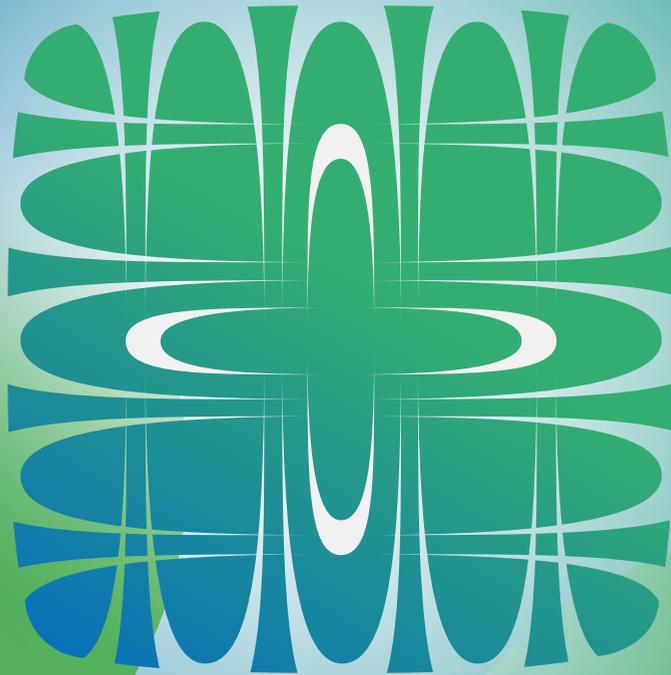


executive summary



BRICS PLUS
YOUTH ENERGY
OUTLOOK 2022

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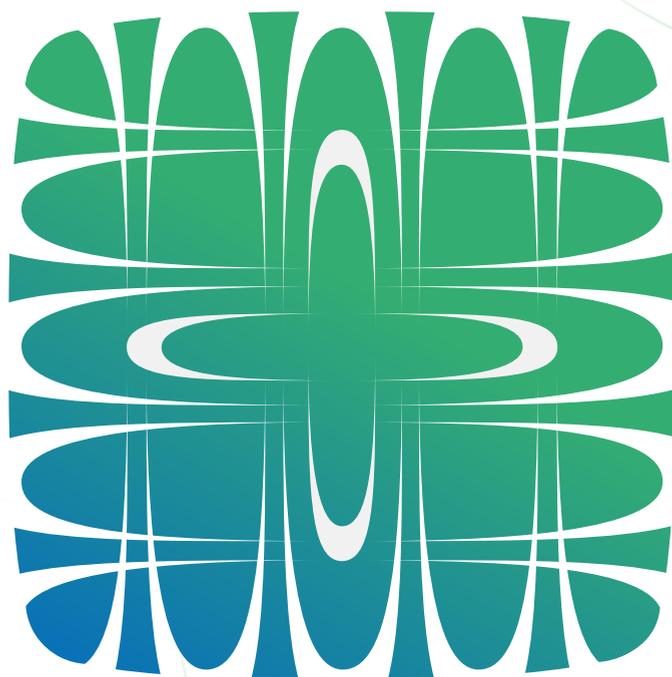
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BRICS Youth Energy Agency is a flagship organization for international youth cooperation which was established in 2015. Being a permanent observer and an action-taker in the global energy dialogue in both, youth and expert dimensions, the BRICS YEA works with youth communities, international organizations and governments, effectively maintains a balance of opinions between the Global North and South in understanding the energy transition, the climate change agenda, the UN SDG7, educates the youth, works with indigenous peoples, promotes youth diplomacy and develops youth politics within its mandate.

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executive summary



BRICS PLUS
YOUTH ENERGY
OUTLOOK 2022

Foreword

The global energy sector is going through a substantial transition to a sustainable low-carbon system. Joint efforts are essential to meet all challenges on the way to the clean energy future.

Since the beginning of cooperation in the BRICS format, it has been a platform for introducing new initiatives and implementing joint projects in the energy sector and other related spheres from countries that share common interests. The cooperation among the BRICS states has intensified and started expanding to other developing countries. We see that close partnership is the key to face modern challenges and overcome them with the best solutions.

No one could anticipate that 2022 would be a year of unprecedented turmoil for the world, including its economy and energy sector, with the BRICS countries not being an exception. The ongoing consequences of the COVID-19 pandemic and political tensions became the background for the crisis in Europe and led to the deficit of immediately available oil and natural gas on the market, causing lasting economic vulnerability. All of the mentioned factors created uncertainties around the transition to clean and renewable energy.

Against the backdrop of these challenges, the need for fresh, bright and bold ideas brought youth engagement onto a new level. We firmly believe that young people should be involved in the global discussion on energy and take actions now to start creating their own future. We understand that the global youth have something to say. We make their voices heard and taken into account.

Recently, the format of BRICS was reframed and expanded to BRICS+ format. The global problems and their consequences show how important cooperation among developing countries is, with BRICS+ being a suitable platform for it.

Africa is considered as a continent full of potential and promising initiatives. At the same time Africa undergoes changes that require the attention of the global community. Energy affordability, access to clean cooking, adaptation to climate risks are a just a few of the wide number of the issues to be dealt with. Moreover, today's global energy crisis highlights the urgency of the task – to transform Africa's energy sector and accelerate the energy transition. Thus, inclusion of African countries in equal and comprehensive discussions facilitates the progress of the whole developing world.





BRICS YEA has launched its own questionnaire to collect inputs from young people coming from different parts of the world. This survey is aimed at identifying the preferences of the young generation in the developing world, their attitude to current trends and key factors in the energy sector. The present Executive Summary is based on the results on the survey. All data will be demonstrated and extended in the BRICS Plus Youth Energy Outlook 2022.

The survey consists of four thematic blocks that reflect the main spheres of the global interests in the energy sector: achieving SDGs, energy technologies and innovations, financing energy transition and building partnerships to scale up energy access in Africa.

KEY TAKEAWAYS:

- ◆ SDG 7 — Access to affordable, reliable, sustainable and modern energy for all — is seen as a complex one that depends on the progress of other goals' achievement;
- ◆ Majority of young people stand for the urgent climate action without time left to spare for the just energy transition;
- ◆ International organizations are the most effective institutions to engage young people and invest in the developing world;
- ◆ Electricity is the most efficient and eco-friendly kind of energy that will be used for cooking and as an alternative to transport fuels in the future;
- ◆ Young people believe that the ongoing energy crisis will accelerate the transition to the renewable energy despite higher costs;
- ◆ The younger generation supposes that Global South and Africa in particular is able to undergo the energy transition and start a new clean energy era on the continent.

Let us have a look at the perspectives of the younger generation of BRICS+ and beyond on the energy transition.

Margarita Kuzmina
Director, Research Initiatives —
Head of Analytical Centre, BRICS YEA



All for One, One for All: Energy to Achieve 17 SDGs

The ongoing efforts led by the United Nations and its organizations under the Agenda 2030 for Sustainable Development are covering all energy-related spheres. **SDG7 (Affordable and Clean Energy)** is inextricably linked to other aspects of the UN 2030 Agenda, helping to achieve other goals. We have analyzed what aspects of SDG7 are prioritized by young people.



1/ Nearly 76% of young people link the progress with the SDG 7 to the record of the SDG 9 (Industry, Innovation and Infrastructure).

