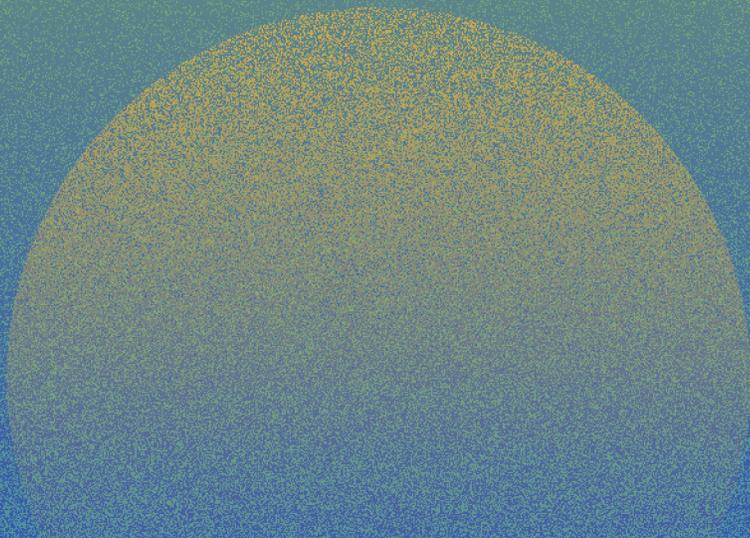
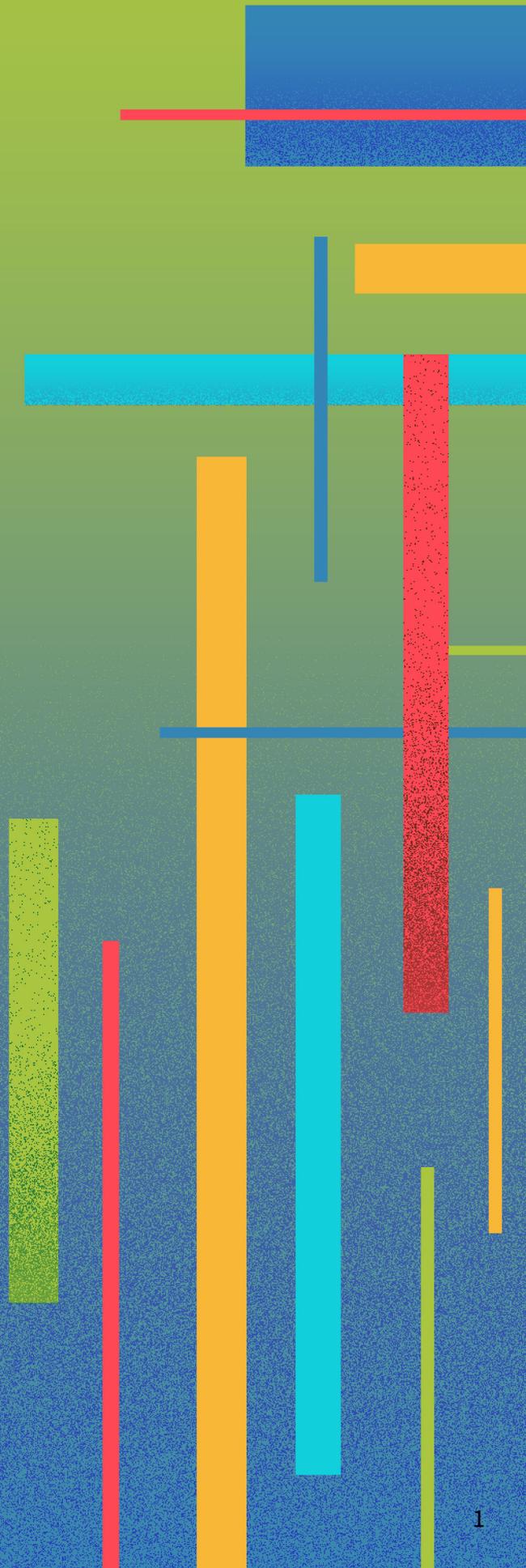


Global Youth Energy Outlook



STUDENTENERGY





Global Youth Energy Outlook
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About Student Energy

Student Energy is a global youth-led organization working to build the next generation of energy leaders. Student Energy currently works with a network of over 50,000 youth from over 120 countries who are leading the transition towards a sustainable and equitable energy future. Learn more at www.studentenergy.org.

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STUDENT
ENERGY



GLOBAL YOUTH
ENERGY OUTLOOK

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To provide input into the development of the research and to gather insights for the GYEO survey through community outreach, Regional Coordinators were selected to represent each of the ten global regions considered in the project.

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COUNTRY AMBASSADORS

Hundreds of volunteer Country Ambassadors played a crucial role in ensuring the GYEO survey and dialogues reached diverse young people within their countries.

KNOWLEDGE PARTNER



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EXECUTIVE SUMMARY

Surveying nearly 42,000 young people in 129 countries, the Global Youth Energy Outlook is the first youth-led project of its kind to collect global data on youth perspectives on the energy transition and climate action.

Young people have historically been, and continue to be, largely excluded from decision-making processes regarding climate action and the energy transition despite the fact that they will disproportionately face the consequences of those decisions. Building on 14 years of working with young people from around the world and organizations spanning the energy sector, Student Energy sought to fill key data and communication gaps regarding youth perspectives on energy that, if addressed, could start to bridge the gap between young people and decision-makers to be able to form more meaningful partnerships and accelerate progress on climate action.

