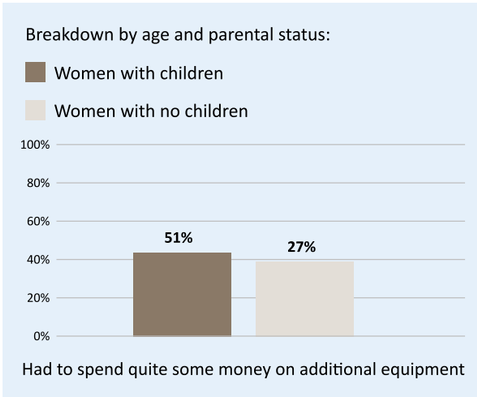
The energy crisis in Ukraine presented a tremendous challenge for most households, affecting both their financial stability and their access to material and technical resources. Constant power outages have forced people to consider alternative power sources, invest in additional equipment and adapt to new living conditions.

One of the key challenges of this energy crisis has been the increase in costs for additional equipment to ensure the electric power supply amidst regular power outages. Approximately one-third of respondents (34%) reported significant financial difficulties associated with the purchase of generators, batteries, power banks and solar panels. Another major problem was the lack of alternative power sources, as reported by 26% of respondents.

Younger women were more likely to report higher pressure caused by additional financial burdens, mentioning higher expenses. In addition, families with children were more likely to report additional expenses for equipment due to their higher need forpower supply (see Fig. 1.16).

FIG. 1.16.
Distribution of all responses to the statement, 'Had to spend a pretty penny on additional equipment' (by category)





Due to the energy crisis, 73% of households were forced to purchase additional equipment for an uninterrupted power supply. Of them,

- 26% had purchased everything they needed;
- 47% had purchased only some of the necessary equipment;
- 6% were planning to make a purchase;
- 21% had not purchased any additional equipment and did not intend to.

Younger female respondents were more likely to report purchasing equipment, suggesting they are more proactive in seeking solutions. Families with children were also significantly more likely to purchase the necessary equipment compared to families with no children.

The energy crisis has led to a notable increase in household expenses, as confirmed by 58% of respondents. Of those,

- 34% reported significant expenses;
- 24% reported moderate expenses.

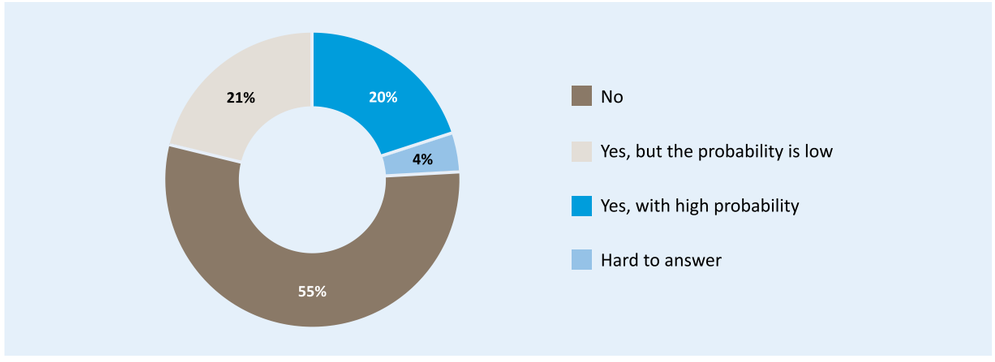
Middle-aged women (36–59) were more likely to report increased expenses in their households (62% of the respondents). Women from the south-eastern regions of Ukraine experienced the greatest financial hardships (66%), compared to 54–55% in the western and central regions.

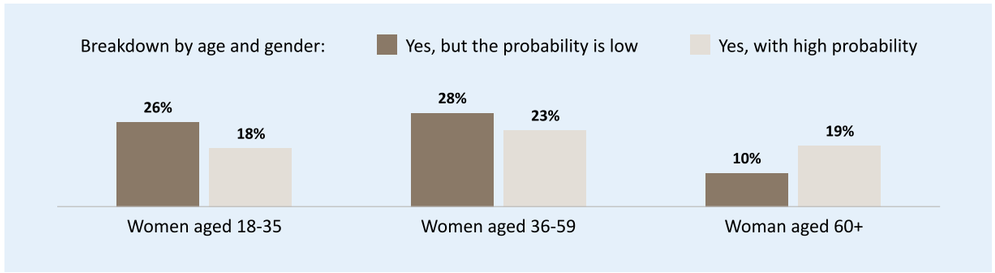
The energy crisis is also undermining people's employment and livelihoods. A total of 41% of respondents expressed concern that their household could face job or income loss due to irregular power supply. 20% of respondents assessed their probability of losing their job as high, while 21% considered that risk to be low.

Middle-aged women (36–59) reported a particularly high risk of losing their job (51%), which is significantly lower than that reported by younger (44%) and older (29%) age groups (see Fig. 1.17).

FIG. 1.17.

Distribution of all responses to the question, 'Do you fear the loss of job(s)/income by members of your household due to the energy crisis?'





1.6.