Thus, the availability and sustainability of energy resources are believed to depend largely on the level of industrial development and innovations in production. Indeed, the classical production mechanism is not efficient enough to use renewable energy sources and reduce pollution. Over 35% of those who have filled out the survey equally refer to the Goals 4 (Quality Education) and 13 (Climate Action).

Actually, it is necessary for the international community and local authorities to build up a reformed education system so that every schoolchild could be aware of the extent to which our planet is endangered nowadays. What is more, climate action is indescribable without a thorough search for alternative and eco-friendly sources of energy. On the contrary, as few as 10% of the respondents assume the SDG 14 (Life Below Water) to be crucial for ensuring affordable and clean energy.





Question 1. Which the United Nations' SDGs are crucial for achieving the SDG 7 (Affordable and Clean Energy)?



2/ All five targets (SDG 4, 9, 13, 14, 17) are indeed important for the achievement of the SDG 7. Nevertheless, greater international cooperation (SDG17) to facilitate access to clean and affordable energy takes the lead (nearly 61% of the respondents).

There is no doubt that the international community should take joint steps to achieve the same results all around the globe. Otherwise, amid the existing gap between developed and developing nations these targets will be difficult to achieve.

On the contrary, the need to double the global rate of improvement in energy efficiency has turned out to be the least popular answer (less than 27%).

Question 2. Which of the targets below are the most important for achieving SDG 7 (Affordable and Clean Energy) in your country?

58,2 %

By 2030, ensure universal access to affordable, reliable and modern energy services

40,3 %

By 2030, increase substantially the share of renewable energy in the global energy mix

26,9 %

By 2030, double the global rate of improvement in energy efficiency

61,2 %

By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology

53,7 %

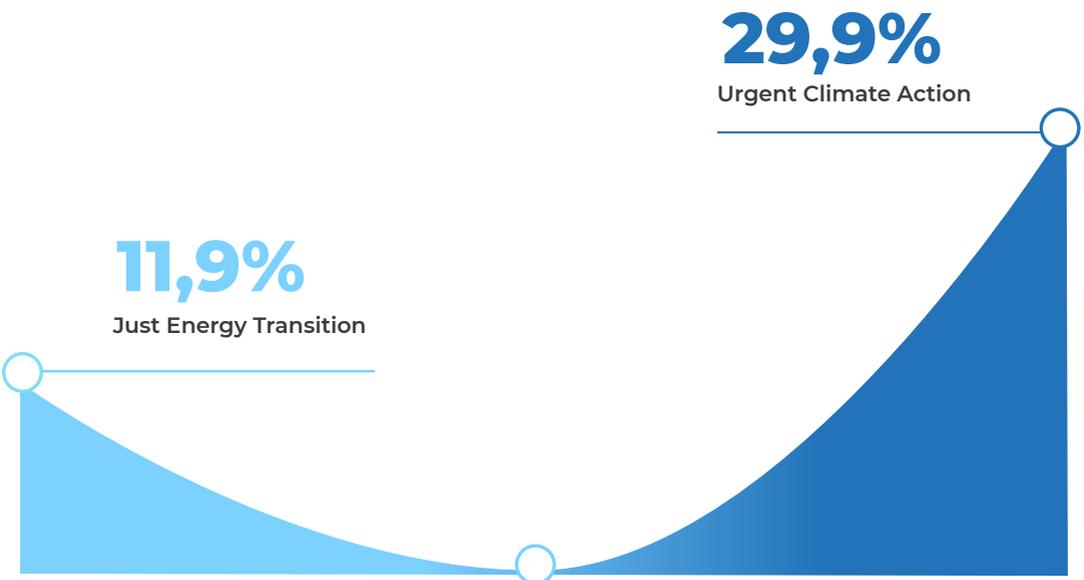
By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support

3/ The urgent climate action remains pivotal for the younger generation.

As many as 11,9% of young respondents tend to stay neutral when it comes to a just energy transition and a rapid transition to green energy solutions. More than 29% of the respondents present themselves as complete supporters of the Urgent Climate Action.

Generally, the respondents' position has split up evenly, which may be accounted for a close interconnection of both phenomena. Generally, it is indispensable to ensure access to electricity, water and other resources in all corners of the globe so as to make subsequent steps towards clean energy.

Question 3. Would you stand for a just energy transition or a rapid transition to climate-friendly energy solutions?

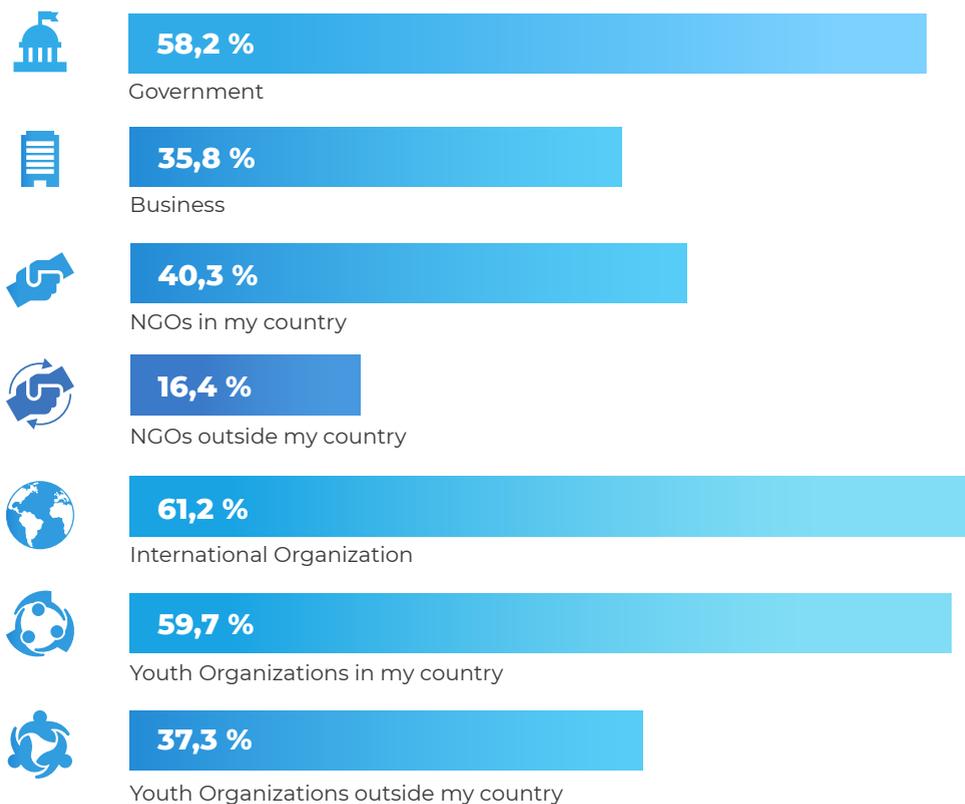


4/ Most of the respondents assume local and state organizations as well as the authorities to be the most useful tools for the younger generation to involve into the action associated with the United Nations Agenda 2030.

International organizations majoring in sustainable development also appear to be of great importance. Around 54% of respondents have opted for this answer. The findings of the poll may be applied to the fact that organizations residing in one's country may act more efficiently as they require less resources and time in order to accomplish a target.

