



WISE SERBIA



Implemented by
giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH



**The role of women in the household and
women in business in the energy transition
- INITIATIVES WORTH SUPPORTING**

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Introduction

The project WISE Serbia (*Women of Serbia in Sustainable Energy*) promotes active participation, representation, and a stronger role for women in sustainable energy, climate action, and the green economy, with a focus on the energy transition, democratization and decentralization.

Serbia, like the rest of the region and the world, is faced with challenges as it seeks ways to successfully implement the energy transition in line with the requirements of the Green Agenda and climate action, while at the same time ensuring energy security for its citizens and economy.

Hand-in-hand with the adoption of regulations needed for a successful transition and decarbonization of energy and other sectors, new policies are being developed to create opportunities for all stakeholders to actively contribute to the transition of the energy sector and the entire economy towards green, clean, and low-carbon technologies and solutions.

In this process, women are recognized as important participants regardless of their different roles: as professionals in the energy sector, as energy consumers, and, increasingly, as electricity producers (prosumers).

Enabling women to fully realize their professional potential, or to actively participate in the energy transition as citizens, requires gender-sensitive policies. The availability of relevant and quality data is a prerequisite for adopting policies that would create the conditions to act and monitor the results successfully.

However, due to lack of such data, conclusions on the gender-related aspects of the climate and energy outlook are most often drawn indirectly.

In 2023, WISE Serbia conducted the second survey among women in households (citizens) and women in business, in order to gain insight into their attitudes, knowledge, outlook, vision, and capacities regarding the application of green and clean technologies and the use of renewable energy sources, with a focus on solar technologies in both households and businesses.

This poll builds on a 2018 survey titled (Women in sustainable energy, climate change, and environmental protection - LEADERSHIP FOR CHANGE), and its findings confirm that women in Serbia (in the household and in business - the two main groups of respondents) have significantly improved their knowledge and awareness of the energy transition and the opportunities it brings. Importantly, even though the energy transition in Serbia is still in its infancy, energy efficiency measures and renewable and green technologies are today actually applied in practice, by both households and businesses, unlike five years ago, when there was only talk of these issues.

The project is implemented by the civil society organization Center for Promotion of Sustainable Development (CPOR), in partnership with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), and with the institutional support of the Ministry of Mining and Energy of the Republic of Serbia.

Methodology

The survey was conducted for **WISE Serbia** by market research agency Ipsos, on a sample of 911 women.

The first part of the sample consisted of women in business - those who can benefit from the application of green technologies and innovative energy solutions at firms they own or where they are employed as executives or managers, or in other positions at departments responsible for energy or ESG (Environmental, Social and Governance).

This part of the sample covered a total of 100 women, who were selected using the database of the Serbian Business Registers Agency from 2021. The survey method was mixed – telephone and online interviews.

In the part of the poll that surveyed women as citizens, the sampling frame was women between the ages of 25 and 55 who were members of the Ipsos online panel, while the data-gathering method was CAWI (Computer Assisted Web Interviewing). It covered a total of 811 women.

The survey included questions regarding attitudes and knowledge about green energy sources, and the capacities for and interest in their use - in the household and in business.



WOMEN IN THE HOUSEHOLD



The survey of women in households from all regions of Serbia, 65% of whom live in urban areas and mostly in four-person households, aimed to find out what women in Serbia know about the energy transition process, and how familiar they are with energy-efficiency measures and green energy technologies, whether they apply them or not, and if not, why.

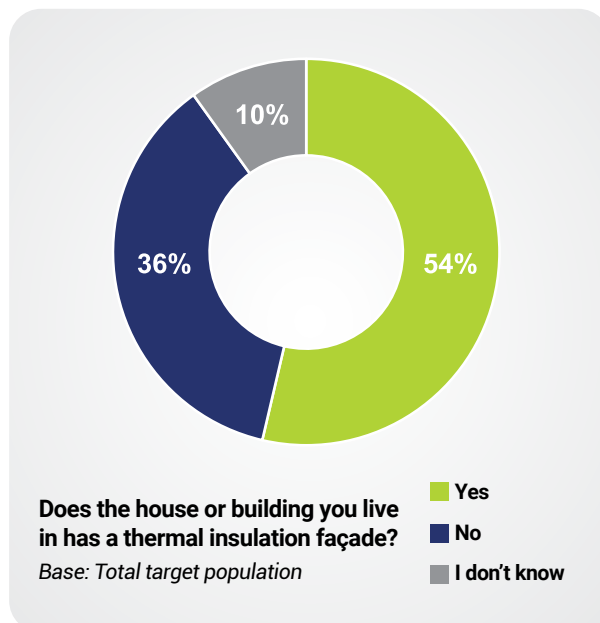
The survey also sought to identify the most effective channels of communication for educating women on

these topics, but also to provide quality data to other stakeholders (decision-makers at the national and local level, financial institutions), so as to help them develop gender-sensitive policies and support and lending schemes based on real data from the field. The purpose of all this is to help effectively implement policies and measures for improving energy efficiency and applying modern climate-neutral and green technologies in Serbian households, as well as the economy.

Household energy consumption and management

The first energy efficiency measure to ever be implemented in Serbia was the installation of thermal insulation façades. Its popularity is confirmed by this survey, with 54% of the respondents saying their household has a thermal insulation façade. The smallest percentage of the respondents who do not have a thermal insulation façade live in Belgrade, while southern and eastern Serbia have the greatest potential for the application of this measure, according to the survey.

43% of women from southern and eastern Serbia say their home has no thermal insulation façade.

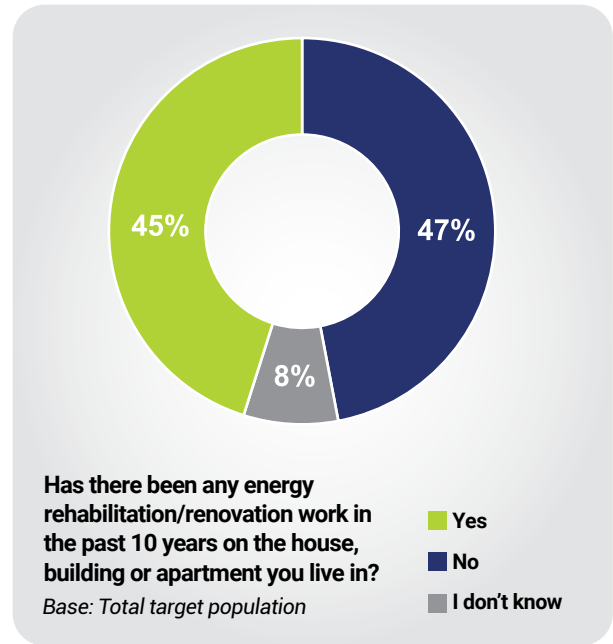


Energy rehabilitation - a positive trend, but support still needed

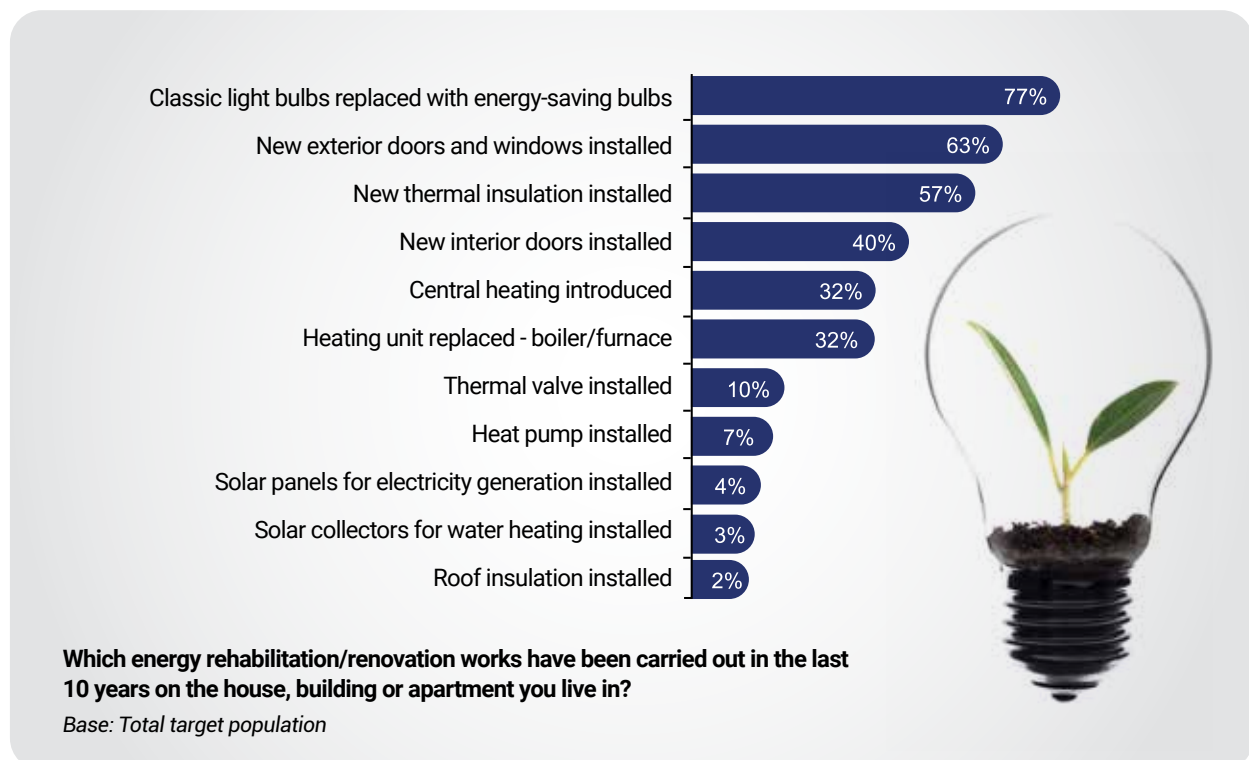
Almost half of the houses and buildings where the respondents live have seen some energy rehabilitation or renovation works carried out in the last 10 years, demonstrating that Serbian citizens have been actively involved in the process of improving energy efficiency in households, which will contribute to improving the country's overall energy efficiency.

With the subsidy scheme for energy efficiency and solar panels implemented in the past two years, the state has encouraged citizens to engage, while a fresh call for subsidies for 2023 confirms that support from the state budget will continue.

Replacing traditional light bulbs with energy-saving bulbs is the most dominant, and cheapest, energy-efficiency improvement measure that has been implemented in the past 10 years, followed by the installation of new external doors and windows and new thermal insulation.



Also important is the trend of using technologies such as heat pumps, solar panels, and solar collectors. Five years ago, their application was almost negligible, but today they it is gaining momentum.