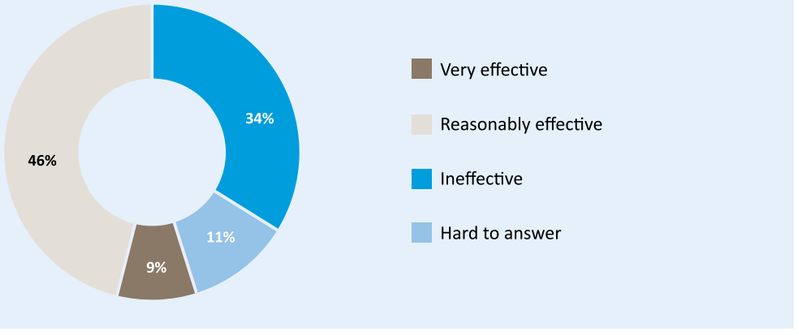
ENERGY SUSTAINABILITY: GOVERNMENT ACTIONS, ALTERNATIVE ENERGY SOURCES, AND CIVIL SOCIETY PARTICIPATION

The energy crisis in Ukraine presented a major challenge for both the citizens and the government agencies. The situation required quick and rapid and decisive action to ensure a stable energy supply, support households, and introduce alternative energy sources. At the same time, the growing demand for energy solutions has increased the public's interest in employment opportunities in this sector, which presents potential for training and reskilling.

The findings of this study revealed that only a small proportion of people received direct support from the government agencies, enabling them to cope with the effects of the energy crisis, however, people highly appreciated the efforts of local governments in this regard. Only 2% reported receiving assistance from government agencies, and yet the majority of Ukrainian residents (56%) rate the government measures as effective, with 9% of them rating those actions as 'very effective', and 47% as 'reasonably effective'. At the same time, a third of respondents (34%) consider those measures ineffective (see Fig. 1.18).

FIG. 1.18.

How effective do you think the actions of the local governments were in overcoming the energy crisis?



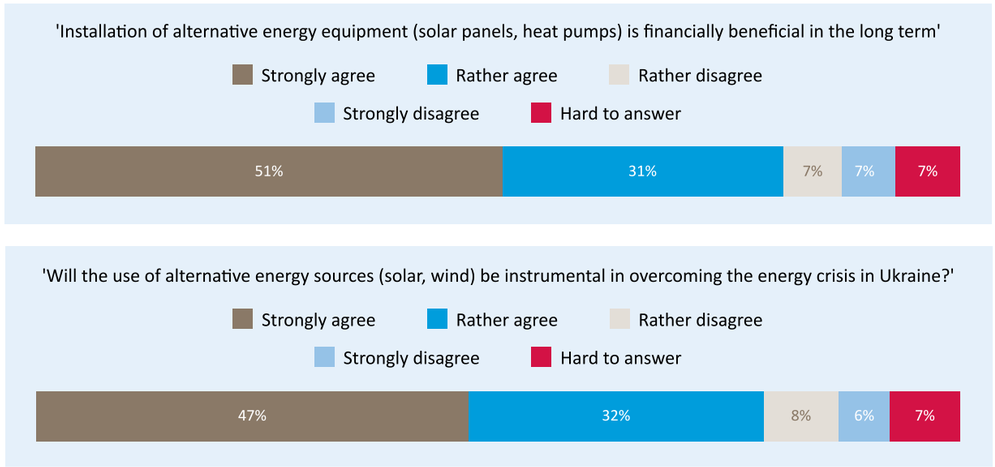
The majority of respondents believe that the government should prioritise providing financial assistance to households and condominiums (49%), as well as provide them with power generators and fuel (79%). Women are more likely than men to report their need for financial support, which may be indicative of women's higher financial vulnerability in the context of crisis.

At the same time, the issue of using alternative energy sources is becoming increasingly important: the **majority of respondents (82%) believe that installing alternative energy equipment (solar panels, heat pumps) is financially beneficial in the long run. In addition, 79% of respondents are convinced that the introduction of renewable energy (solar and wind) will help overcome the energy crisis in Ukraine** (see Fig. 1.19).

People express their willingness to invest in alternative energy solutions, viewing them as reliable means of ensuring their energy autonomy.

FIG. 1.19.

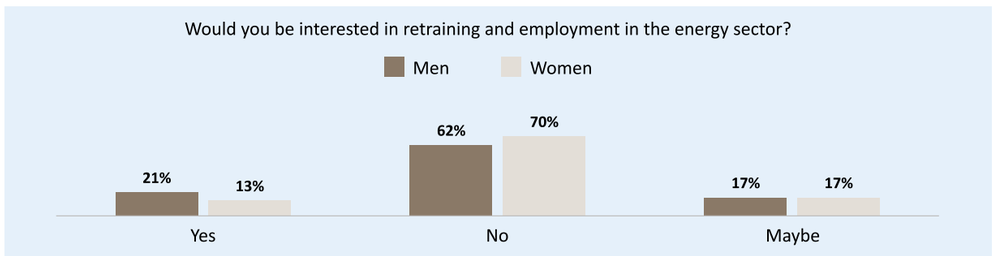
Alternative energy sources: financial gains and overcoming the energy crisis



The growing interest in the energy sector in the context of the energy crisis presents new opportunities for employment and professional development. Thus, 17% of the respondents are eager to undergo retraining in order to get a job in the energy sector. That interest is more pronounced in men (21%) compared to women (13%) (see Fig. 1.20).

FIG. 1.20.

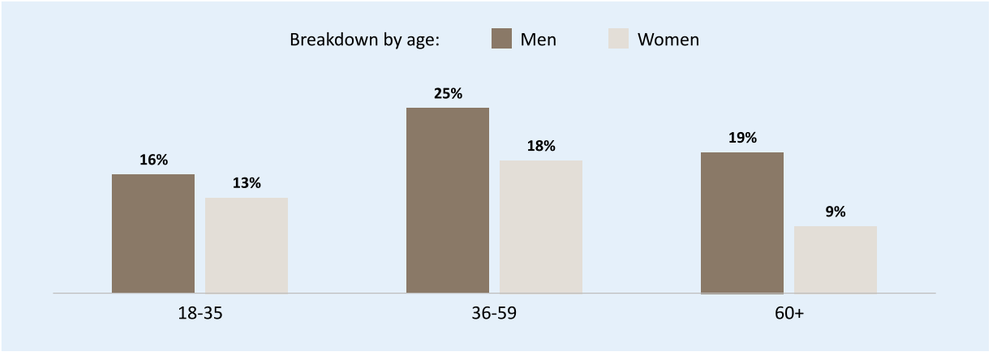
Interest in retraining for further employment in the energy sector (by gender)



Middle-aged women (36–59) are more eager to retrain and qualify for a job in this sector, which may be indicative of their career growth strategies or preference for steady income (see Fig. 1. 21).