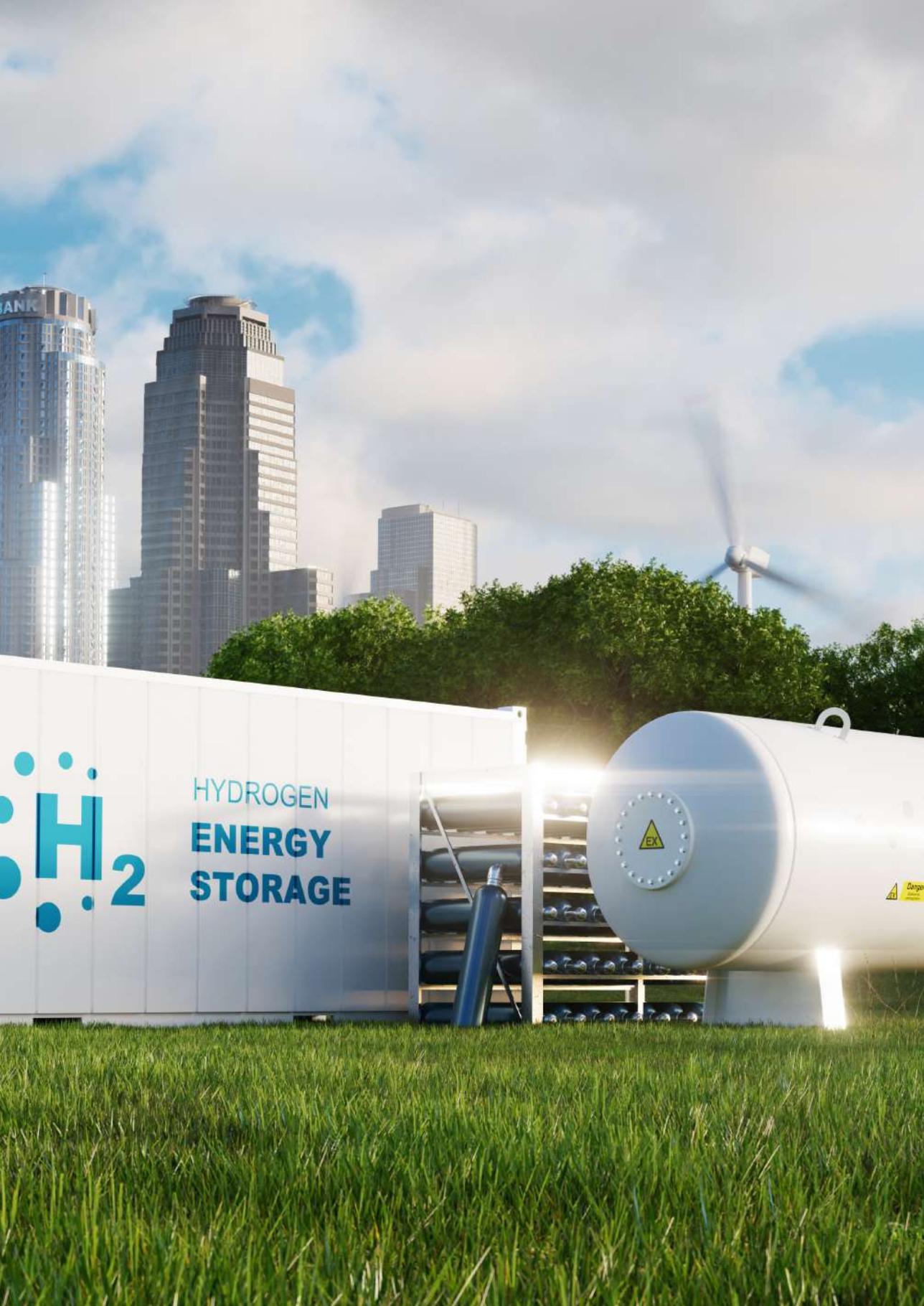
Closer ties of local companies with the population as well as governmental enforcement mechanisms should also be taken into account.

Question 4. What communication channels are the most helpful for you personally as a young person to get engaged into the global action led under the United Nations Agenda 2030 for Sustainable Development?





Nearly 30% of young people present themselves as complete supporters of the Urgent Climate Action.



HYDROGEN
ENERGY
STORAGE

EX

Danger



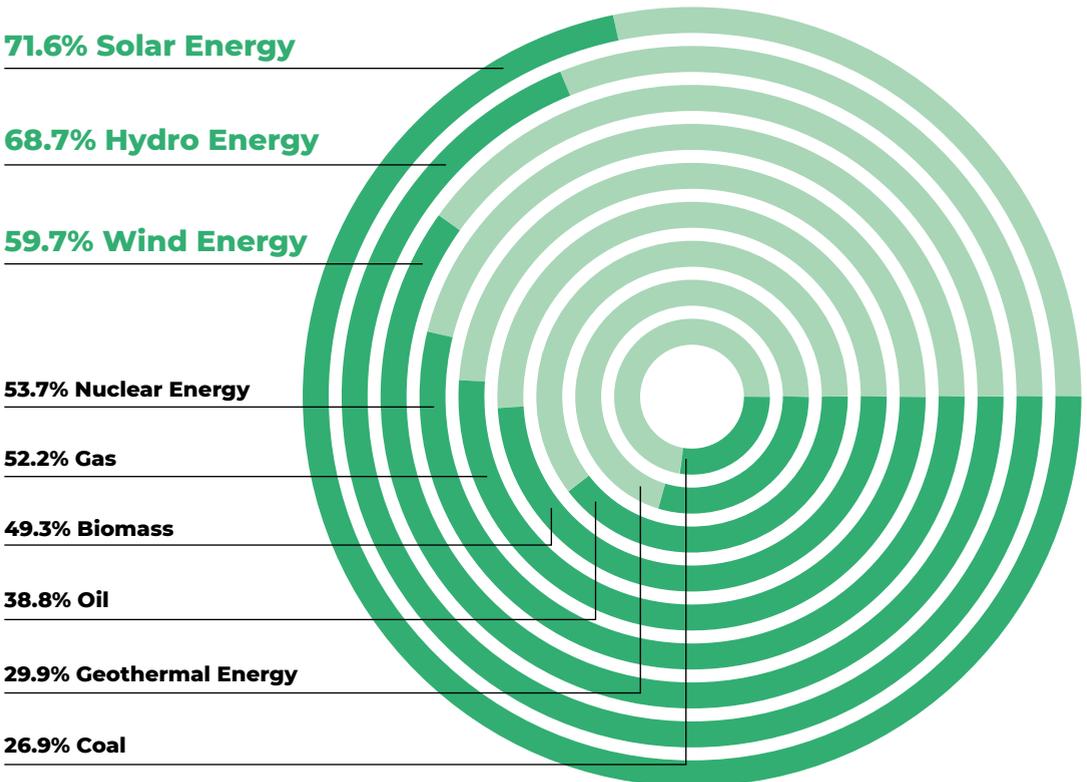
Access to Energy Technologies & Innovation

Optimizing traditional technologies and introducing new ones is a crucial factor to accelerate energy transition. In terms of that, young people believe energy resources and the way they are used may also influence the choice of the sphere to work on and bring innovations. In this section we paid attention to using technologies and resources in utilities and transportation.