Among the households in which adaptations and other works have been carried out, in 76 it was women who independently made the decision to renovate and carry out major works. This means that 9.74% of all respondents have invested in the renovation and energy efficiency of their home based on their own decision.

10% of respondents made a decision independently and invested in improving the energy efficiency of their home. They recognize the investment as significant.

The survey shows that younger women (from 25 to 34 years), who make up 16% of the sample, as well as married women without children (20% of the sample), are more often not familiar with energy rehabilitation measures in their places of residence. On the other hand, women living in households with a total monthly income exceeding RSD 100,000 and women in multigenerational households more often state that there has been some energy rehabilitation work in their homes in the last ten years.

A survey in the European Union (EU) (Eurofound) has shown that women who live alone with children - single mothers - are at the highest risk of energy poverty. This claim is supported by our survey, which shows that single mothers (68%) and women who live alone (57%) in most cases have not carried out any energy rehabilitation of their home. Also, there is a very high percentage of unemployed women (60%) who have not carried out energy rehabilitation.

The research shows that a woman's decision whether to carry out energy rehabilitation work in her household depends on her economic and social circumstances.

74%

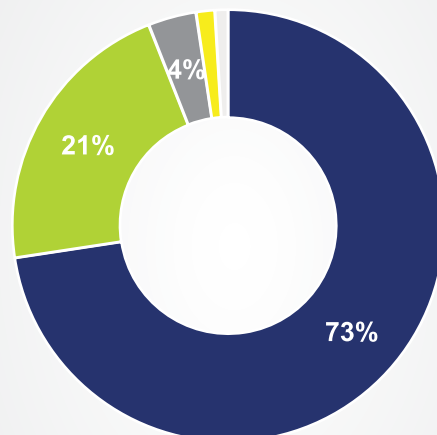
of women cited lack of financial resources as the reason for not carrying out energy rehabilitation or renovation works.

This is a clear signal to the Government of the Republic of Serbia and the Ministry of Mining and Energy to continue with the subsidy program for citizens to improve energy efficiency, which was launched in 2021, and to give advantage or additional points to applications submitted by people from socially vulnerable groups, i.e. single parents.

In almost three quarters of the cases, the works were financed from the household's own funds, while 21% of the women used bank loans, and only 4% stated that the works were supported by municipal or state subsidies.

How did you finance most of these works?

Base: Respondents who have carried out works in the past 10 years on energy rehabilitation/renovation on the house, building or apartment they live in.



- Own funds
- Bank loan
- Municipal/state subsidies
- Other
- Declined to answer

The survey showed that the energy renovation of apartment buildings is less straightforward than the renovation of family houses. Some of the reasons are the lack of interest among residents, lack of information about the benefits of energy rehabilitation, the absence of municipal tendering for such works, lack of financing, as well as residents' inability to reach an agreement.

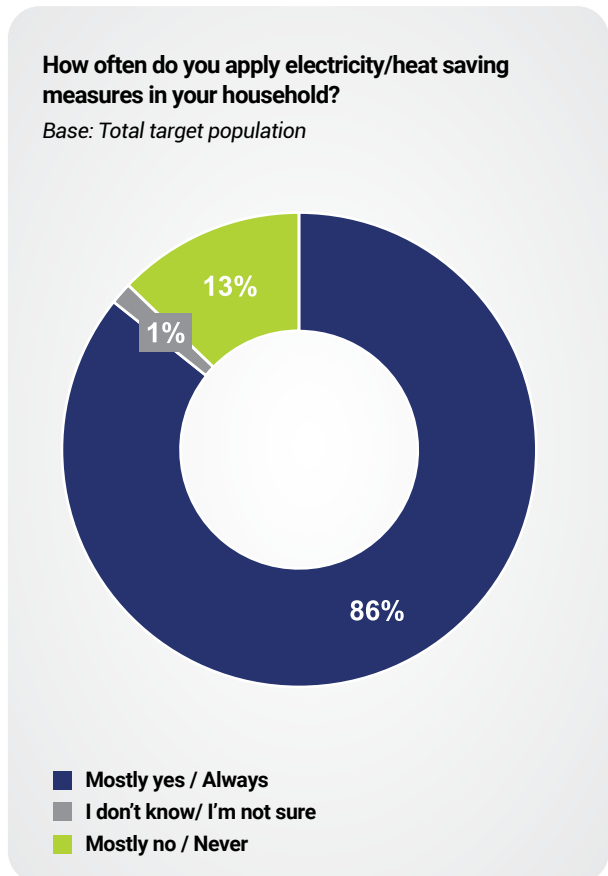


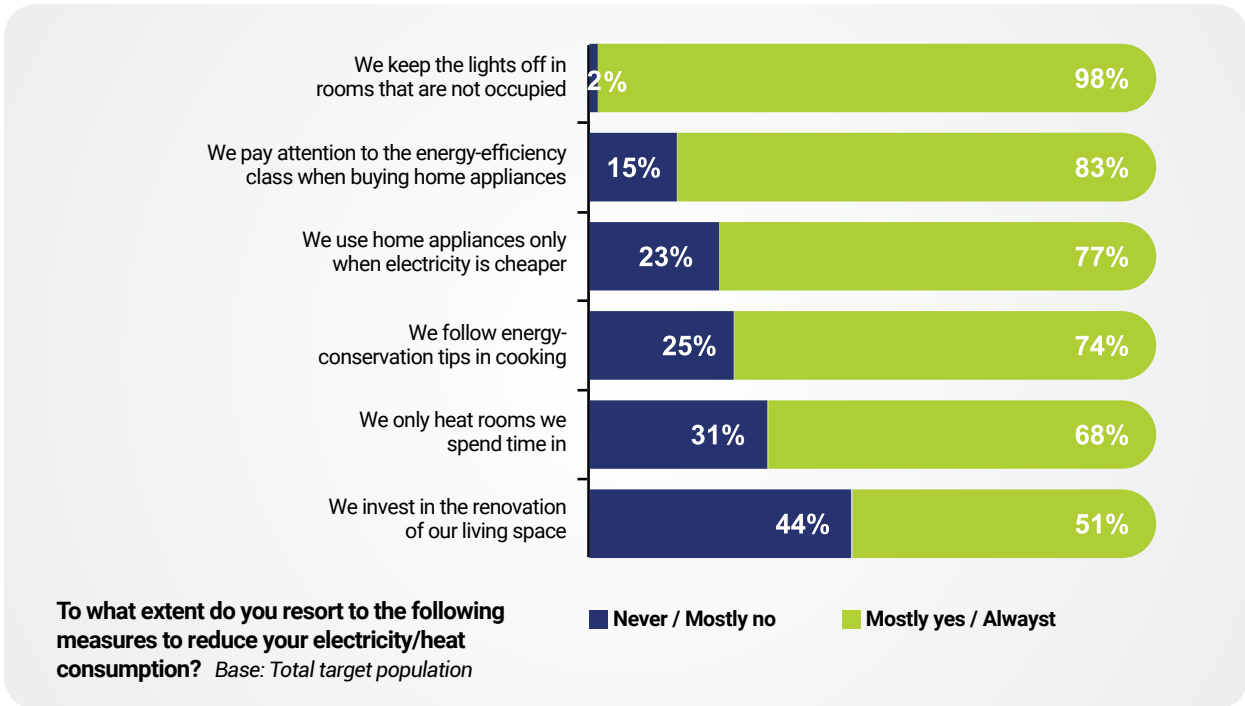
Serbian citizens find energy conservation more appealing than investment

The research shows that electricity conservation measures are a very common practice in Serbian households. Nine out of ten women say that such measures are often applied in their household: 41% of the women say that they alone pay attention to energy consumption in the household, while in 42% of cases all members of the household do so.

The most common habits aimed at reducing energy consumption are those that do not require additional spending, such as keeping the lights off in rooms that are not occupied and paying attention to the energy-efficiency class when buying home appliances

Besides these habits, three-quarters of women use home appliances only when electricity is cheaper and follow energy-conservation tips in cooking, while two thirds usually only heat the rooms where household members spend time.





On this question, significant demographic differences were observed. Women in rural areas more often than others only heat the rooms in which household members spend time. This percentage is lower among women with higher incomes.

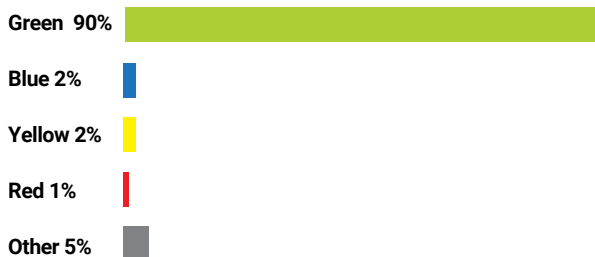
Although the bulk of the respondents, 83%, say they pay attention to the energy-efficiency class when buying home appliances, the survey shows there is a lot of

room for a further education of women on this topic. Only half of the respondents (49%) said they knew which color on the energy label indicates the lowest electricity consumption. Of that number, 90% of the respondents correctly chose green. On the other hand, only 43% of respondents said they knew which color indicates the highest energy consumption. Of that number, 93% correctly said that it was red.

Do you know which color on the energy label indicates the lowest electricity consumption? Base: Total target population



Which color on the energy label indicates the lowest electricity consumption? Base: Respondents who claim they know which color on the energy label indicates the lowest electricity consumption (49% of the target population)



Do you know which color on the energy label indicates the highest electricity consumption? Base: Total target population



Which color on the energy label indicates the highest electricity consumption? Base: Respondents who claim they know which color on the energy label indicates the lowest electricity consumption (43% of the target population)



Solar panels are cost-effective, popular and environmentally-friendly

Attitudes towards the use of solar and other green technologies

Since the adoption of the Law on the use of renewable energy sources, the trend of installing solar power plants has been on the rise in Serbia. Almost 40% of the respondents know someone who has a solar power plant, but only 1% said they had their own rooftop solar power plant.

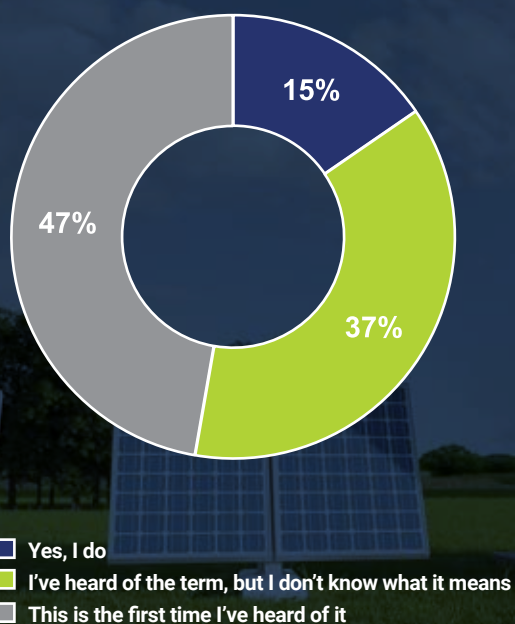
Most of the respondents are not familiar with the term “prosumer” - a household that has its own solar power plant and produces electricity for self-

consumption. Although the term had already entered the media lexicon, only 15% of the respondents said they knew what it meant, while 47% said they had never heard it before.