FIG. 1.21.

Interest in retraining for further employment in the energy sector (by age)



However, the level of awareness of free training opportunities remains low, with only 9% of respondents, male and female, showing their awareness of the available retraining opportunities. Men have proven to be better informed about those opportunities, which indicates the need for a better awareness campaign focused on women.

According to respondents, promoting women's involvement in the energy sector entails:

- Informing them of available job openings and business opportunities (46%);
- introduction of vocational training programs (44%);
- offering grants for starting a business (37%).

Different demographics have proven to be incentivised by different factors:

- informing of opportunities is more relevant for women with a university degree;
- vocational training attracts women from rural areas;
- grants for starting a business are of particular interest to younger women (18–35 years old).

The energy crisis has brought to the fore the issue of financial support for households and the introduction of alternative energy. Citizens express support for government measures and interest in developing their energy autonomy through the use of renewable energy.

At the same time, interest in employment opportunities in the energy sector is increasingly high, especially among men and middle-aged women. Better awareness campaigns and implementation of training programmes can be effective incentives for to attract people into the energy sector, helping them explore new career opportunities.

RESILIENCE IN THE FACE OF ENERGY INSECURITY: WOMEN'S PERSPECTIVE

Energy instability caused by large-scale attacks on energy infrastructure has had a disproportionate impact on different social groups, particularly women. Given their dual roles in both professional and caregiving areas, women are often the ones who take on the responsibility of adapting their households to new conditions. Their actions and decisions in the context of limited access to electricity demonstrate remarkable resilience, flexibility, and an ability to navigate crisis situations independently. This section presents the findings of a qualitative study that captures women's assessments of the energy crisis and their strategies for overcoming related challenges.

2.1

IMPACT OF THE ENERGY CRISIS ON DAILY LIFE

The findings of the aforementioned quantitative survey of the Ukrainian residents reveal that the energy crisis has had a more profound impact on women compared to men. In particular, women are much more likely to report:

- increased household workload due to unstable power supply;
- higher costs associated with energy-efficient equipment and autonomous power supplies;
- the need for financial support from the national and local governments;
- difficulties in caring for children and elderly relatives in the context of unstable energy supply.

However, quantitative data only provides a general idea of the scale of the problem, not offering a comprehensive insight into women's individual experiences, their adaptation strategies, and ways of overcoming challenges. To gain a better understanding of how women adapt to energy instability, we conducted a qualitative study based on focus groups with women.

The energy crisis in Ukraine has presented women with a number of new challenges, significantly affecting their daily lives. Increased household challenges, difficulties in caring for children and other relatives, increased safety concerns, and financial pressure are all have become the new "normal reality" for many households.

Findings of the representative study indicate that women are much more likely than men to report an increase in household workload in the context of energy instability. The data from the focus groups confirm these trends and complement the quantitative results with the qualitative testimonies of the participants. Women note that with regular power outages, they feel more pressure to find alternative pastimes for children, as their usual digital activities are rendered unavailable. In addition, older people have become more likely to need help with household chores, which further increases the workload on women.

With frequent power outages, women are forced to visit their elderly parents more often to help them with household chores and provide basic care. Thus, the data from the focus groups have a clear correlation with the data from the representative survey, corroborating increased workload on women in their family and daily lives, an additional burden caused by the energy crisis.

'The lights go out, and the Internet goes out, too. And my child needs my attention.'

'I'm young, so I can climb those stairs up and down 150 times. While they [my elderly parents] can only take the lift and go outside before the power is turned off, and return home when the power supply is restored. And when it's cold outside, they can't keep on walking around for too long, so I have to pick them up and find a place where I can warm them up. Taking them to pharmacies, running back and forth to fetch some water.'

The study participants noted that in the early days of the crisis, women often took on more household duties, including food preparation in the conditions of limited energy supply. In 2023–2024, women are better adapted to the challenges presented by energy shortages due to their previous experience in managing household activities during power outages or their homes being equipped with backup energy sources.

Therefore, despite the gruelling conditions, women demonstrate high adaptability and creativity in finding solutions, despite having to face additional obstacles in implementing energy-efficient technologies.

However, we need to take into account the fact that damage to power grids is uneven across the country, and therefore, the degree of urgency of the challenges is different for each specific area.

FIG. 2.1.

Topical challenges faced by women in times of the energy crisis

Participants of the focus groups came up with a list of challenges that are still relevant:

- **Basic household inconveniences:** lack of water supplies, lifts not working.
- **Complicated access to financial/administrative services:** irregular operation hours of banks, ATMs, and administrative institutions.
- **Increased workload in caregiving:** children and the elderly require more of their time and attention.
- **Safety hazards:** lack of street lighting in the evening and nighttime.

2.2

ECONOMIC VULNERABILITY AND EMPLOYMENT

Female participants of the focus groups noted that irregular electric power supply had no significant impact on their income or working conditions, which also confirms the findings of the representative survey. Only a few participants of the study mentioned discomfort at their workplace, caused by problems with heating and unstable internet connection.