1/ Environmental protection defines energy sources that should be included in the energy mix.

Renewable energy sources received the highest number of votes, namely solar energy (about 72%), which, compared to wind energy (60% of the respondents), is more profitable. In general, there is a trend towards the development of clean energy sources. However, it does not follow from the graph that this will happen at the expense of reducing the share of fossil fuel production.

Question 1. Choose energy sources that in your opinion have to be in the energy mix of your country.

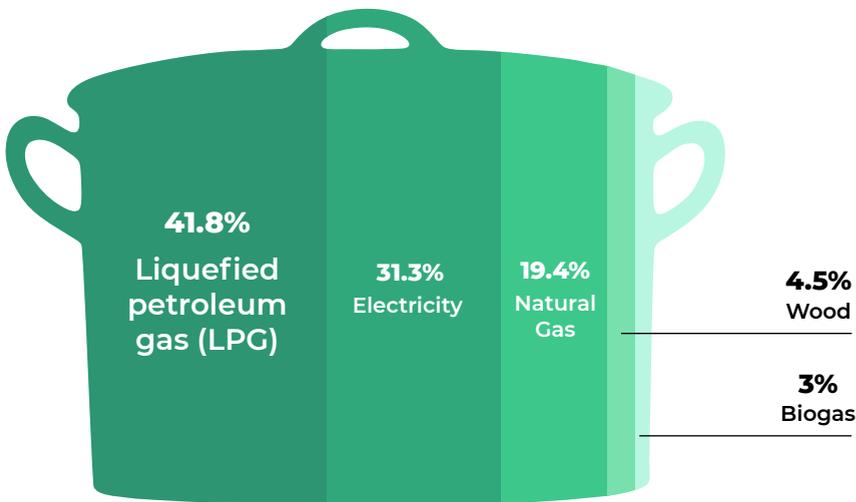


2/ The most common energy for cooking from the youth point of view is liquefied petroleum gas (LPG) (42%), followed by electricity (31%), natural gas (19%), wood (4,5%) and biogas (3%).

The popularity of LPG is due to the fact that it is a clean-burning and efficient fuel for cooking, which, to a large extent, is used in many urban and rural areas.

Electricity, the second most widely used energy for cooking, is used quite extensively for the operation of kitchen appliances such as induction stoves, microwaves, pressure cookers, steamers, electric kettles and electric coil stoves. Gas stoves have been used less frequently due to the dangers of their use.

Question 2. What kind of energy do you use for cooking today?



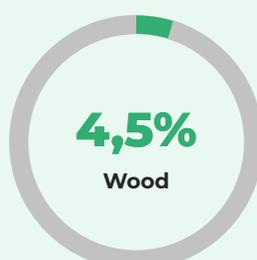
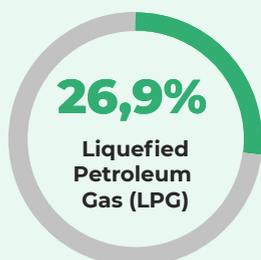
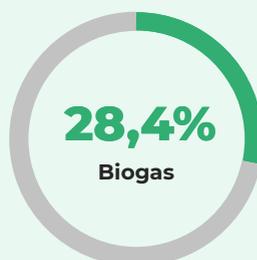
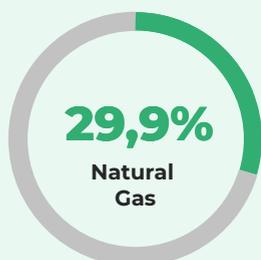
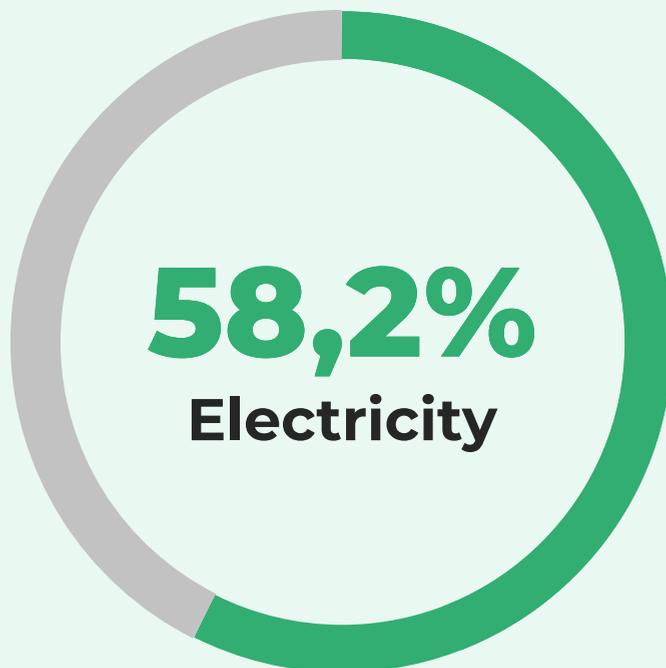
3/ Although LPG was listed in the previous graph as the most common energy for cooking today, the results of the survey indicate that there are plans to switch to cooking with electricity (twice as many respondents voted for this type of energy as for LPG, namely — 58%).

A little less than a third of respondents (28%) are planning to use biogas. This is explained by the fact that a high-quality biogas plant requires minimal maintenance costs and can produce gas for 20 years without repeated investment. For the user biogas provides clean energy for cooking and also reduces indoor air pollution.

Although wood is an unsustainable, unsafe and environmentally unfriendly form of energy, its continued use for cooking is due to the lack of other available energy sources in developing regions and countries, particularly in Africa, Latin America and South Asia.



Question 3. What kind of energy is seen as promising personally for you in terms of cooking provided the best available technologies and resources?