The popularity of solar panels in Serbia was also confirmed by this survey. One in two respondents said that her household was thinking about installing solar panels.

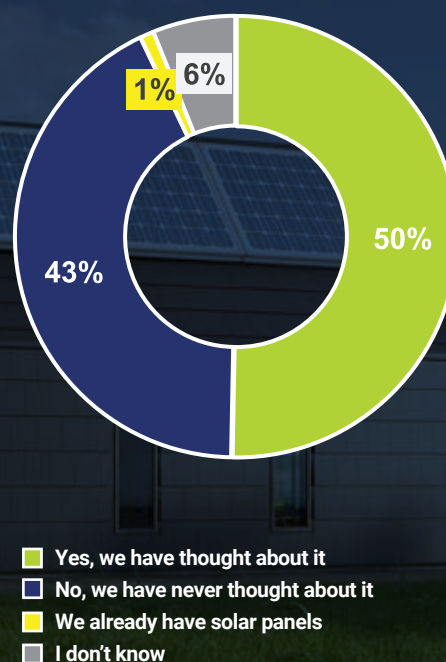
Do you know what the term “prosumer” means?

Base: Total target population



Have you, or someone in your household, ever thought about installing solar panels to produce electricity on your house or building?

Base: Total target population

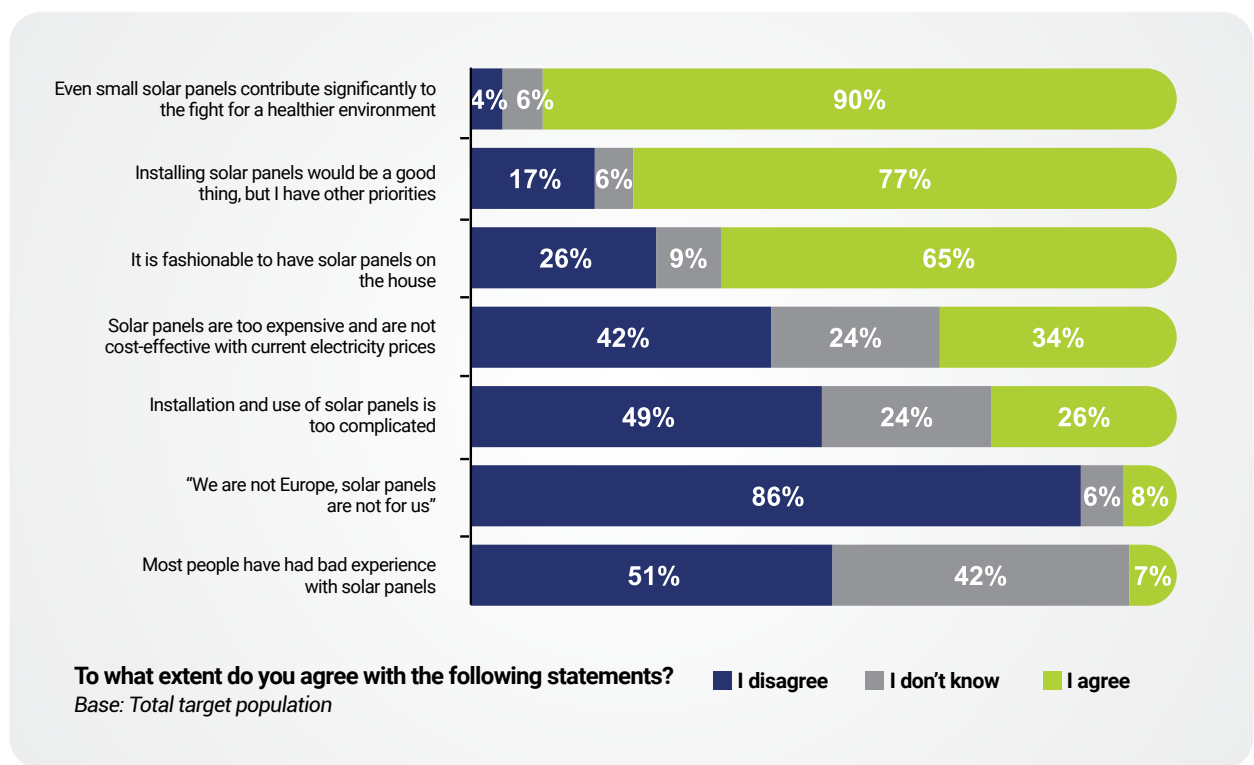


Women living in rural areas, as well as those living in large households, are much more likely to have considered installing solar panels (59% of the respondents).

50% of women confirmed in the survey that installing solar panels had been discussed in their household.

In general, women express a very positive attitude towards the use of solar energy – nine out of ten believe that even small solar power plants contribute significantly to the fight for a healthier environment, and three quarters think that installing solar panels would be a good thing. It is also important to note that as many as 65% of the respondents think that it is fashionable to have solar panels on the house.

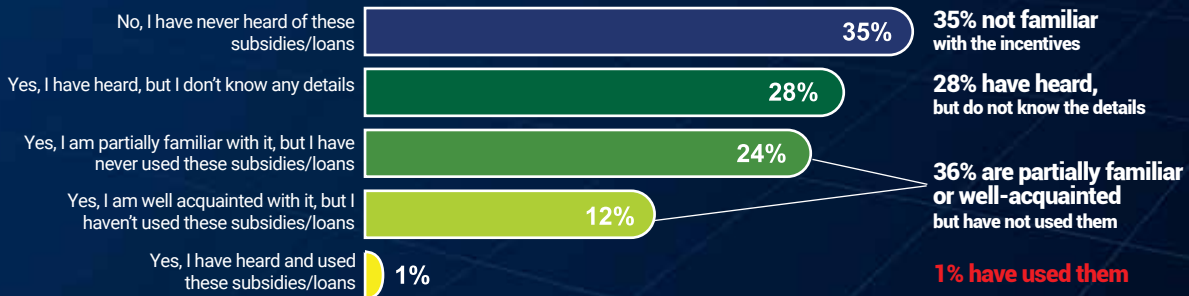
Also, women in Serbia do not see solar panels as a privilege reserved for those in developed European countries, with as many as 86% of the respondents disagreeing with that statement. Additionally, reflecting the latest increase in the price of electricity, as well as announcements of further price hikes, as many as 42% of women believe that installing solar panels would pay off.



Subsidies are key to scaling up solar energy use

Women are not sufficiently informed about subsidies and incentives for solar panel installation. As many as 35% have never heard of such subsidies, while 28% have heard of them but do not know any details. Only 12% are well-informed, while just 1% of the respondents have used these incentives so far.

Are you aware that there are loans and subsidies for the installation of solar panels for the production of electricity for the needs of your household? *Base: Total target population*



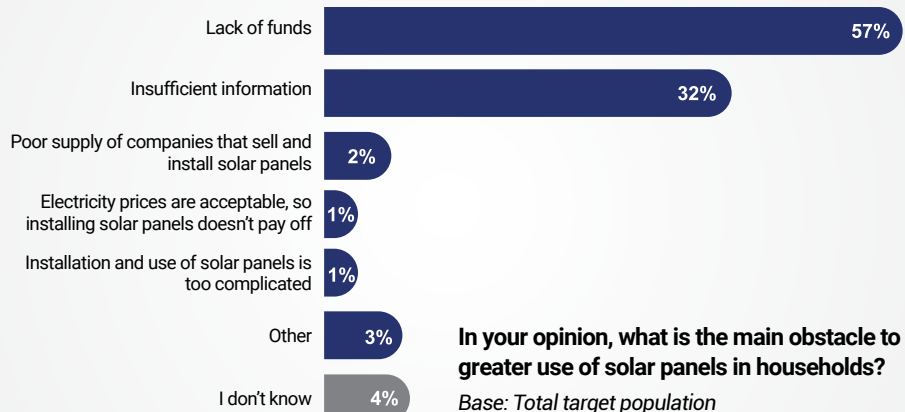
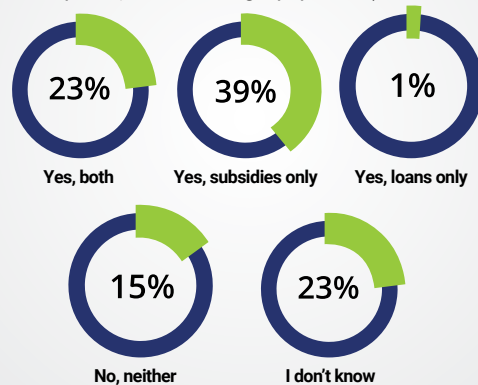
However, six out of ten women who have not used these incentives so far are willing to use them in the future. Also, 23% of the respondents said they would use both loans and subsidies, and 39% only subsidies.

62% of women in Serbian would use subsidies to install solar panels on the roof of their house

Lack of financing, according to 57% of the respondents, is by far the biggest obstacle to greater use of solar panels in households. More than a third of them see insufficient information among citizens as a key barrier.

Would you use loans/subsidies for solar panel installation?

Base: Respondents who have not used loans or subsidies for the installation of solar panels for self-consumption (99% of the target population)

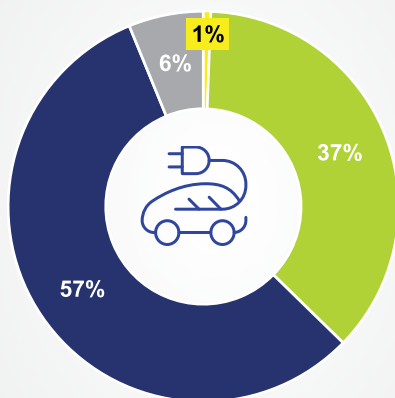


Although electric and hybrid car sales in Europe and the rest of the developed world are on the rise, and the Government of the Republic of Serbia is offering subsidies for the second year in a row, it can be said that the trend of buying such vehicles in Serbia is only just emerging. Only 1% of women in the household own an electric or hybrid car, while 37% of the respondents said they were thinking about buying one. Women in Belgrade and urban areas in general and women whose monthly household income exceeds RSD 100,000 are more likely to have considered buying an electric or hybrid car. The opposite attitude is observed among women in the region of Šumadija and Western Serbia and among those living in rural areas.