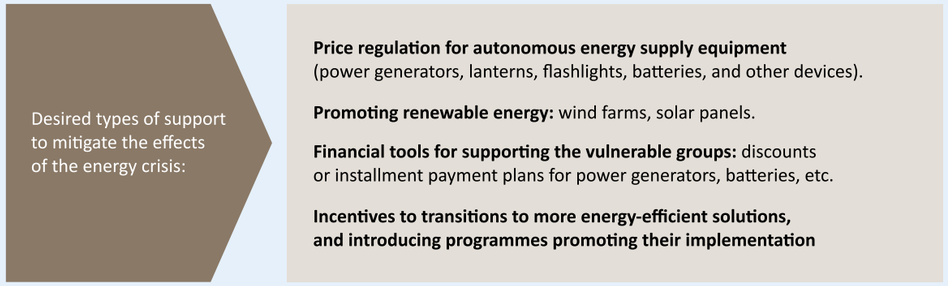
The increase in energy costs has significantly affected the financial stability of households. Significant increases in electricity bills are forcing women to implement cost-saving strategies to reduce costs.

The high cost of buying alternative energy sources (such as power generators and batteries) only adds to the financial burden. Women report their need for measures to mitigate the effects of the energy crisis, which could provide financial support in covering their expenses and reducing their financial burden.

'We bought some flashlights, and their prices skyrocketed. Plus, energy-saving lamps (such as those powered through USB) and power generators have gone up in price. I can't help but notice the rise in prices, as I drive an electric car, and it's draining my wallet."

FIG.2.2.

Types of support to mitigate the effects of the energy crisis



2.3

ADAPTATION STRATEGIES AND SOLUTIONS

As they respond to frequent power outages, the households of the study participants are actively implementing additional energy sources to meet basic household needs, with the most common of them being:

- power banks for charging mobile devices;
- energy-saving lamps to minimize energy consumption;
- battery-operated or USB-powered flashlights and string lights for lighting rooms.

While some families chose to invest in better technical solutions (such as power inverters and generators), allowing them to have backup power sources in the event of prolonged power outages, such investments remain rare due to the significant costs of their purchase and maintenance.

Only a handful of female participants reported using alternative energy sources in their households or workplaces. Most women believe those solutions to be too expensive and high-maintenance. In addition, the lack of technical knowledge and the complexity of installing such systems also become deterrent factors.

Therefore, despite frequent power outages, most households choose less expensive and easy-to-use solutions, and investments in large-scale alternative energy systems remain rare due to financial and technical obstacles.

FIG.2.3.

Main barriers to the introduction of alternative energy sources at the household level

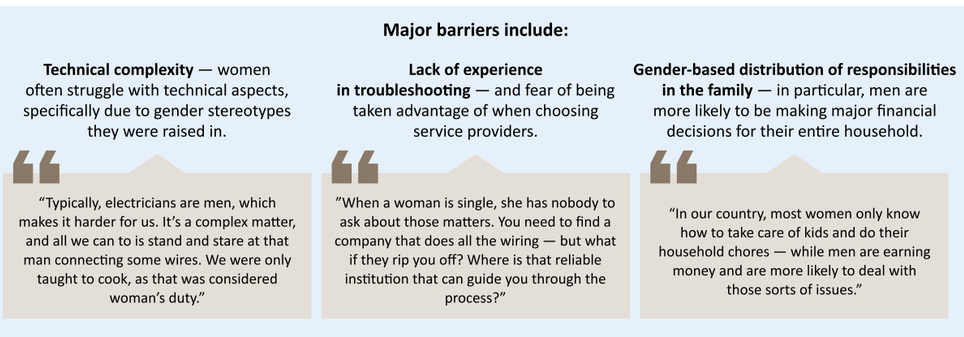
2.4

GENDER-SPECIFIC BARRIERS TO IMPLEMENTING ENERGY EFFICIENCY SOLUTIONS

The findings of this study indicate that women are more likely to face additional obstacles in implementing energy solutions compared to men.

FIG.2.4.

Barriers to the implementation of energy efficiency solutions by women



The female participants of this study mention the lack of programmes and information that promote women's involvement in the energy sector, raising their awareness in the gender-specific aspects of energy policy.

Younger women in particular ardently support the idea of introducing educational programmes on energy efficiency to improve energy literacy and promote a better understanding of modern energy-saving technologies.

Thus, the findings of this study point to the need for education initiatives aimed at women of all ages, which would facilitate their involvement in the energy sector.

"A lot of things hinge on women now. I wonder how those poor women will ride it out in the future. Soon there will be just women where men once dominated."

"In times like this, you have to learn how to do everything as a woman. You should strive to know how to change the power socket, and even a battery [in your car]. Solving more complex issues would be interesting, too."

FIG.2.5.
Quotes from focus group participants: needs and suggestions

Key opportunities for empowering women in energy-related issues include:

Training programmes teaching the basics of electric power supply and energy efficiency.	Women's unions that would help interested women master and hone their technical skills.	Awareness campaigns promoting women's participation in the energy sector.

2.5
WOMEN'S RECOMMENDATIONS FOR A SUSTAINABLE FUTURE

Remedial action in the wake of the energy crisis requires a comprehensive approach. Women believe that the decentralisation of the energy system would present the most effective solution to the problem.

Effective remedial action in the wake of the energy crisis entails:

- predictability of energy prices;
- diversification of energy sources: capacity building in local energy solutions based on renewables (depending on the regional conditions);
- even distribution of smaller solar power plants to ensure greater sustainability given the threat of missile attacks.

FIG.2.6.
Prerequisites for engaging women in the energy sector

"Every region requires its specific approach to alternative power stations. We should install the solar panes wherever possible, and wind power generators wherever they work best."

"If they [the Russians] hit... say, there's an entire field of solar power plants, solar panels — they simply can't destroy them all in one hit. So it would be handy to install several smaller solar power plants in each area."