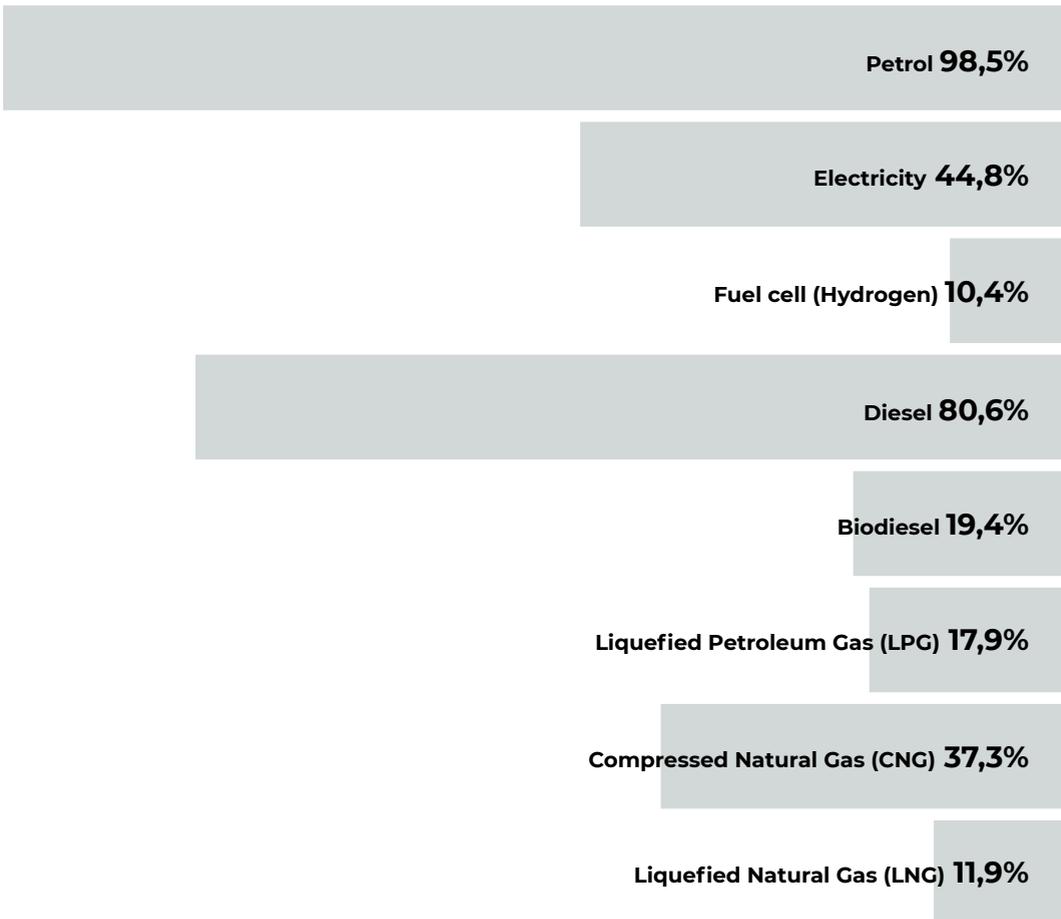


4/ Petrol as a fuel for transport is used in every country, according to the respondents (98,5%).

About 75% of respondents chose diesel. Electric vehicles take the third place, mostly due to the underdeveloped infrastructure for electric cars and expensive maintenance.

Cars that consume compressed natural gas (CNG) as fuel emit few harmful toxic substances; thus, are more eco-friendly than other non-electric vehicles. It is likely that in the future the use of CNG and biodiesel will become more widespread due to their attractive price for users, the introduction of various infrastructure subsidies, and their relative environmental friendliness.

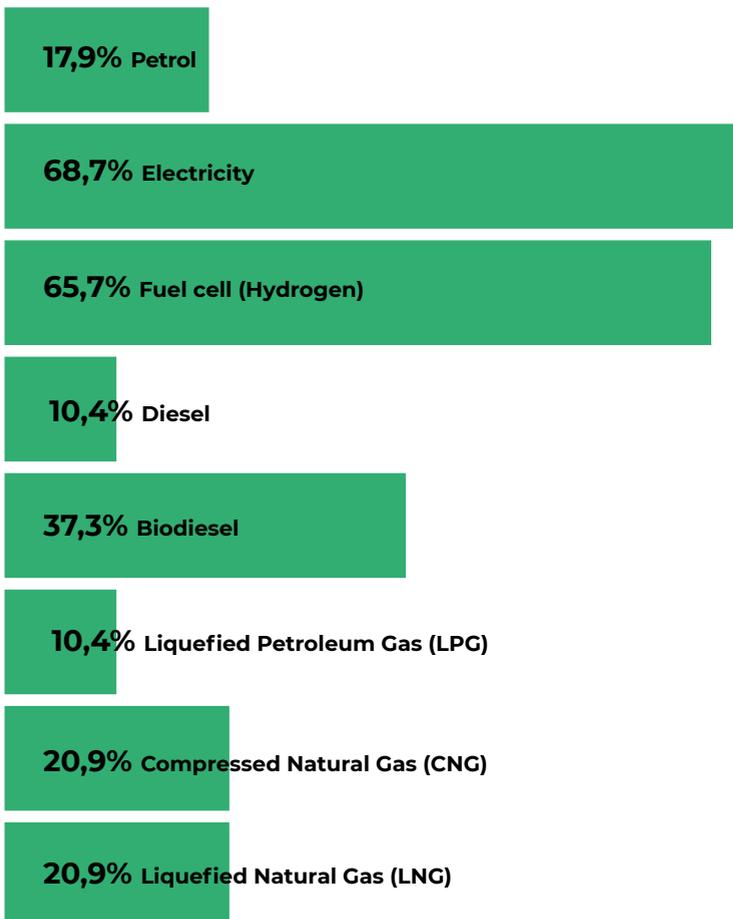
Question 4. What is currently used as transport fuels in your country?



5/ Although petroleum was listed in the previous graph as the most common fuel for transport in the countries today, nearly two-thirds of those surveyed believe that electricity will be used as a fuel for transport in the future.

Hydrogen-powered transport is also promising. However, this will require re-equipment of highways, the construction of new charging stations, and, of course, large investments. The sharp decline in the number of diesel cars is explained by the refusal of global manufacturers to produce such vehicles.

Question 5. What should be used as transport fuels from your personal point of view in your country?



6/ According to the survey 65% of the respondents believe that available energy technologies in their countries can ensure the transition to renewable energy.

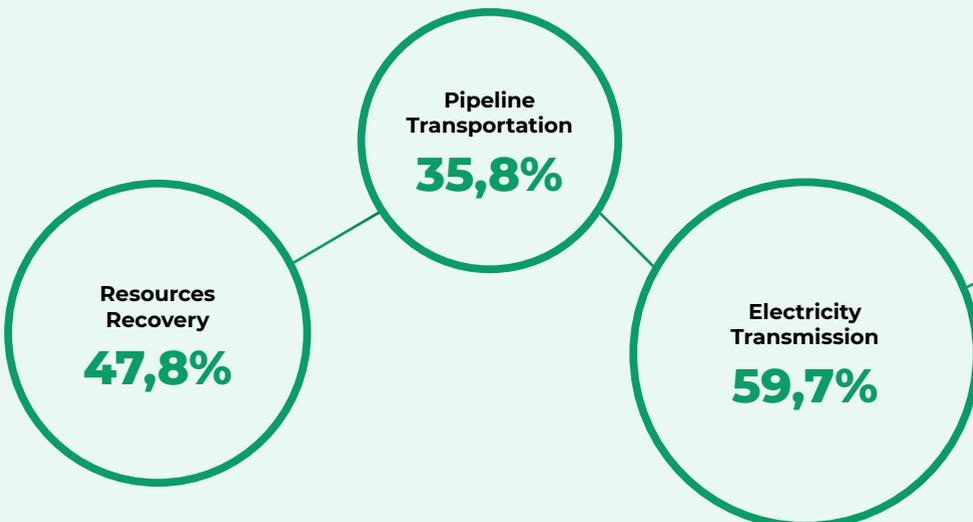
This average figure means that, overall, there is still much to be done by governments.

Question 6. Do you believe that available energy technologies in your country can ensure the transition to renewable energy generation?



7/ Energy transmission, resources recovery and distribution mostly need the introduction of new technologies, namely digitalization.

Question 7. What steps of energy production in your country from your point of view is in need of deeper digitalization more than the others?