Women in Belgrade and urban areas are more likely to think about buying an electric or hybrid vehicle.

Have you, or someone in your household, ever thought about buying an electric or hybrid car?

Base: Total target population

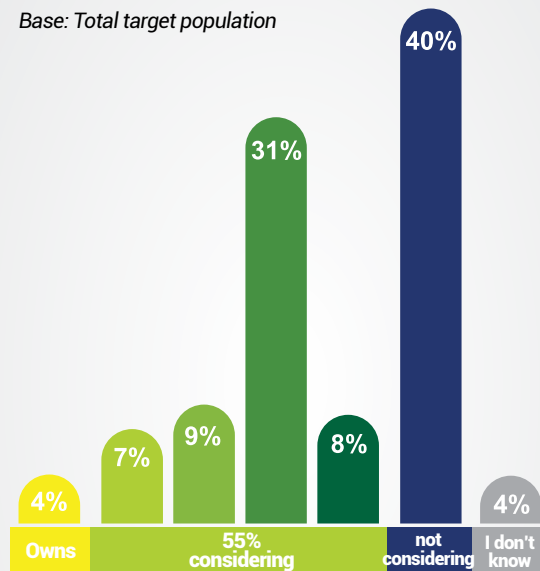


- We already own an electric/hybrid car
- Yes, we have thought about it
- No, we have never thought about it
- I don't know

Heat pumps are a green technology whose use is growing in Serbian households. A total of 4% of households, according to the survey, have already installed heat pumps, and 55% said they were either considering or had considered their installation.

Have you, or someone in your household, ever thought about installing a heat pump in the building you live in?

Base: Total target population



- We already have a heat pump
- Yes, we plan to install a heat pump soon
- Yes, but we don't have enough information
- Yes, but it's too expensive
- Yes, but we don't meet the technical requirements
- No, we have never thought about it
- I don't know



Energy cooperatives are just emerging

The practice of citizens joining together to build solar power plants is still little known in Serbia. According to the survey, only 5% of women are familiar with the term energy cooperatives. Most of the respondents, 59%, have never heard of energy cooperatives before, and 37% have heard of the term, but do not know the details.

37% of Serbian women have heard of the term energy cooperatives, but do not know what it means

Although more than half of the women surveyed are interested in investing in renewable energy projects through energy cooperatives, the number of those among them who think such undertakings are a “distant future” for Serbia is twice as high as the number of those who believe in the success of such projects. Those who said they were not interested - about a third of the respondents – mainly cited lack of financing as the reason not to invest in energy cooperatives.

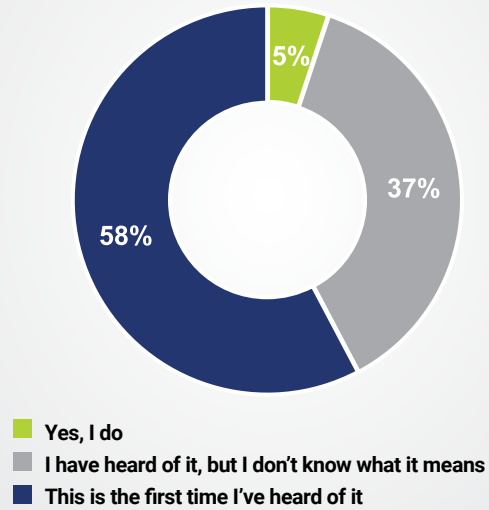
To what extent are you personally interested in investing a certain amount of money in renewable energy projects through energy cooperatives - the construction of solar power plants ?

Base: Total target population



Do you know what the term “energy cooperative” means?

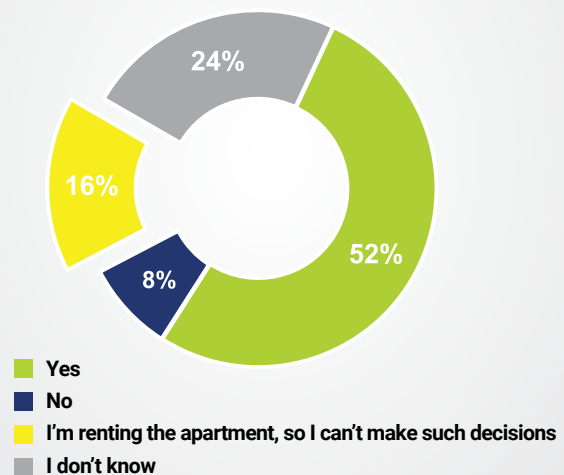
Base: Total target population



Apparently, there is interest in the construction of shared solar power plants. More than half of women living in attached houses or apartment buildings said they were interested in participating in such a project. However, the biggest obstacles, according to the respondents, are problems with securing the consent of a majority of residents, lack of financing, insufficient information, and complicated administrative procedures for obtaining the status of prosumer.

Would you be interested in participating in a project to build a community solar power plant on the roof of the building you live in?

Base: Respondents who live in a multi-apartment house with different households or in an apartment building (46% of the target population).



Attitudes towards the impact of energy sources on the environment

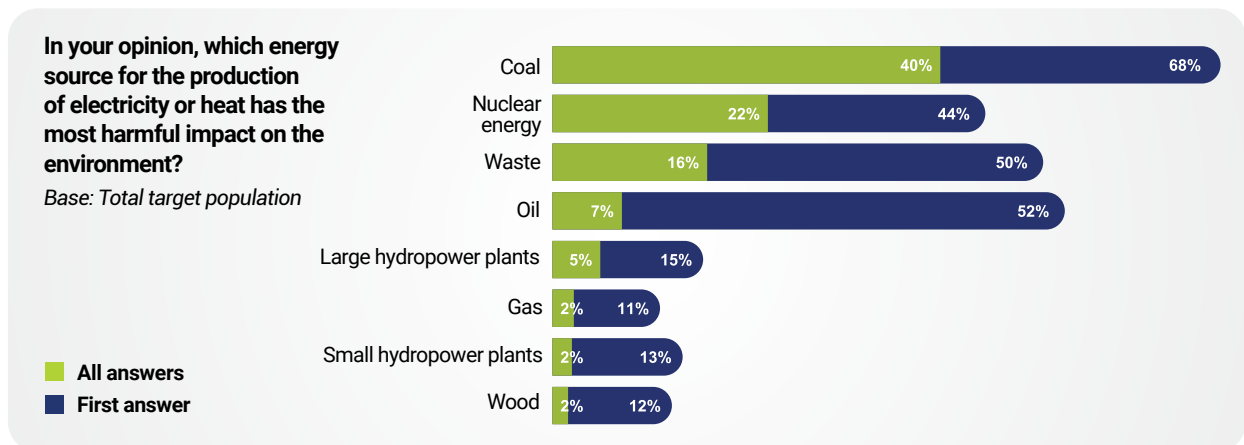
Over the past few years, Serbia has seen an increase in the number of environmentally conscious citizens who are actively fighting for the adoption of policies aimed at reducing pollution and improving the quality of air and the environment as a whole.

Women who took part in the survey believe that coal, oil, waste, and nuclear energy in the production of heat and electricity have the most harmful impact on the environment.

Overall, 81% of the respondents believe that energy production in thermal power plants has an adverse

impact on air quality. The percentage of women in Belgrade who explicitly say that this impact is substantial is 73%, which is significantly above the average.

In the 2018 survey, half of the respondents perceived hydropower plants as a renewable energy source, which they are, but in the 2023 survey they were also seen as something that has an adverse impact on the environment, reflecting the careless construction of small hydropower plants and the response of local communities and the general public to such projects.

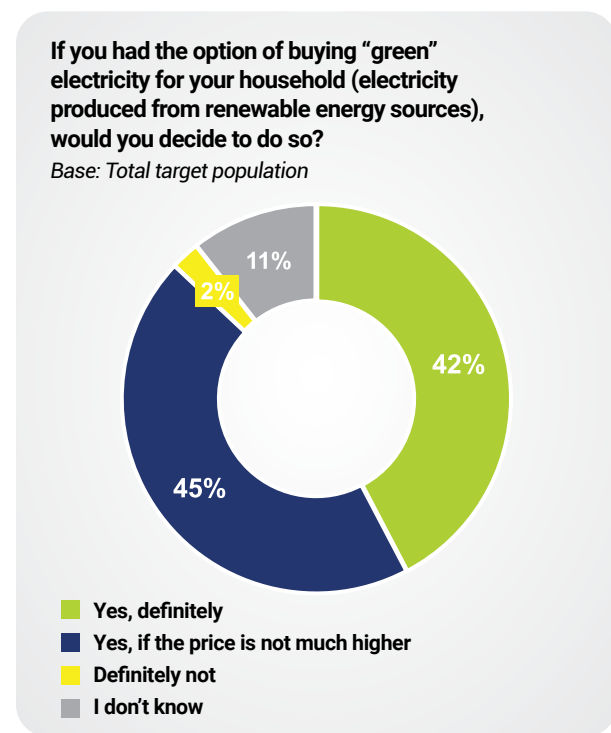


The issues of climate change, environmental protection, and sustainable development are becoming increasingly important to women in Serbia.

More than half of the respondents say the origin of the electricity they use in their household is important to them, primarily because of the environmental footprint of its production (44%), but also because of the impact on health (38%).

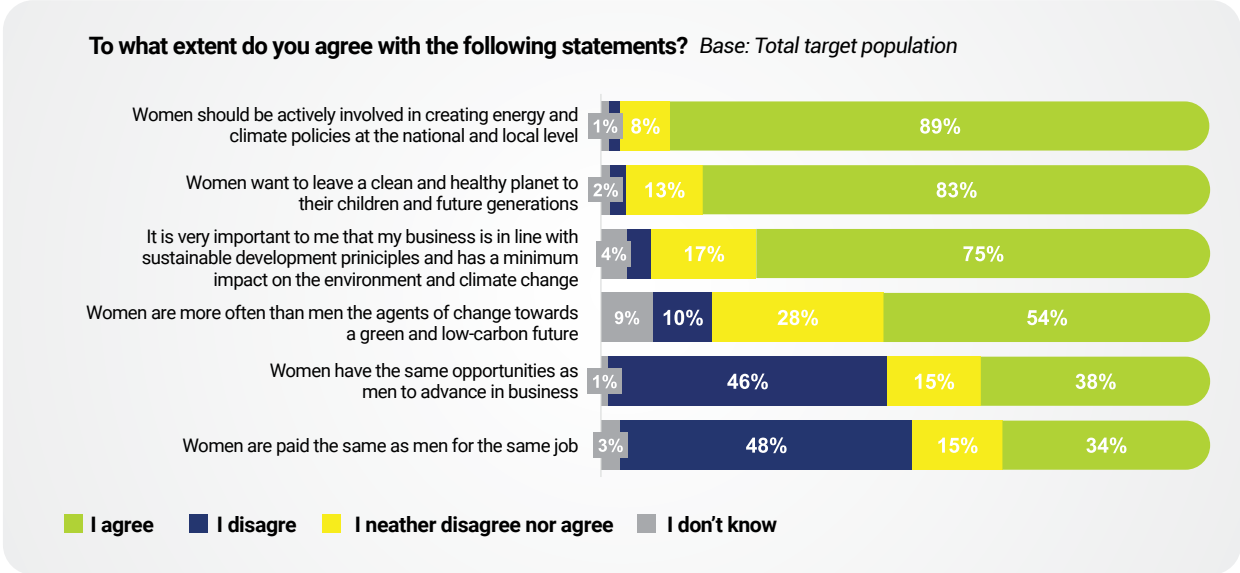
If they had the opportunity, nearly 90% of women would buy "green" electricity.