Steps towards increasing women's resilience to interrupted energy supply:

- informational support — create an independent centre, or a hotline, offering consultations on energy saving, equipment selection and energy-efficient solutions;
- financial incentives — preferential lending, grants for energy equipment, and higher wages in the energy sector;
- educational support — consulting and training programmes for those willing to start a business or consider a career in the energy sector.

Female participants of the discussion came up with several key ideas for attracting women in the energy sector, both as employees and independent entrepreneurs, focusing on financial incentives as a major motivator. Education-wise, the most fascinating of those ideas was launching entry-level technical training and business training.

FIG.2.7.
Key factors in attracting women to the energy sector

Financial incentives	Education and training	Change in public sentiment	Social benefits
High wages; social benefits (subsidies for utilities); early retirement. For entrepreneurs: assistance with seed funding.	Access to free specialised training; mentor support by experienced professionals; business training (starting a business, finding clients, process structure).	Combating prejudices against women in energy sector; promoting the sector as a prestigious career opportunity.	Medical insurance; more vacation time.

EMPOWERING WOMEN IN THE ENERGY CRISIS: EXPERTS' GUIDELINES

This study, supported by a representative survey and focus groups, revealed the complex impact of the energy crisis in Ukraine on women's lives. Women are more likely than men to report an increase in household workload, difficulties with caregiving, and financial pressure due to increased utility costs and the cost of alternative energy sources.

Women are more likely to face financial difficulties and need support from the state and their community. Despite the challenges, they demonstrate their willingness to learn and improve their energy literacy, however, they often have to deal with a lack of support and information. Younger women, in particular, are found to be more receptive towards energy efficiency awareness programmes, but they require clearer communication.

We conducted in-depth interviews with energy experts to develop actionable guidelines.

3.1

IMPACT OF THE ENERGY CRISIS IN UKRAINE ON DIFFERENT SOCIAL GROUPS

The experts believe that the current energy crisis in Ukraine has had a significant impact on a variety of social groups, presenting both economic and social challenges. Low-income households, vulnerable groups, people with disabilities, and women providing care for children and the elderly were proven to be the most affected by the power supply instability.

FIG.3.1.
Most mentioned groups

People with limited mobility/disabilities	Low-income households and retirees	Caregivers for children/the elderly	Remote workers
Depending on the medical equipment they require to support their daily life.	Utility cost exceeds their income; low income limits access to autonomous energy sources.	Bear the additional workload while providing domestic care.	Are forced to look for alternative working arrangements (coworking spaces/ offices).

FIG.3.2.
Isolated mentions of other types of affected persons

Employees of large energy-intensive enterprises	Households with electric heating	IDPs
Power outages affect the regularity of their paycheques.	Risk being left without heating in winter.	Often lack regular income and accommodations.

Experts agree that while the energy crisis in Ukraine presents additional challenges for both women and men, those challenges manifest in different facets.

FIG.3.3.
Gender specifics of the consequences of the energy crisis

Women traditionally bear greater workload in household chores and caregiving for children and the elderly, therefore, it is on them to adapt their households to limited resources.

Irregular electric power supply affects their jobs, too, as women are more likely to work remotely.

Men are more often expected to provide their families with alternative energy sources.

While energy insecurity forces everyone to take on additional roles in times of crisis, it is usually women who bear the additional workload at the household level.

"Statistically, household chores are far from being distributed equally, affecting concentration and decision-making about what one can do with their time. In a situation when someone has to get up at 2 am to do the laundry, most often that duty befalls on women," — IR_5.

Energy insecurity forces everyone to take on additional roles in times of crisis; it is usually women who bear the additional workload of household chores, caregiving for children and elderly relatives, and providing for the basic needs of their household.

3.2

SUPPORT POLICIES AND GOVERNMENT INITIATIVES

In-depth interviews with experts revealed limited awareness of available government support for vulnerable groups in Ukraine's energy crisis. This may be indicative of both lack of said support programmes and lack of proper communication of those opportunities to the communities. At the same time, experts emphasise the importance of developing and implementing government support programmes mitigating the negative effects of the energy crisis in Ukraine.

FIG.3.4.
Recommended components for government support programmes

Financial support	Raising awareness
■ Energy cost rebate for the low-income households (or giving them the option to pay for energy in smaller installments). ■ Subsidies/preferential loans for energy-efficient equipment for vulnerable demographics — as of today, only select territorial communities (hromadas) offer that option, e.g., Vinnytsia compensates 50% of the cost (up to UAH 40,000, ~f 966). ■ Targeted support programmes for smaller communities to ensure their access to energy and autonomous power sources.	■ Awareness campaigns on the benefits of energy efficiency; incentivising lower energy consumption. ■ Awareness campaign aimed at dispelling stereotypes about renewable energy sources. ■ Free feasibility studies for the population and businesses. ■ Energy management training programmes.

Experts believe that providing infrastructural solutions to support vulnerable groups in Ukraine's energy crisis must entail capacity building in autonomous energy sources and improving access to energy-efficient solutions.

FIG.3.5.
Capacity building in autonomous electric power infrastructure

- Equipping the roofs of high-rises with solar power plants to provide for their critical needs (lighting, lifts).
- Create rooms of uninterrupted power supply in apartment buildings, to cover the basic needs of their residents.
- Raise awareness of spaces with autonomous energy supply, like work and study hubs, through the local media and social media.
- Extensive use of affordable plug-and-play solutions.

One key factor in improving energy sustainability is effective coordination between the state and the local governments, NGOs, and businesses.