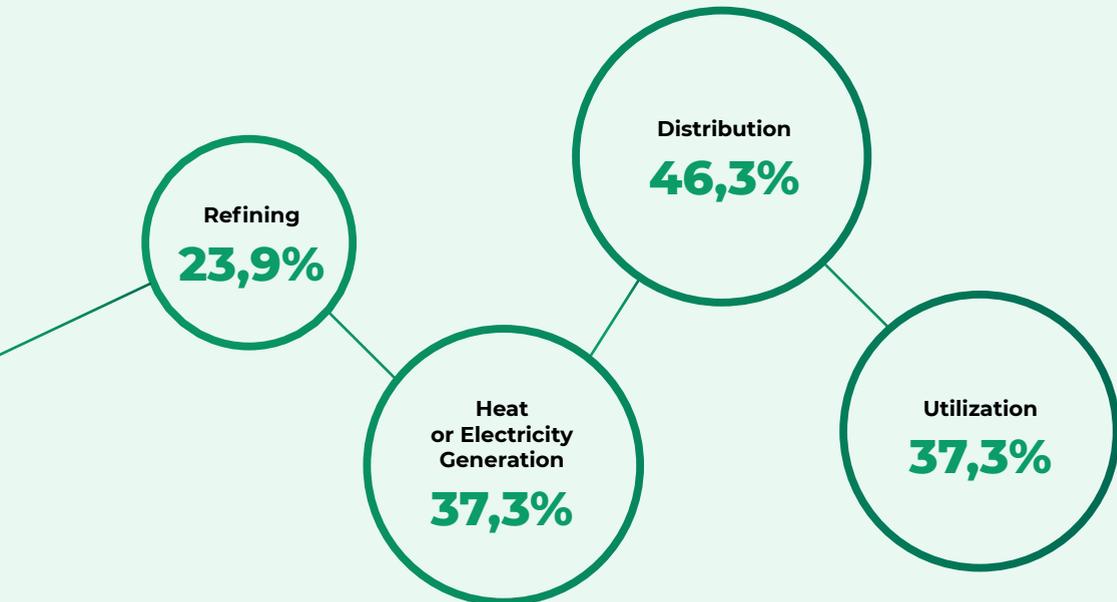
8/ 70% of those surveyed are convinced that nuclear energy is a good solution to climate problems.

At the moment, given the new equipment and advanced technology, nuclear power plants are no longer dangerous and the possibility of new nuclear accidents is low, the IAEA says.

Question 8. Do you see nuclear energy as a climate change solution in your country?



The respondents do not think that digitalization of the refining is required at this time. It is more likely that, for the time being, this stage does not require as much attention as other processes.







Financing Energy Transition with no one left behind

Financial background of driving energy transition defines the pace of the process and the form of the final outcome. In this block young people share their opinion about investments in the energy sector.

1/ The ongoing crisis in the world has a negative impact on many areas, both public and private sectors sustain financial losses.

Considering the current situation, the question arises whether it would not be the right decision for businesses to stop investments in energy projects with hydrocarbons as primary energy resource (i.e. oil, natural gas or coal). According to the survey, opinions are divided, but the difference in numbers is small. Almost 47% are sure that it is better for businesses to change the direction of their investments from the traditional energy sector and put them to the development of something else. However, about 53% of respondents believe that companies should not stop their investments in such energy projects.

The reasons why businesses should not stop their investments in the traditional energy sector were different. 45.9% of respondents believe that companies should continue to provide investments because oil/gas/coal are important in other sectors of national economy while one considers other green energy generation alternatives. 24.3% of respondents think that energy projects with oil/gas/coal become cleaner thanks to new available technologies. 21.6% of people said that such projects are owned by companies which are major employers and it is important to support employment at the times of recession.

Only 8.1% take a position related to the fact that they do not have other available sources in their country. Thus, there is a future for energy in the context of gas, oil and coal, but an urgent need to develop cleaner energy solutions.

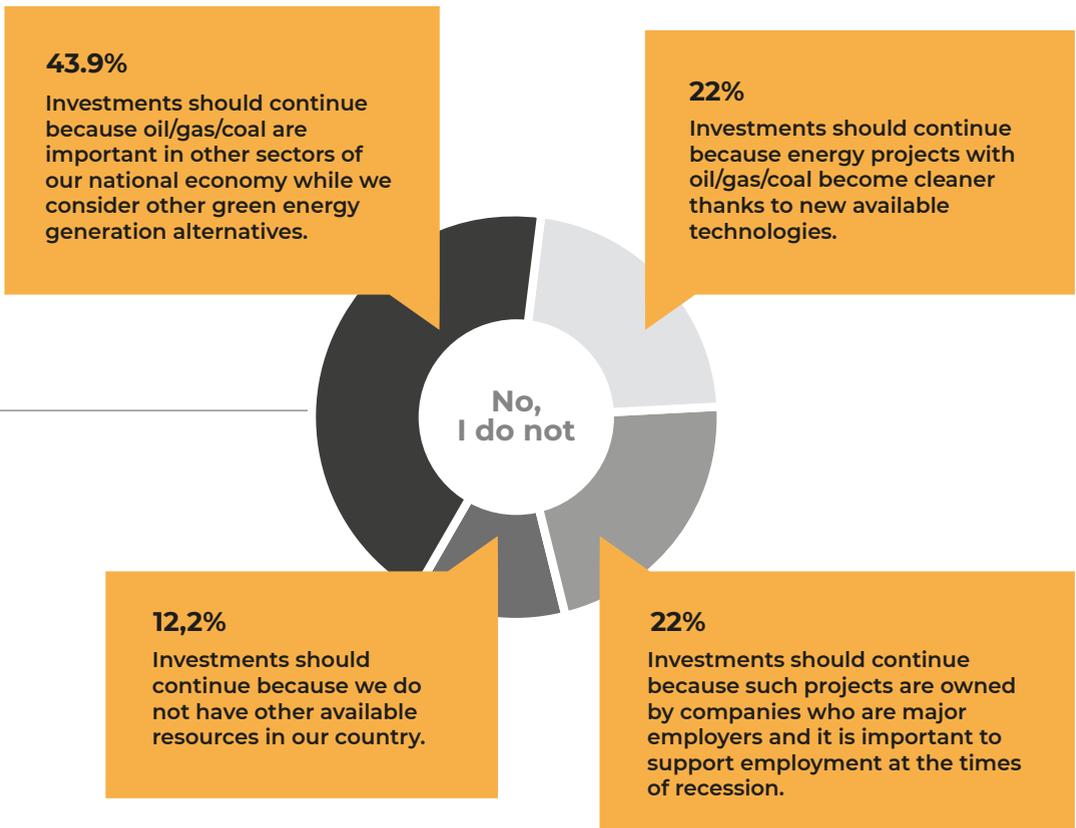
Question 1. Taken the on-going crisis, do you believe that businesses in your country should stop investments in energy projects with hydrocarbons as primary energy resource (i.e. oil, natural gas or coal)?



2/ Young people believe that the ongoing crisis can accelerate the energy transition in many countries, but it is worth considering the high costs.

68.3% of respondents are sure that this happens with high probability, as it might resolve the energy crisis and avoid similar situations in the future, making countries self-sustaining in regard to their own energy needs. Additionally, green energy is also less harmful for the environment. 31.7% are skeptical about this statement, as not every country can afford such expenses. In addition, according to the poll, some might think it is unlikely to happen in the near future and they will be able to enjoy the benefits of renewable energy only after several decades.