83% of the respondents believe women want to leave a clean and healthy planet to their children and future generations.



The survey shows that women want to take a more active role in creating energy and climate policies, and that the issue of the environment and leaving a clean planet to future generations, as well as sustainable development, are very important to them.

89% of the respondents said women should be actively involved in creating policies and making decisions concerning energy and climate.



Media - the most important source of information

The most important source of information about new energy technologies is the media - a third of the women put them in the first place and two thirds said they were among the three main sources. Other

important sources of information are friends and acquaintances (cited by 19% of the respondents) and social networks (12%).

What is your main source of information about the possibilities to apply new technologies in the house or building you live in (such as installing solar panels or replacing the heating system in the household)? – Multiple answers

Base: Total target population

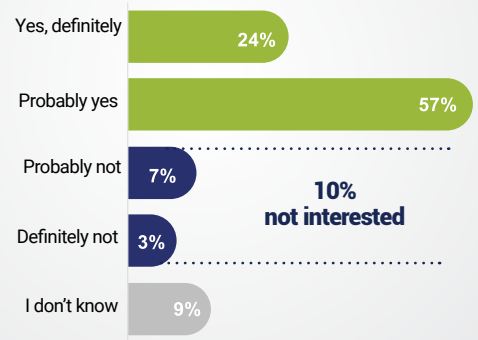


Eight out of ten women would be happy to attend free consultations/ education organized by local authorities on energy rehabilitation measures and the use of advanced technologies. This precious data shows there is room for additional information and organized education. Given that information and familiarity with energy-efficiency measures and clean technologies are the first step in their successful implementation, the message is more than clear.

81% of the respondents are interested in free education on energy efficiency measures and green technologies.

If your local government offered free consultation on energy rehabilitation measures and the use of advanced technologies, how likely would you be to use such services?

Base: Total target population





WOMEN IN BUSINESS

Serbian businesses have a very important role in the country's energy transition and decarbonization given that, along with households, they are the biggest consumers of energy (the economy in the broader sense and industry in the narrower sense). Although the sample used in the survey was limited and insufficiently representative, the poll marks the first step in the process of gaining insight into the attitudes, needs, and ambitions of women in business (owners and/or co-owners of companies, chief technology officers and/or development managers, executive directors, chief financial officers, CEOs, sustainable development managers (ESG managers) when it comes to the energy transition and the harmonization of business with the requirements of the Green Agenda and the imperatives of decarbonization and sustainable

development. The survey covered 100 women, more than half of whom have extensive work experience, of over 20 years.

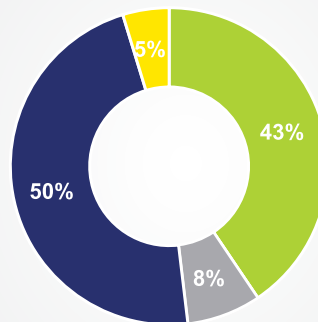
Aiming to ensure that future policies of support to the economy and businesswomen in the energy transition and decarbonization are informed by concrete data from the field, and that the obtained data is used in subsequent stages to monitor the success of policy implementation in practice, the survey examines how well Serbian businesswomen are informed and what knowledge they possess, as well as how financially capable Serbian businesses are for decarbonization, harmonization with the Green Agenda, and the application of green technologies. The survey also seeks to identify bottlenecks in these processes.

Energy consumption and management - great potential for improvement

When it comes to more efficient energy use in companies in Serbia, the research showed that around half of the women have not considered improving energy management or introducing circular economy measures in their company.

On the other hand, two fifths of them have thought about improving energy management, and 8% about introducing circular economy measures. As the main reasons why they have not considered improving energy efficiency, businesswomen most often cite insufficient information, lack of funds, or the absence of the need for such actions.

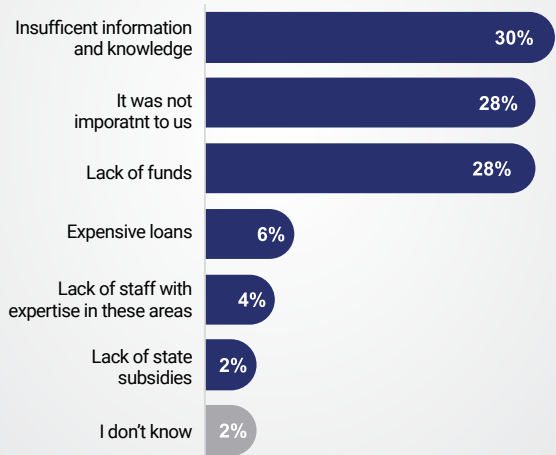
Have you considered improving energy management (more rational and efficient energy consumption) or introducing some circular economy measures? *Base: Total target population*



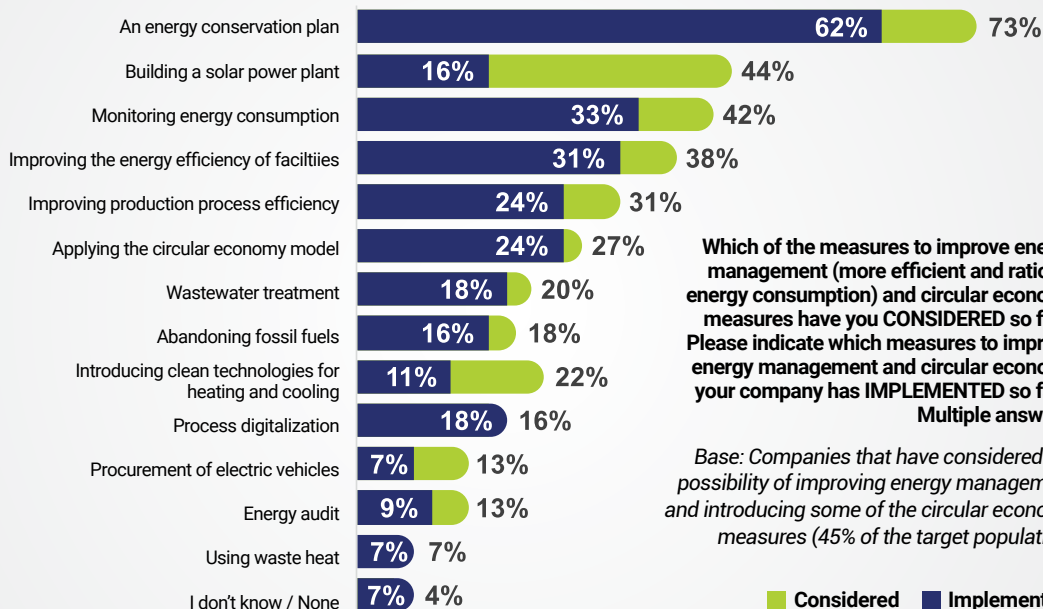
- Yes, improving energy management
- Yes, introducing circular economy measures
- No, neither
- I don't know

What is the main reason why you have not considered the possibility of improving energy management or introducing circular economy measures?

Base: Companies that have not considered improving energy management or introducing circular economy measures (50% of the target population).



When it comes to measures to improve energy management, three quarters of women who have thought about more rational energy consumption in their company have considered an energy conservation plan, and 62% have implemented one.



Which of the measures to improve energy management (more efficient and rational energy consumption) and circular economy measures have you CONSIDERED so far?; Please indicate which measures to improve energy management and circular economy your company has IMPLEMENTED so far?:
Multiple answers;

Base: Companies that have considered the possibility of improving energy management and introducing some of the circular economy measures (45% of the target population)

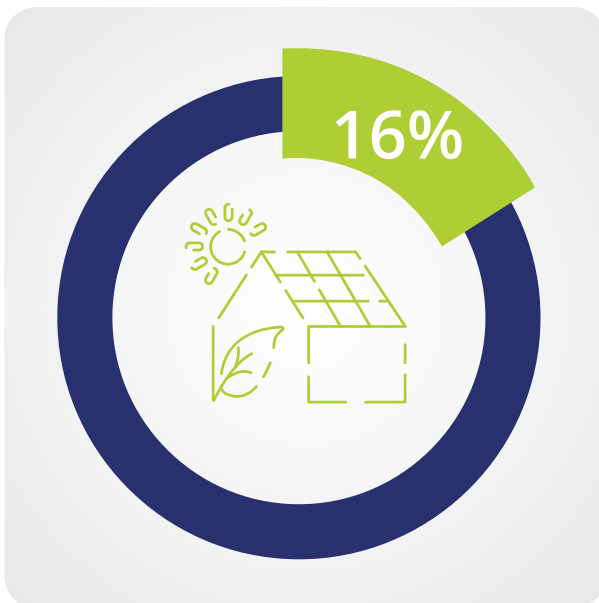
■ Considered ■ Implemented

50% - 50%

Half of the businesswomen surveyed have not considered improving energy management or introducing circular economy measures in their company, while the other half have actually implemented most of the considered measures.

Solar panels as a way of greening companies' energy mix

Of the 100 companies whose representatives took part in the survey, seven have built solar power plants. Only one company has installed a battery to store electricity, and three firms plan to do so. The average capacity of the built power plants is 476 kilowatts (kW).



44% of the respondents have considered installing a solar power plant for their company's own needs, and 16% have built one.

When it comes to installing solar power panels on canopies at parking lots, 13% of the respondents said their companies planned to implement such projects.