FIG.3.6.
Non-fiscal state policies towards effective coordination

Identify the one agency responsible for coordinating programmes, ensuring their coherence, and raising awareness on all levels.	Promote the role of the state as organiser and facilitator, by holding events peer learning events to exchange best local practices and put together a centralised database of success stories.
Strengthen cooperation with NGOs in data collection and analysis (e.g., the actual needs in their communities), be proactive in contacting experts.	Adopt testing out new policies as pilots, before their scale implementation.

3.3

INSTITUTIONAL INTERACTION: SOCIAL SECTOR, BUSINESSES, AND GOVERNMENT INSTITUTIONS

Experts believe that NGOs play a key role in mitigating the negative effects of the energy crisis in Ukraine on vulnerable groups. Their awareness campaigns, fundraisers, and advocacy efforts help their communities adapt to energy challenges and implement sustainable solutions.

One effective field of work for NGOs is the installation of autonomous energy sources (like solar panels and collectors) in the communities. Experts see those measures as both increasing energy autonomy and reducing energy cost, contributing to capacity building in the resilience of households in crises.

FIG.3.7.

The three key functions of NGOs in supporting vulnerable groups

Raising awareness	Supporting resources access	Analytics and advocacy
■ Creating training programmes for communities (on energy, RES, and effective resource management). ■ Raising awareness on energy efficiency by installing interactive displays, running awareness campaigns, and launching online platforms.	■ Attracting grant funding to support vulnerable groups. ■ Mediation between donors, the state, and communities in developing comprehensive solutions and channeling financial assistance.	■ System analysis of the challenges of the energy crisis in Ukraine and reporting them to government institutions. ■ Cooperation with government institutions in policy implementation. ■ Assistance in attracting experts and technical specialists.

Experts believe that businesses are capable of mitigating the effects of the energy crisis in Ukraine on both their employees and consumers. Their response to the challenges of energy insecurity may include adaptation of their operational processes, support for their employees, and care for their end consumer.

FIG.3.8.

Expectations from businesses

Energy supply optimisation	Ensuring uninterrupted operation	Employee support	Customer care
■ Implementation of energy-efficient equipment and technologies. ■ Optimisation of manufacturing processes in the context of energy crisis in Ukraine.	■ Development of anti-crisis strategies and action plans for power outages. ■ Diversification of electric power sources.	■ Equipping workspaces with backup power sources. ■ Offering financial/ technical assistance to the employees in purchasing alternative energy sources for their homes.	■ Optimisation of production costs to contain price increase.

To ensure economic and social stability during the energy crisis in Ukraine, the state should take a proactive position in supporting businesses (specifically, through fiscal policies) in their implementation of energy-efficient solutions. At the same time, the experts couldn't come up with fundamentally new economic mechanisms, focusing instead on expanding the existing tools.

FIG.3.9.

Directions for strengthening energy sustainability of business: expert vision

Financial tools and access to debt financing	Support for businesses and investors	Workflow adaptation
■ Ramping up the preferential loans aimed at improving the energy sustainability of businesses. ■ Promotion of rebates for loan rates on energy equipment for enterprises. ■ Expansion of financing options for modernisation of energy systems in condominiums (for instance, the co-financing programme for the installation of solar panels and energy storage, with 50% of the cost compensated by the state and another 40% by the local government).	■ Continuation of the government guarantees for international investors in critically important sectors. ■ Introduction of tax breaks for the businesses implementing energy-efficient technologies.	■ Encouraging flexible work schedules adjusted to energy availability (e.g. switching to night shifts).

To implement energy-efficient technologies, businesses require financial incentives and expert support. Developing partnership programmes between the state and businesses will allow the creation of a sustainable energy efficiency model beneficial to both the enterprises and the economy as a whole.

FIG.3.10.

Incentives for businesses to implement energy-efficient technologies

Information and expert support	Financial tools
■ Capacity building in energy audit, with options of partial compensation of audit costs. ■ Access to professional energy managers and consultants.	■ Tax breaks or lower social security contributions for companies that reduce energy consumption.

Incentive regulation and market pressure
■ Including energy efficiency in export market access criteria.

"In Denmark, entrepreneurs reducing their electric network load are offered tax abatement or job creation benefits, making it a mutually beneficial exchange," — IR_3

An effective strategy of the national/local government supporting the communities in the current energy crisis involves a comprehensive approach, i.e. education, financial support, infrastructure development, and proactive communication. It is important to develop a training system for community members and entrepreneurs, allowing them to effectively manage energy resources and optimise costs.

FIG.3.11.

Priorities of state and local support for communities in times of crisis

Steps for the NATIONAL GOVERNMENT:	Steps for the LOCAL GOVERNMENTS:
■ Introducing training programmes on energy management and preventing energy crises on a community level, aimed at community members. ■ Co-financing the energy managers training entrepreneurs/community members. ■ State funding of energy efficiency solutions for frontline communities.	■ Supporting condominiums in implementing energy efficiency measures (installation of RES technologies). ■ Creating energy security locations (libraries and other public spaces with alternative power supply). ■ Raising awareness on ways to reduce energy consumption. ■ Optimisation of energy consumption by municipal companies.

To raise public awareness of the options for adaptation to the energy crisis in Ukraine, a multi-vector awareness communication is required on both the national and local levels.

Communication channels at the NATIONAL level:

- traditional media (television, radio, print), online platforms (YouTube and other social media), official websites of the ministries.

Communication channels at the LOCAL level:

- condominium chat rooms; local groups on Viber, Telegram and Facebook.

3.4 GENDER-RESPONSIVE APPROACH IN POLICYMAKING

Ukraine lacks expertise on international approaches to gender-responsive energy security management, which may be indicative of the need to study international best practices and relevant policies. At the same time, experts did not find any formal restrictions in access to financing and sustainable solutions in energy, although they did find social barriers affecting the level of women's involvement in this sphere.