Question 2. If you chose “No, I do not” in the previous question, please choose one of the closest to your explanation choices below.

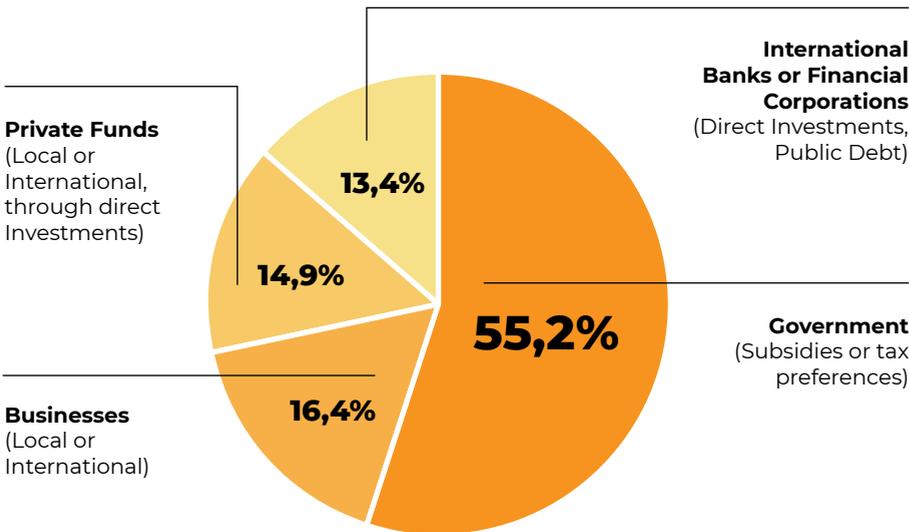


3/ Based on this statement, another question bothers respondents, namely the source of all finances and funding for the energy transition?

Over half of the participants (around 56.7%) believe that funding is a primarily responsibility of the government (subsidies or tax preferences), since it is the government that is responsible for the welfare of its country and people.

18.3% said that the Businesses (Local or International) should engage in sponsoring, because for the most part they are engaged in the development of this sector and can better understand the exact investment needs from the economic point of view. 15% voted for the Private Funds (Local or International, through direct Investments). Only 10% think that the source of funding should be International the Banks or Financial Corporations (Direct Investments, Public Debt).

Question 3. Do you believe that the on-going energy crisis will accelerate the transition to the renewable energy generation in your country despite the higher costs?



Question 4. What source of funding should from your point of view prevail in our country to finance the energy transition?





**Over half
of the participants
(around 56.7%)
believe that funding
is a primarily
responsibility of
the government.**





Together with Africa for SDG7

International cooperation is crucial for securing access for sustainable energy for all in Africa. Young people share the same position towards Africa: developing countries of the continent should be involved and supported to unleash their sustainable energy potential for the benefit of all other related spheres.



1/ Transfer to Clean Energy Technologies seems pivotal in Africa's energy sector.

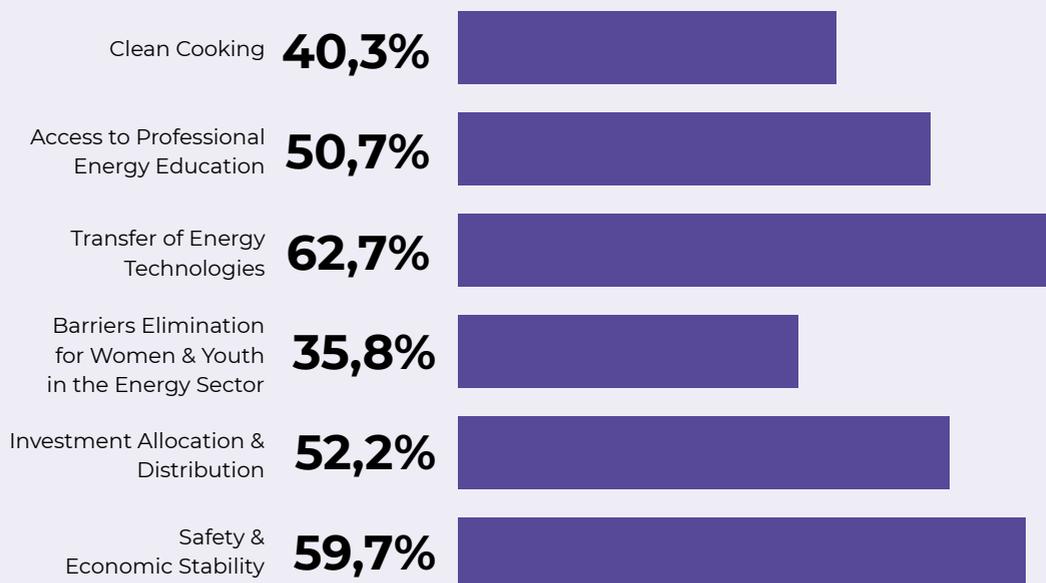
Due to the lack of research and development expenses, energy and infrastructure innovations have many obstacles on their way. That is why, the majority of respondents (62.7%) consider technological import as the key agenda. This concern is closely connected with the third most popular answer which is Investment Allocation and Distribution (52.2% of respondents have chosen this option).

Foreign financing appears to be the driving force for the emerging economy of the continent. Though bankrolling of the foreign powers is the main source of receiving the money, annual FDI inflows to Africa remain relatively modest in comparison to other developing regions. 59.7% of respondents consider safety and economic stability as another vulnerable concern.

This problem may partly explain the essence of the previous challenge because it creates an unfavorable climate for the participation of external business. However, the above-mentioned issues are interrelated and are to be addressed in the following years in order to ensure the development of African nations.



Question 1. What do you see as a key agenda for the African continent in the energy field?

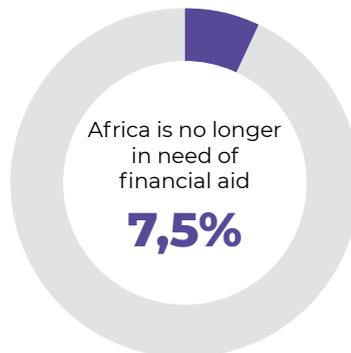
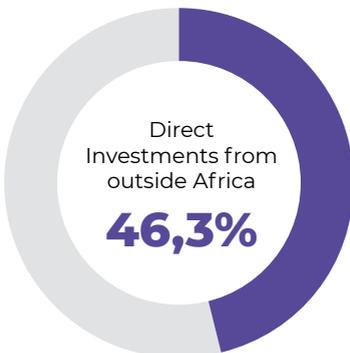
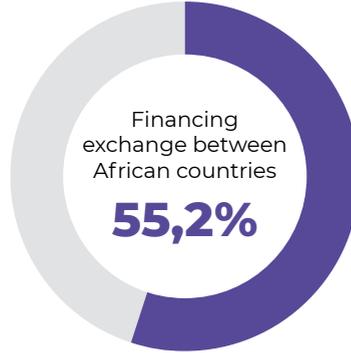


2/ The major part of survey participants (76.1%) highlight that financing through international organizations should be the key channel for green investments in African countries.

This proves the high level of trust to international institutions and their activity alongside the continent. Another plausible investment channel is exchange of finances between African states (55.2% of respondents support this). Emerging identity, common past of the nations and close economic ties raise hopes for the prosperous and conflict-free future among the ascendant continental powers.