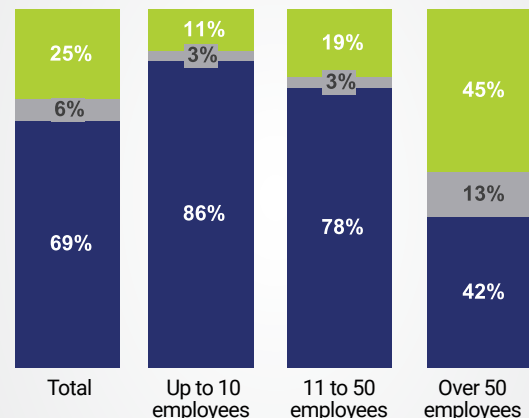
Women who work in medium and large companies, with over 50 employees, are somewhat more interested in such projects. However, on average, two fifths of the businesswomen said that they did not plan to build solar canopies at parking lots.

Financing and support schemes for women in business - expectations exist

When it comes to information about banks' loan offer for the construction of solar power plants and the purchase of green and more energy-efficient technologies and equipment, a quarter of the businesswomen surveyed believe that they are familiar with the offer. Although this percentage is significantly higher among women in medium and large enterprises (45%), the fact that seven out of ten women in business on average are not informed about available opportunities should not be ignored.

To what extent are you familiar with banks' loan offer for the installation of solar panels and the purchase of green and more energy-efficient technologies and equipment?

Base: Total target population

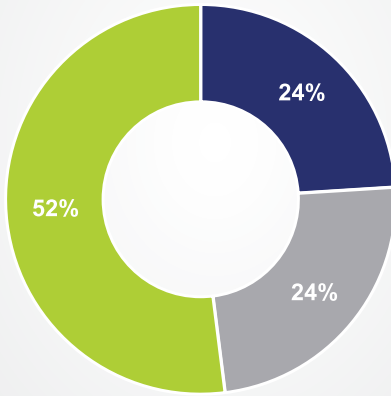


■ Fully / Mostly yes
■ I don't know
■ Not at all / Mostly no

More than half of the respondents who said they were well acquainted with the bank's loan offer (52%) rated the offer as good. Representatives of companies that have not applied for a loan so far (fewer than 30) would mainly do so in the future, but under certain conditions.

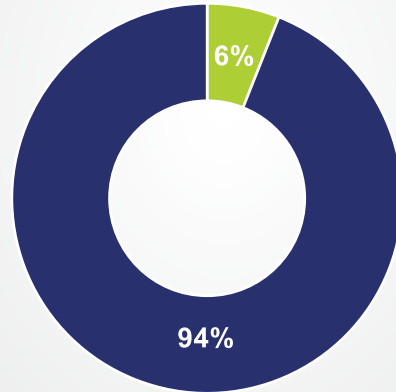
How would you rate banks' loan offer for solar power plants and green technologies?

Base: Companies acquainted with banks' loan offer for the installation of solar panels and the purchase of green and more energy-efficient technologies and equipment (25% of the target population)



■ Poor ■ I don't know ■ Good

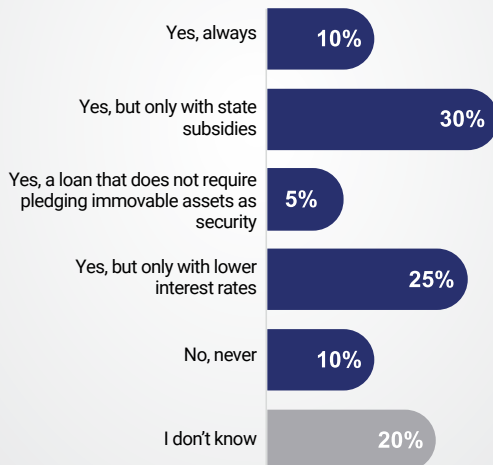
Have you heard of any subsidy programs for women in business for the construction of solar panels or the purchase of green technologies and equipment, which have been implemented in the past 5 years (subsidies from donors, the state, local development agencies, local authorities, financial institutions)? Base: Total target population



■ No ■ Yes

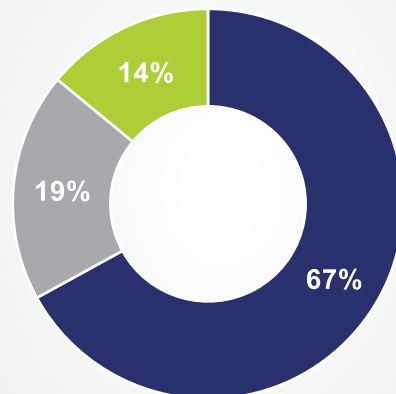
Would you take out a loan for the installation of solar panels or the purchase of green technologies and equipment for the needs of your business?

Base: Companies that are familiar with banks' offer, but have not yet applied for a loan (20% of the target population)



Regarding loans as a source of financing, the respondents do not think that there are gender-related barriers. Two thirds of them believe that companies owned or run by women have the same chances as men to get loans for improving energy efficiency.

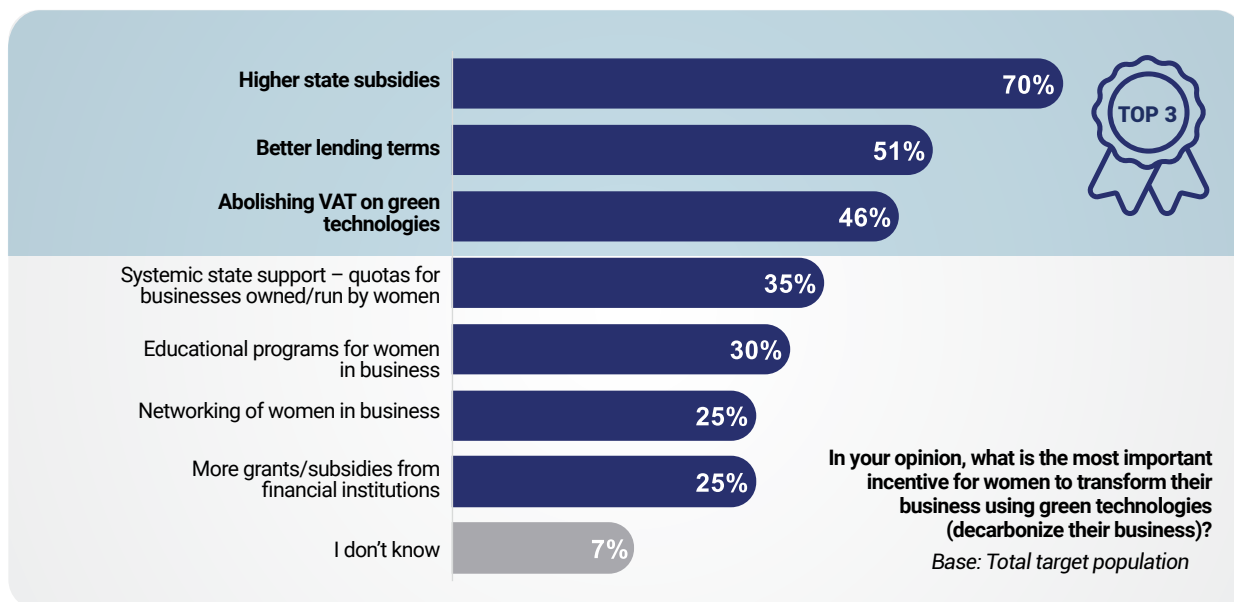
Do you think that companies owned or run by women have the same chances to get a loan for improving energy efficiency – buying green technologies - as companies whose owners are men? Base: Total target population



■ Yes, they have equal chances
 ■ I don't know, I couldn't say
 ■ No, men have better chances than women

When it comes to subsidy schemes implemented in Serbia in the past five years for the installation of solar panels or the purchase of green technologies and equipment (subsidies from donors, the state, local development agencies, local authorities, financial institutions), only 6% of the respondents have heard of such programs.

The key incentives that could help women with greening their business, according to the respondents, include higher state subsidies, better lending terms, VAT exemption.

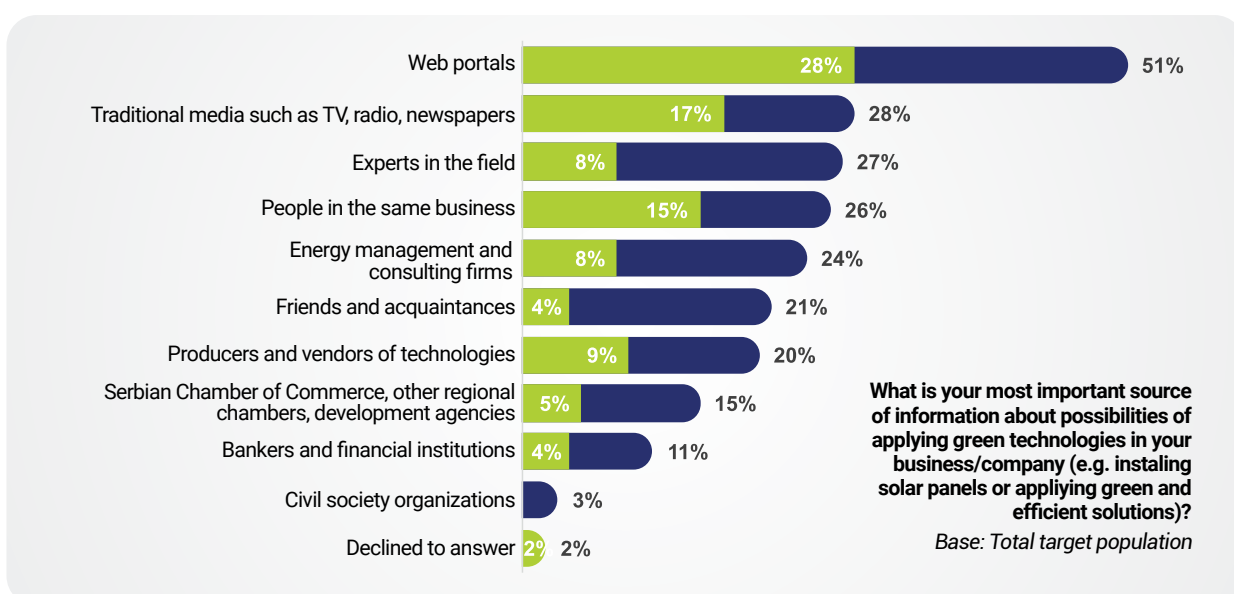


Sources of information for women in business and their attitudes

For women in business, the five most important sources of information about the possibilities of applying green technologies are: web portals, traditional media, experts, and people who do business in the same industry.