- Women are more likely to face barriers based on their lack of technical skills, affecting their involvement in the energy sector.
- Gender-based stereotypes undermine women's involvement in innovation-based decision-making in energy, as technical issues predominantly remain the competence/responsibility of men.
- Women can suffer from limited access to information on funding and participation opportunities due to employment factors (most women are employed in areas that have little to do with technical specialties), lack of free time (specifically due to a combination of their paid and unpaid work), lack of resources (like technical equipment or opportunities of using it), and specifics in content consumption (content on energy sector is mostly targeting male audience).

As of today, Ukraine has a variety of opportunities in place to support women in the field of energy efficiency and energy-related entrepreneurship. At the same time, experts note limited opportunities for improving women's access to financing and education.

Experts find it difficult to estimate the actual demand for retraining women and helping them start their businesses; however, they believe that such demand does exist. One major problem is the lack of accessible information and clear pathways for finding those opportunities. To effectively engage women, it is necessary to not only offer training programmes but also provide them with clear career and entrepreneurial prospects.

FIG.3.12.

Voices of experts: insights from in-depth interviews

"For a woman to decide to work in this sector, we need to give her some incentive. Just offering her training is not enough. A women need both training/retraining opportunities and understanding her employment prospects after that," — IR _3

"Today, many businesses see the opportunity in retraining people, or training them from scratch, facilitating their adaptation to the industry. That' however, does not fit into the usual employment path we are all used to, like reviewing job postings on some portal. That gap is precisely the reason why one may not understand where to look for those retraining opportunities," — IR_5

While the social sector has the potential to promote women's involvement in renewable energy, experts have a limited understanding when it comes to specific measures of such support.

The social sector can promote women's involvement in renewable energy through the following tools:

- Education and raising awareness — running scale awareness campaigns, educating women on career opportunities in the sector;
- Facilitation of international cooperation — helping businesses team up with educational institutions, government agencies, and employment centres to create affective retraining programmes.
- Financial support — offering women willing to start a business assistance with microgrants and microfinancing;
- Promoting accelerators and incubators — supporting women's business ideas through acceleration programmes with large companies involved..

NGOs developing clear strategies and specific support tools can provide for a more effective promotion of women's involvement in renewable energy, assuring a more inclusive development for the industry.

CONCLUSIONS AND RECOMMENDATIONS

The energy crisis in Ukraine has had a significant impact on the lives of its residents, especially women and vulnerable groups. This study identified both socioeconomic challenges presented by rising energy costs and power outages and the gender-specific impact of this crisis. Based on the data obtained, we can put together the following key takeaways.

1. Gender-specific challenges of the energy crisis

The energy crisis in Ukraine has significantly affected the lives of women, presenting numerous challenges in their everyday lives and caring for their families. Women are more likely than men to report increased household burdens due to power outages, water outages, and lifts not working. That problem is most acute in families with young children and elderly relatives, as caregiving is traditionally performed by women. A lack of uninterrupted electric power supply makes it difficult to meet basic household needs, further increasing the emotional and physical burden on women.

2. Economic challenges and financial vulnerability

The increase in the cost of energy and the need to purchase additional equipment for autonomous power supply have significantly worsened the financial stability of Ukrainian households. The majority of women surveyed indicate an increase in utility costs and the cost of purchasing generators, power banks, and other means of ensuring energy autonomy. Middle-aged women (aged 36–59) and mothers with young children are feeling the financial pressure even more acutely. The lower the household income, the greater the burden of energy equipment cost. At the same time, access to power grids remains patchy due to the level of damage sustained by said grids in different regions, further exacerbating the socioeconomic disparity.

3. Socioeconomic and safety risks

The lack of an uninterrupted electric power supply has exacerbated the safety risks, especially for women and children. The outages of street lighting lead to higher risks of injuries and poorer safety when being out and about in the evening. Irregular power supply exacerbated safety risks, especially for women and children. Women are more likely than men to report concerns about street safety and additional challenges in keeping children safe while outdoors. Reduced access to communications and digital resources also impede remote education and work, leading to social isolation and loss of connection to educational and professional environments.

4. Barriers to implementation of the energy-efficient solutions

While presented with the challenge of reducing their energy consumption, women often face numerous obstacles when trying to implement energy-efficient technologies, with the main of those obstacles being their lack of experience in selecting and installing equipment, lack of access to qualified handymen, and financial constraints. Apart from that, a significant proportion of women noted that men were the main decision-makers when it came to investing considerable sums into the household's energy efficiency.

5. Lack of support programmes and awareness

Most women lack awareness of available funding or training opportunities in energy efficiency. This study revealed that the information available is often fragmented or difficult to comprehend, adding to the obstacles of introducing new technology in everyday life. Specialised support programmes for women in the energy sector remain few and fail to account for the specific needs of different social groups. In addition, the lack of clear communication between the government agencies and the residents further exacerbated the social vulnerability of women in this crisis.

6. Disproportionate impact of the energy crisis on different social groups

The current energy crisis in Ukraine affects different regions and socioeconomic groups unevenly. Women from smaller towns and rural areas are more likely to report increased workloads than women from large cities. Women from the south-eastern regions of Ukraine are more likely to report higher levels of inconveniences and financial pressure, indicating regional disparities in energy security.

7. Gender-specific limitations in the energy sector

This study revealed that women face challenges when it comes to employment opportunities in the energy sector due to gender-based stereotypes and lack of support when it comes to professional growth. The energy sector is traditionally perceived as the 'men's area of expertise', limiting women's motivation to retrain or seek employment in the field. Most women don't even consider working in the energy sector as a possible career path due to insufficient technical training and lack of incentivising programmes.