The high support of FDI indicates the willingness of African youth to cooperate with the representatives of global public and commercial organizations on the basis of mutually beneficial partnership (46.3% of respondents think so). The responses received show favorable auspicious economic climate enabling the achievement of African capacity.

Question 2. What should be key channels for investment attraction in Africa?



3/ It is common to emphasize that the scale of African economic activity at the international level is small.

In Africa many of the energy production cycles are missing, and most of the existing ones have the form of their inferior analogues – resource-export cycles.

Despite this, many people (almost 45% of respondents) remain optimistic and are confident that our generation will see Africa that gets over the traditional energy era right to the clean/low-carbon energy use, because now some energy projects are being implemented on the continent, which will bring the positive outcome in the coming years. However, 17% of respondents doubt that this is possible, appealing to numerous problems in the region and relative socio-economic backwardness.

Question 3. Do you believe that our generation will see Africa that gets over the traditional energy era right to the clean/low-carbon energy use?



4/ Within Africa, the concept of Global North vs Global South is rather vague.

44% of respondents believe that this concept applies not only to the world as a whole, but also to Africa. 17% claim that this concept does not correlate with African states and their socio-economic development.

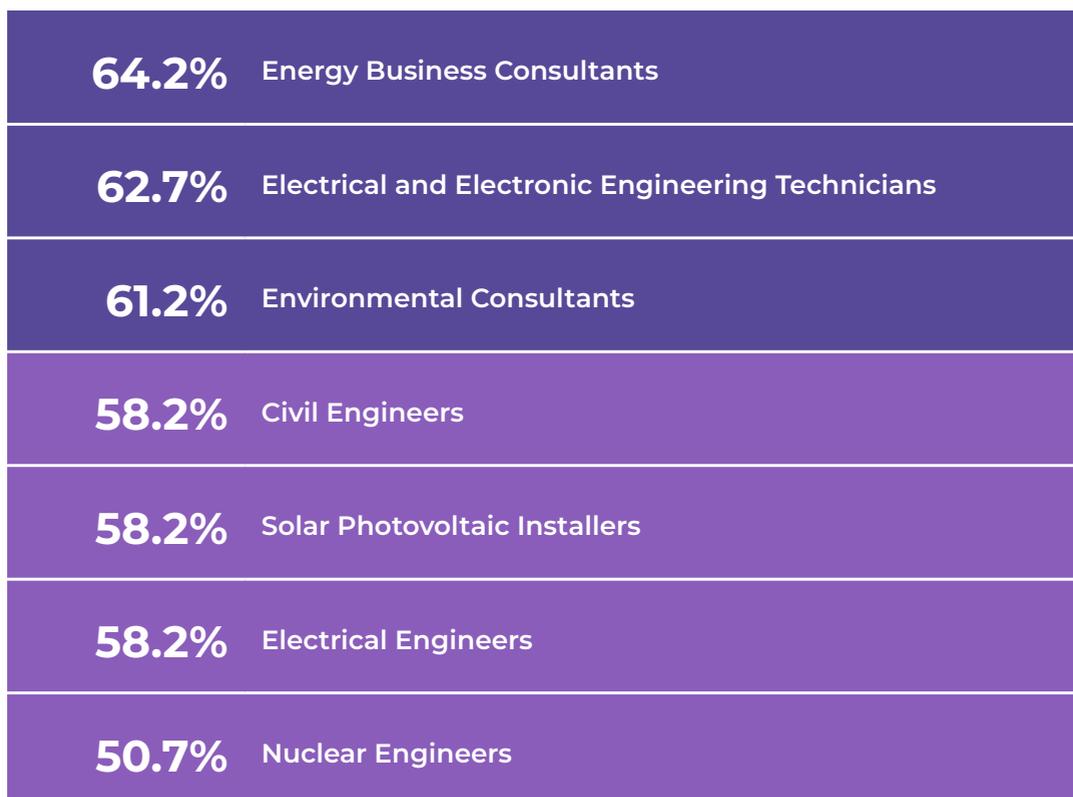
Question 4. Do you believe that the concept of Global North and Global South applies to Africa?



5/ Experts in the technical field are exceptional for the acceleration of the energy industry development in Africa since they will be able to install, operate and maintain new equipment so that the transfer of new technologies can be efficient.

The demand for energy business and environment consultants can be explained by their great knowledge of the energy market mechanisms/ current rules in the environmental law and ability to adjust the company's policy in accordance with global standards.

Question 5. What are energy professions required to accelerate the development of the African energy industry?



47.8%	Power Plant Operators
47.8%	Electrical Power-Line Installers and Repairers
46.3%	Chemical Plant and System Operators
44.8%	Wind Turbine Service Technicians
43.3%	Mechanical Engineers
43.3%	Electrical and Electronics Repairers of Commercial and Industrial Equipment
41.8%	Gas Plant Operators
40.3%	Power Distributors and Dispatchers
38.8%	Electricians
37.3%	Nuclear Power Reactor Operators
37.3%	Industrial Engineering Technicians
35.8%	Architects
34.3%	Electronics Engineers
34.3%	Heating, Air Conditioning, and Refrigeration Mechanics and Installers
32.8%	Installation, Maintenance, and Repair Helpers
31.3%	Chemical Equipment Operators
31.3%	Construction and Building Inspectors
31.3%	Operating Engineers and Other Construction Equipment Operators
31.3%	Petroleum Pump System and Refinery Operators
29.9%	Industrial Machinery Mechanics
29.9%	Supervisors of Mechanics, Installers, and Repairers
28.4%	Construction Managers
28.4%	Plumbers
28.4%	Supervisors of Construction and Extraction Workers
26.9%	Pipelayers
23.9%	Control and Valve Installers and Repairers
23.9%	Stationary Engineers and Boiler Operators
22.4%	Welders, Cutters, Solderers, and Brazers
19.4%	Supervisors of Production and Operating Workers

BRICS Plus: The Way Forward

BRICS YEA has made its Youth Energy Outlook available for young people from the Global South for the first time.

The Annual BRICS Youth Energy Outlook is an international project delivered and coordinated by the Analytical Center of the BRICS YEA since 2018. The core mission of the Outlook is to present the youth perspective on global energy issues developed by teams of young researchers, students and professionals aged 18 – 35. Another key goal of the forthcoming edition is reflecting the developing world as a united one.

The content of the Outlook 2022 edition corresponds to the topics included in the General Survey and analyzed in the present Executive Summary: achieving all SDGs, access to energy technologies and innovation, financing energy transition and international partnership to scale up energy access in Africa. Each of the four blocks includes more than 5 topics which provoke thorough research and forming a well-analyzed solution to each task. With their conducted research individual developers and teams of the involved countries contribute to the joint response from young people to the global problems.



The presentation of the BRICS Youth Energy Outlook 2022 is scheduled for UN Climate Change Conference COP27 in Sharm-el-Sheikh, Egypt.

We expect that youth engagement in the global energy agenda will enhance widely. The reflection of youth perspectives on the energy transition remains crucial for rational decisions aimed at improving the energy future for succeeding generations.

Analytical research and cooperation among young people from the Global South is an essential part of the way to reach a common positive outcome.



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