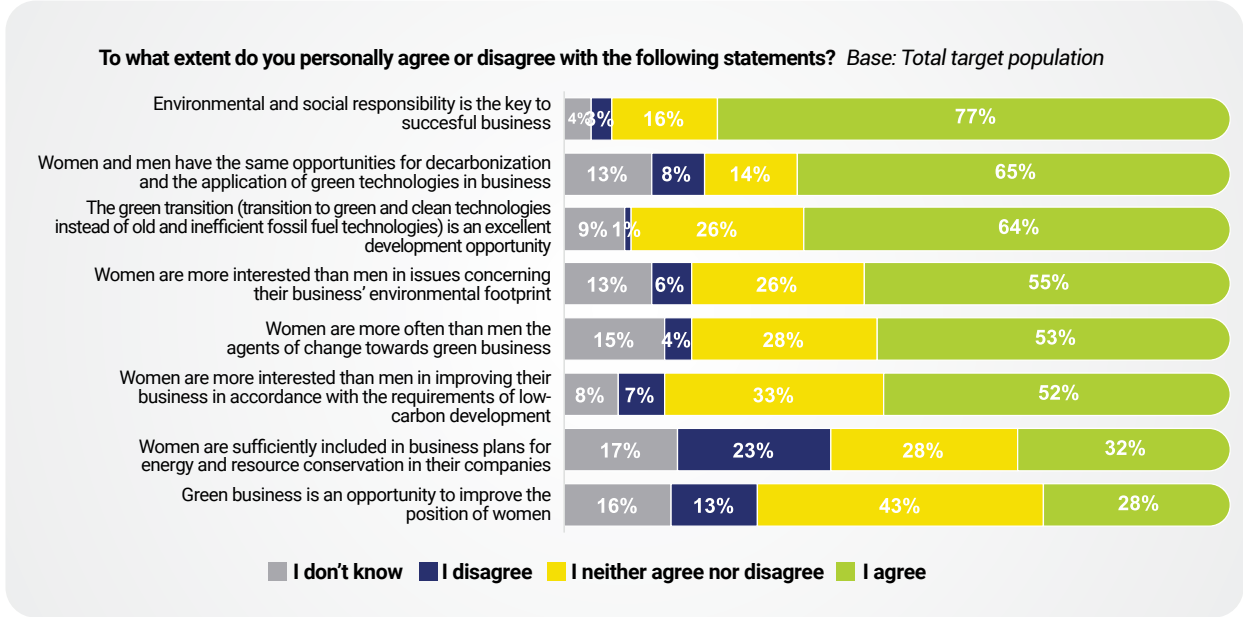
for women working in companies with over 50 employees, and much less important for women employed in smaller companies, who mostly rely on web portals, traditional media, and friends and acquaintances.

Energy management and consulting firms are far more significant as a source of information



For as many as 77% of the women surveyed, the key to successful business is environmental and social responsibility, while 64% see the green transition as a development opportunity. Also, 52% of the respondents believe that women are more often than men interested in improving their business in line with the requirements of low-carbon development.

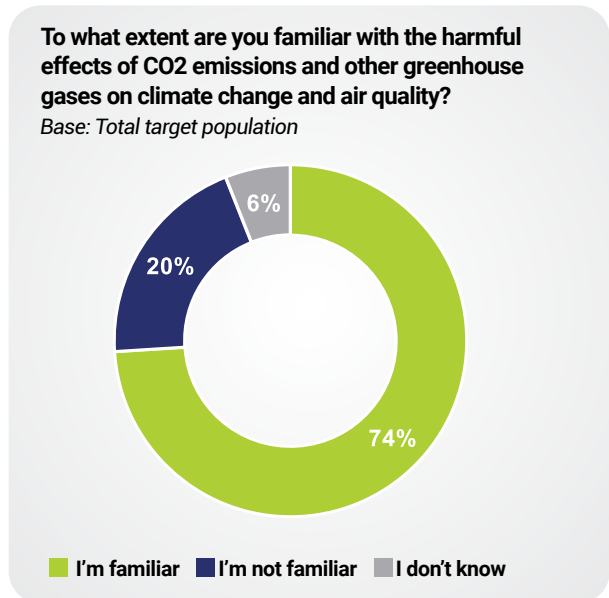
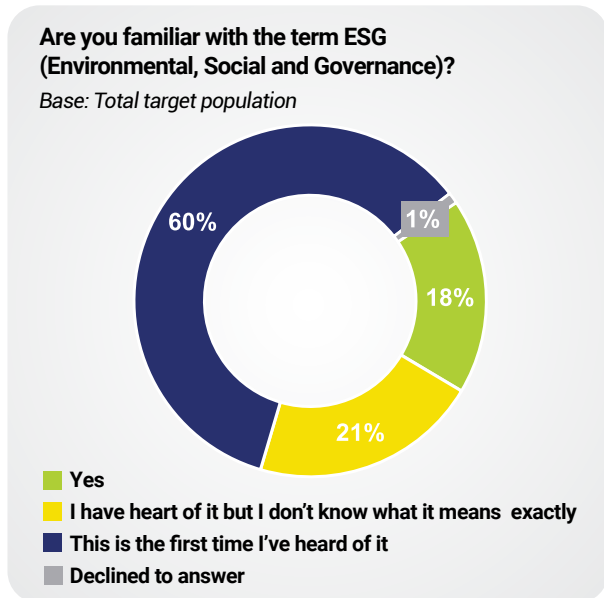
64% of the respondents believe the transition to green and clean technologies is an excellent development opportunity.



The impact of business on the environment and the local community

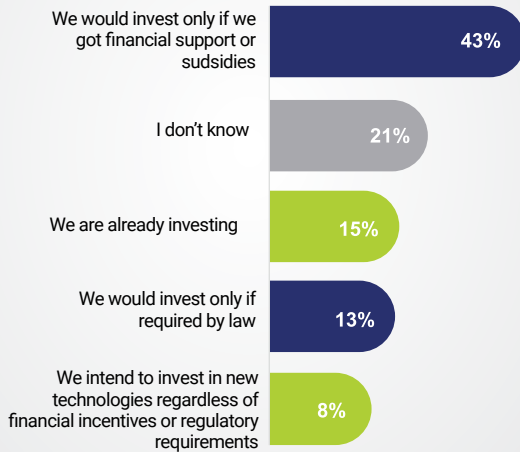
Four out of ten respondents have heard of the term ESG (Environmental, Social and Governance), but more than half of them (21% of the total) do not know what it means. On the other hand, six out of ten women have not heard of this term before. Of the women who are familiar with ESG, almost a

quarter claim that their company has developed a program for its implementation, while 60% say no such program has been developed. Three quarters of the respondents are aware of the harmful effects of carbon dioxide (CO2) emissions and other greenhouse gases.



When asked whether their company would invest in new technologies in order to reduce their negative impact, respondents gave varying answers.

Which of the following statements is closest to your position when it comes to your company's investment in new technologies with the aim of mitigating the harmful effects of CO2 emissions and other greenhouse gases? *Base: Total target population*

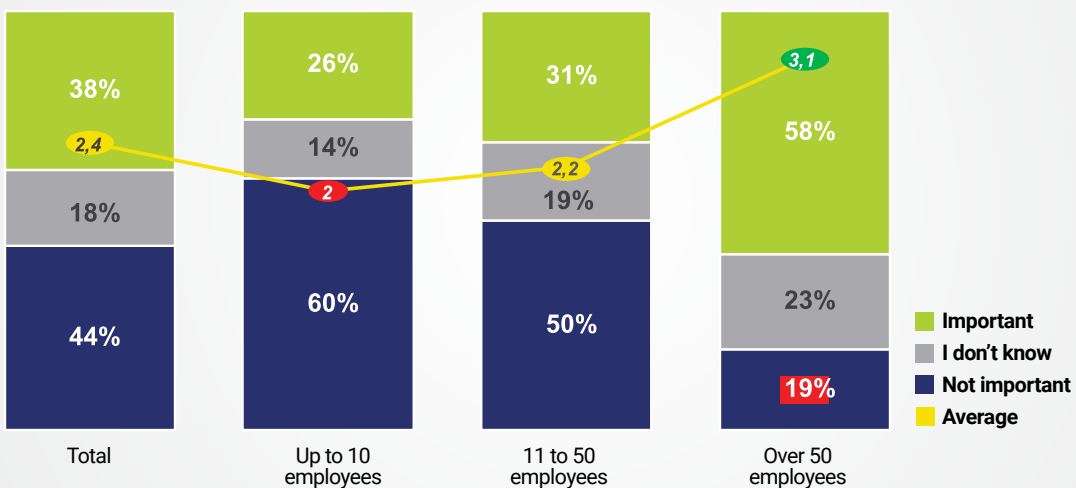


To two fifths of women in business, the origin of electricity used in business is important, while 44% think the opposite. The origin of electricity is more important to women working in companies with more than 50 employees.



To what extent is the origin of electricity used in business important to your company?

Base: Total target population

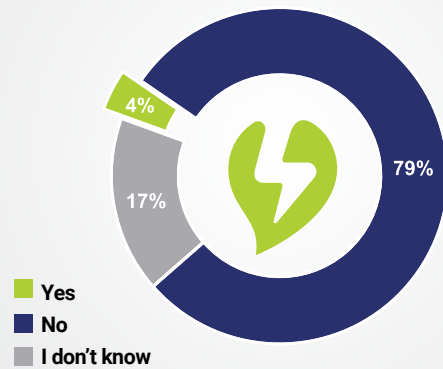


Eight out of ten women in business do not buy “green” electricity. However, most of the respondents would consider buying such electricity in the future if it weren’t much more expensive than regular electricity or if it would bring them additional benefits. In addition, four out of ten believe that compliance with “green business” principles brings an advantage only on the European Union (EU) market, while a quarter believes that it brings an advantage regardless of the market.



Do you buy “green electricity”?

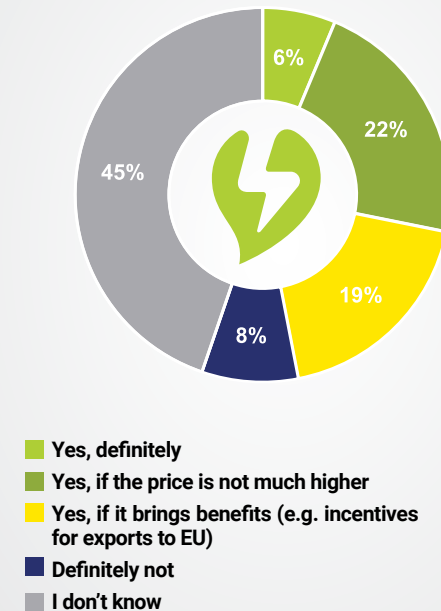
Base: Total target population



A quarter of the businesswomen surveyed believe that scaling up the use of green technologies and renewable energy would reduce the negative impact of business on the environment. As expected, the percentage of the respondents who share this view is significantly above average among women working in companies with more than 50 employees, and far less frequent among those in companies with up to 10 employees.