8. Limited opportunities for women's entrepreneurship in the energy sector

Despite new opportunities for female entrepreneurs in the energy sector, women often face obstacles in obtaining resources and financing. The lack of specialised training programmes, as well as support from the state and NGOs, leads to diminished interest in entrepreneurship in the field of energy efficiency.

Recommendations for the key stakeholders

1. National government agencies and local governments

Recommendation 1: Implement a comprehensive support programme for vulnerable groups in the energy crisis.

- The programme should provide for financial assistance in procuring autonomous energy sources. Special consideration should be given to families with young children, the elderly, and people with disabilities, as those are the three groups most affected in the aftermath of the energy crisis in Ukraine.

Recommendation 2: Ensure accessibility of the information on energy efficiency solutions

- Create regional counselling centres offering residents advice on energy efficient solutions, installation of autonomous power sources, and rational consumption.
- Ensure accessibility of information for socially vulnerable groups through multi-channel communications (online platforms, hotlines, mobile applications).

Recommendation 3: Implement gender-responsive energy policies

- Develop measures to support women in the energy sector by introducing training programmes on energy efficiency and entrepreneurship.
- Promote the development of interventions in the energy sector drawing on the gender-based needs analysis and prioritising in crises.

2. Businesses and energy companies

Recommendation 1: Invest in energy-efficient and autonomous power sources at enterprises

- Maintain working spaces equipped with backup power supply to ensure continuous operation and support the employees.
- Develop corporate energy efficiency programmes and inform the employees of the energy-saving measures.

Recommendation 2: Include the gender component into the corporate strategies of energy companies

- Support women's employment in the energy sector by offering educational, retraining, and mentoring programmes.
- Ensure equal opportunities for women in career and professional growth in the energy sector.

Recommendation 3: Make provisions for corporate social responsibility in supporting vulnerable groups

- Introduce special social programmes to support employees through the energy crisis, for instance, through financial assistance or technical support.
- Implement corporate discount programmes allowing employees to buy energy-efficient equipment at a lower price.

3. International organisations and donors

Recommendation 1: Increase support for gender equality projects in the energy sector

- Extend grants for programmes supporting women in the energy sector, specifically educational projects and professional training.
- Fund projects promoting women's entrepreneurship in the renewable energy sector.

Recommendation 2: Building the institutional capacity of NGOs

- Support the institutional capacity building programmes in NGOs working in the fields of energy security and gender equality.
- Encourage the pooling of experience between international and local organisations for further implementation of successful practices.

Recommendation 3: Conduct studies and analysis of the gender component in the energy sector

- Support routine monitoring of the impact of Ukraine's energy crisis on different groups.
- Conduct analytical reviews for best practices in integrating the gender aspect in the energy policy.

4. NGOs and advocates

Recommendation 1: Advocacy for gender-efficient and gender-sensitive policies

Run awareness-raising campaigns on the gender-specific impacts of the energy crisis for:

- women, especially those from vulnerable groups (elderly women, women living in the rural areas, women with young children, women with disabilities) to improve their energy literacy and access to support programmes;
- female entrepreneurs owning small and medium-sized businesses, to help them optimise energy consumption and reduce cost;
- rural population — with an emphasis on autonomous and renewable energy sources;
- local communities and households — on energy saving, promoting autonomous energy solutions (solar panels, biogas plants, etc.), as well as developing projects to support residents, specifically IDPs and those from other vulnerable groups, in implementing energy efficient solutions;
- educational institutions — develop energy efficiency training programs for youth and local specialists.
- Engage local communities in discussions on policies and initiatives that promote gender equality in the energy sector.

Recommendation 2: Educational and awareness-raising initiatives on energy efficiency

- Organise workshops and seminars on energy efficiency and security in crisis for the residents.
- Support online platforms raising awareness of available financial and technical resources.

Recommendation 3: Support women's entrepreneurship in the energy sector

- Develop training and support programs for women willing to start or develop a business in renewable energy.
- Forge partnerships with businesses and international organisations in order to support women's initiatives in the energy sector.

UN WOMEN IN UKRAINE

Since 2016, UN Women Ukraine has built strong partnerships and delivered impactful results by exercising its triple mandate across the development-humanitarian nexus. UN Women's technical expertise, operational support, and policy development capabilities, combined with the ability to convene diverse partners, provide a unique competitive advantage. As the leading agency for gender equality and women's empowerment within the United Nations system, UN Women integrates gender perspectives into UN coordination and decision-making processes. It chairs the Gender Theme Group (GTG) and the Gender in Humanitarian Action (GiHA) Working Group, ensuring that gender equality remains central to strategic planning for humanitarian response and recovery efforts. As the Secretariat of the Women, Peace and Humanitarian Fund (WPHF), UN Women's collaboration with women's rights organizations (WROs) drives localized programming, meeting the needs of the most vulnerable, particularly in war-affected regions in eastern Ukraine. Strategic partnerships with the private sector through innovative mechanisms such as the Women's Empowerment Principles (WEPs) further enhance women's economic empowerment. UN Women's approach complements the work of other UN agencies and partners, bridging crucial gaps and ensuring that women's leadership, agency, and voice are integral to humanitarian, development and recovery initiatives.

UN Women in Ukraine plays a pivotal role in advancing gender equality and women's empowerment across the country, working with over 65 staff and 20 national consultants based in Kyiv and Dnipro. The organization provides vital support to government partners and civil society organizations, aiming to advocate for women's rights, promote gender equality, and empower women in all sectors. Its efforts are particularly focused on 3 key priority areas: Governance, Leadership and Women Peace and Security (WPS), Economic Empowerment and Growth, Humanitarian Response and Coordination ensuring that women's voices and needs are central to these processes. UN Women is actively involved in supporting Ukraine's EU integration and the transposition of the EU gender acquis into national laws and policies.

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