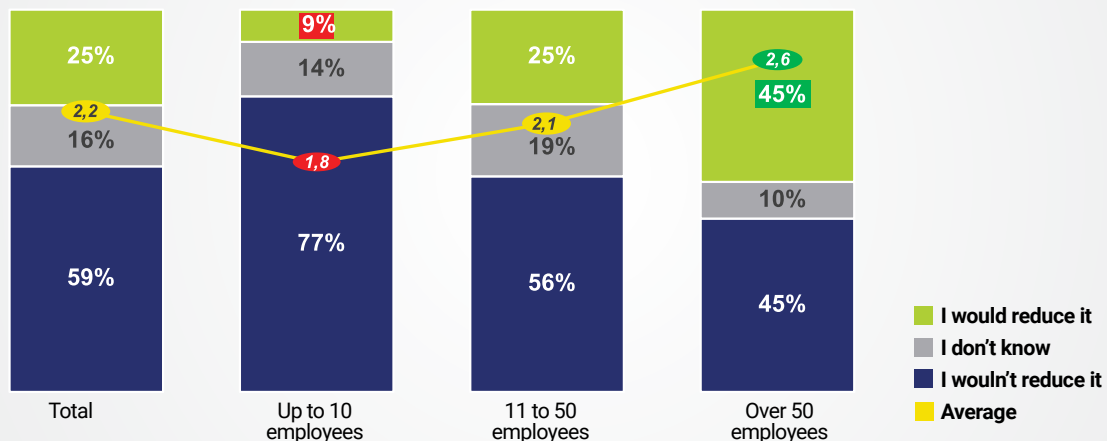
Do you plan to buy “green electricity” in the near future?

Base: Total target population



In your opinion, to what extent would greater use of green technologies and renewable energy reduce the negative impact of your company's operations on the environment?

Base: Total target population



Conclusions

Women in Serbia (women in the household - citizens and women in business) see themselves as active participants in the energy transition, but they also need and expect support, both financial and institutional, to make their role in the process more complete, concrete and meaningful.

- ▶ Policies aimed at supporting the energy transition, decarbonization, and the transition to a green and circular economy through the application of green, clean and low-carbon technologies and solutions must be gender-sensitive and informed by quality data.
- ▶ In the energy transition process, women who live alone or alone with children (in the category of citizens) and owners of small/micro businesses are particularly vulnerable. They lack financial resources and information, so it is important to envisage measures to ensure they are not marginalized or left behind and that the energy transition is just.
- ▶ The decentralization and democratization of energy in Serbia has begun, the survey confirms, but there is still a long way to go to achieve mass decarbonization in both households and businesses. In this process, the state can play a key role, through subsidies, but the support of financial institutions, through more favorable lending, is also crucial.

Women in the household

- ▶ Over the past 10 years, there has been a positive trend of improving energy efficiency in Serbian households, but there is still plenty of room for improvement. A total of 45% of the respondents' households have implemented some

energy renovation and rehabilitation measures in this period. The most common measures are: replacing external doors and windows, installing thermal insulation, introducing central heating or replacing boilers and furnaces with more efficient ones, and installing heat pumps, solar panels or solar collectors.

In 10% of the households that have carried out adaptations and other works, it was women who independently made the decision on renovations and major works.

The works were financed predominantly with households' own funds (73%), followed by loans (21%), while only 4% of the respondents used state subsidies.

- ▶ The most common reason for not doing any energy rehabilitation work on family houses is lack of financing, while the reasons for not implementing energy rehabilitation in apartment buildings or collective housing buildings are various: lack of interest among residents, lack of information, lack of money, lack of public calls by local authorities, or failure to reach an agreement between residents.
- ▶ There is a correlation between the socio-economic circumstances of women who live alone or alone with children and the absence of energy efficiency measures. As a vulnerable group exposed to energy poverty in a large number of cases, a majority of these women have not had any energy renovation work done on their homes.
- ▶ Managing energy consumption in Serbian households or, more precisely, conserving energy, is a woman's job. The most common ways to reduce energy consumption are those which do not require additional expenses, such as turning off the lights in rooms that are not occupied, paying attention to the energy class when buying home appliances, using appliances only when electricity is cheaper, cooking in accordance with energy saving recommendations, or heating only the rooms where household members spend time.

- ▶ Although the positive trend of building rooftop solar power plants on houses throughout Serbia, and the interest in producing electricity for self-consumption, cannot be denied, the survey shows that only 1% of households have implemented such a project. Also, women are not well acquainted with the term prosumer. Nevertheless, the survey confirms that solar has a bright future in Serbia, with one in two respondents claiming their household is thinking about installing solar panels.
- ▶ Women in Serbia have a positive attitude towards the use of solar energy in households, citing a variety of reasons: it helps in the fight for a healthy environment, it is fashionable and beneficial, and, when taking into account rising electricity prices, it is also cost-effective. Moreover, they do not think that solar panels are a privilege reserved for people in developed European countries.
- ▶ Women are poorly informed about incentives - loans and subsidies - for installing solar panels, and this obstacle, along with the lack of financial resources, is the main reason why the deployment of solar power plants in Serbian households is still negligible.
- ▶ The results are also poor when it comes to electric and hybrid vehicles, with just 1% of women saying they have bought such a car. The percentage of households that have installed a heat pump is higher, at 4%, while more than half of households in Serbia are considering the purchase of a heat pump.
- ▶ The concept of citizens joining together to build solar power plants is still little known in Serbia. The survey shows that only 5% of women are familiar with the term energy cooperative. A majority of the respondents, 59%, said they had never heard the term energy cooperative before.
- ▶ Reflecting the growing number of environmentally conscious citizens in Serbia, the survey shows that women in the household are well aware of the energy sources that harm the environment, citing coal and oil as the biggest polluters.
- ▶ Women in Serbia would be happy to buy “green” electricity for their households, because they view the adverse impact of electricity from thermal power plants on the environment and health as a serious problem.
- ▶ Women demonstrate a growing understanding when it comes to sustainable development, sustainable energy, climate action and environmental protection. As many as 83% of the respondents believe that women want to leave a clean environment to their children and future generations, while 89% think that women should be actively involved in the adoption of energy and climate policies. Women also say it is important to them that their business is in line with the principles of sustainable development and are more often than men the agents of change towards a green and low-carbon future.
- ▶ Women’s main source of information about new technologies, energy, climate and the environment is the media, but social networks are also highly ranked.
- ▶ Women are interested in free education that could be organized by local authorities on the topics of improving energy efficiency and applying new technologies.

Women in the bussiness

- ▶ Rational and efficient energy consumption, the decarbonization of business with green and cleaner technologies, as well as the circular economy, are still insufficiently present in plans of companies in Serbia owned and/or run by women. As many as half of the businesswomen surveyed have not considered implementing such measures, while two fifths of them have thought about improving energy management and 8% have considered introducing circular economy measures.
- ▶ The main reasons cited by women for not considering ways to improve energy management in their companies include: insufficient information

and knowledge, lack of financing, unfavorable loans, the absence of subsidies, lack of staff with relevant expertise, but also the irrelevance of energy and circular economy issues to their business.

- ▶ The most popular measures among companies owned or run by women are developing an energy conservation plan, monitoring energy consumption, improving the energy efficiency of facilities, applying the circular economy model, treating wastewater, digitalizing processes, abandoning fossil fuels, and building solar power plants for self-consumption.
- ▶ When it comes to solar power plants for self-consumption, such facilities have been installed by just 16% of the total of 44% of companies owned by women that have considered the measure. Hybrid power plants with batteries are still in their infancy, but the outlook is positive and promising.
- ▶ Women business owners or CEOs and/or managers are not informed about the financing mechanisms for energy management improvement measures, decarbonization, and application of green technologies. They have no information about subsidy schemes for women in business to improve energy efficiency, install solar panels, or similar measures. They are mostly not familiar with banks' loan offers for the purchase of green and clean technologies and equipment (seven out of 10 women). It is also worth noting that the higher the number of employees in the company, the greater the familiarity with loan offers.
- ▶ Women in business expect support for their more active participation in the energy transition and for the greening of their business. The key forms of support, according to the respondents, are: higher state subsidies, more favorable loans, abolition of VAT on green technologies, systemic support from the state (quotas for companies owned or run by women), education programs, women's networking, and more grants and subsidies from financial institutions.
- ▶ Women get information about green topics through internet portals, traditional media, and people who work in the same industry. The least consulted sources of information are civil society organizations and banks, but chambers of commerce and development agencies are also not recognized as sources of information on green topics in business, which means that their role should be increased and/or made more visible.
- ▶ In keeping with their predominant view that a responsible attitude towards the environment and the local community is key to successful business, women believe that the green transition is an excellent development opportunity, that they are more interested than men in the impact of business on the health of the environment, and that they are the agents of change towards green business. However, they are also poorly informed about ESG (Environment, Social and Governance) principles.
- ▶ Women are aware of the harmful impact of CO₂ emissions. Slightly over a fifth of the respondents are already investing in measures to reduce emissions, or planning to do so, while almost three fifths say they would do so if they received subsidies or if it was their legal obligation.
- ▶ The number of businesses that buy green electricity is very small (only 4%), while just 6% plan to buy green kilowatts in the future. However, 41% say they will buy such electricity in the future if the price is not much higher or if that brings them some additional benefits, such as incentives for exports to the EU.
- ▶ The larger the company, the greater the awareness of the positive impact of clean and green technologies on the quality of the environment. Unlike large companies, smaller businesses lack information, knowledge and financing for a more active and significant role in the energy transition and the transition to a green economy. In the long term, if this situation does not change, it may threaten the efficiency and competitiveness of smaller firms.

The role of women in the household and women in business in the energy transition

INITIATIVES WORTH SUPPORTING



The Center for the Promotion of Sustainable Development (CPOR)

is a civil society organization based in Belgrade. Its mission is to promote sustainable development in Serbia and the region of the Balkans/Southeast Europe with a focus on sustainable energy, climate action, environmental protection, the green economy and gender equality by raising awareness, advocating, spreading information, educating the public and organizing events.

The first phase of the project was implemented in 2017-2018, when the WISE Serbia network of women was established and the first research was conducted on the role, representation and attitudes of women in sustainable energy, climate action and environmental protection. The project was supported by SECO (Swiss Cooperation Office in Serbia). This new phase of the project is implemented by the German development agency Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, as part of the German cooperation project Promotion of Renewable Energy and Energy Efficiency in Serbia.

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