The Global Youth Energy Outlook (GYEO, or ‘the Outlook’) **amplifies the voice of young people from around the world**, highlighting the expectations they have for governments and corporations, and the solutions they are prepared to implement. The report can act as a powerful data-backed advocacy tool for young people to take to decision-makers in government and industry, and for decision-makers in energy to understand and take action to prioritize youth perspectives in their work.

Student Energy launched the GYEO in 2020. Through an online questionnaire and a series of Regional Dialogues led by a team of young people, the Global Youth Energy Outlook engaged **41,652 young people from 129 countries, aged 18-30**, and many more youth and organizations in the outreach process.

Highlighted global findings

- Most youth surveyed believe that sustainable energy and climate change are equally, if not more important, relative to other global issues, such as healthcare, education, cost of living, and gender equality.
- Nearly 75% of youth indicated they are ‘concerned’ or ‘very concerned’ about pollution and emissions caused by the current global energy system, particularly youth from developing and emerging economies such as Latin America (89.2%), South East Asia (89.0%) and Sub-Saharan Africa (85.2%).
- Speaking to their own countries and regions, youth identified ‘government willpower, policies, and regulations’ as the current biggest barrier to achieving a sustainable energy transition, more than twice as many as those who chose economic conditions, the current energy industry, or public or community support as the biggest barrier.

Regional Perspectives

Despite remarkable similarities and consensus among youth from vastly different circumstances and backgrounds, it is also important to recognize that young people are not a monolithic

group. Young people’s perspectives on energy and climate change are informed by the energy and climate change context of their particular country and region, as well as other factors such as the level of youth inclusion or access to education and opportunities related to energy.

To understand and highlight this diversity of perspectives, the Outlook includes ten Regional Chapters, which highlight particularly interesting data points from each region, are introduced with a Foreword by a Regional Coordinator to provide context, and end with a series of discussions and thematic analyses that are specific to that region.

The Global Insights section shows important areas of consensus and synergy that young people can build on to strengthen their advocacy efforts, while the Regional Chapters provide important nuance and detail that demonstrate the global equity considerations that must be made when advancing the energy transition.

Intergenerational Collaboration

The Global Youth Energy Outlook is championed by both young people leading the way on the energy transition and influential organizations in the energy sector such as DNV, the Leadership Group for Industry Transition, the Ministry of Foreign Affairs of Denmark, Natural Resources Canada, and Enel Foundation, a leading think network at the cross road of energy, climate and finance. The project aims to facilitate intergenerational collaboration on delivering an energy future that meets the needs of all generations and effectively addresses the climate crisis in a globally equitable way.

A note on statistics. The GYEO survey consisted of 10 selected questions targeting key perspectives on energy and climate, as well as basic demographic information. A total of 41, 652 youth responded to this survey. A sub-sample of 6,252 respondents opted in to completing a long-form version of the survey with 31 additional questions. Throughout the report, descriptive statistics using data from the long-form survey are indicated using the following notation: 36.2%†.

This report is complemented by the official Global Youth Energy Outlook website: www.studentenergyoutlook.org

GLOBAL INSIGHTS

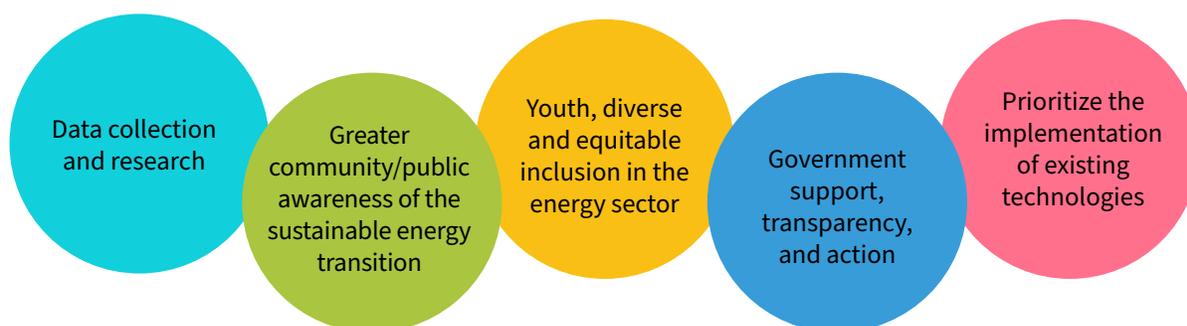
Figure 1. How important do you think climate change and sustainable energy are when compared to public concerns including healthcare, employment, access to education, cost of living, gender equality, and others? (Global)



THE TRANSITION TO NET-ZERO

The energy sector accounts for an estimated 3/4 of global greenhouse gas emissions today, marking the sustainable energy transition as one of the most important and greatest challenges in the fight against anthropogenic climate change. Recent projections by the United Nations show that we are not making sufficient advances to achieve Sustainable Development Goal 7 (SDG7), sustainable energy for all, by 2030. Reports such as the World Meteorological Organization's (WMO) 2022 State of Climate Services: Energy report further highlight the need for a large scale transformation of our global energy system through switching to lower emissions electricity production and increased energy efficiency for effective global action on climate change (WMO, 2022). The impact of the COVID-19 pandemic demonstrated the vulnerabilities of business-as-usual practices and that rapid and drastic change is, in fact, possible. However, while investment in renewables reached an all-time high (USD 440 billion) in 2021, fossil fuel investment also rose despite many nations' stated commitment to the energy transition (IEA, 2022). Most youth surveyed believe that sustainable energy and climate change are 'equally as' (45.49%†), if not 'more important' (48.74%†), relative to other global issues, such as healthcare, education, cost of living, and gender equality. Across the world, young people agree that we urgently need to transform the global energy system this decade to address the climate crisis and avoid the worsening impacts of global heating.

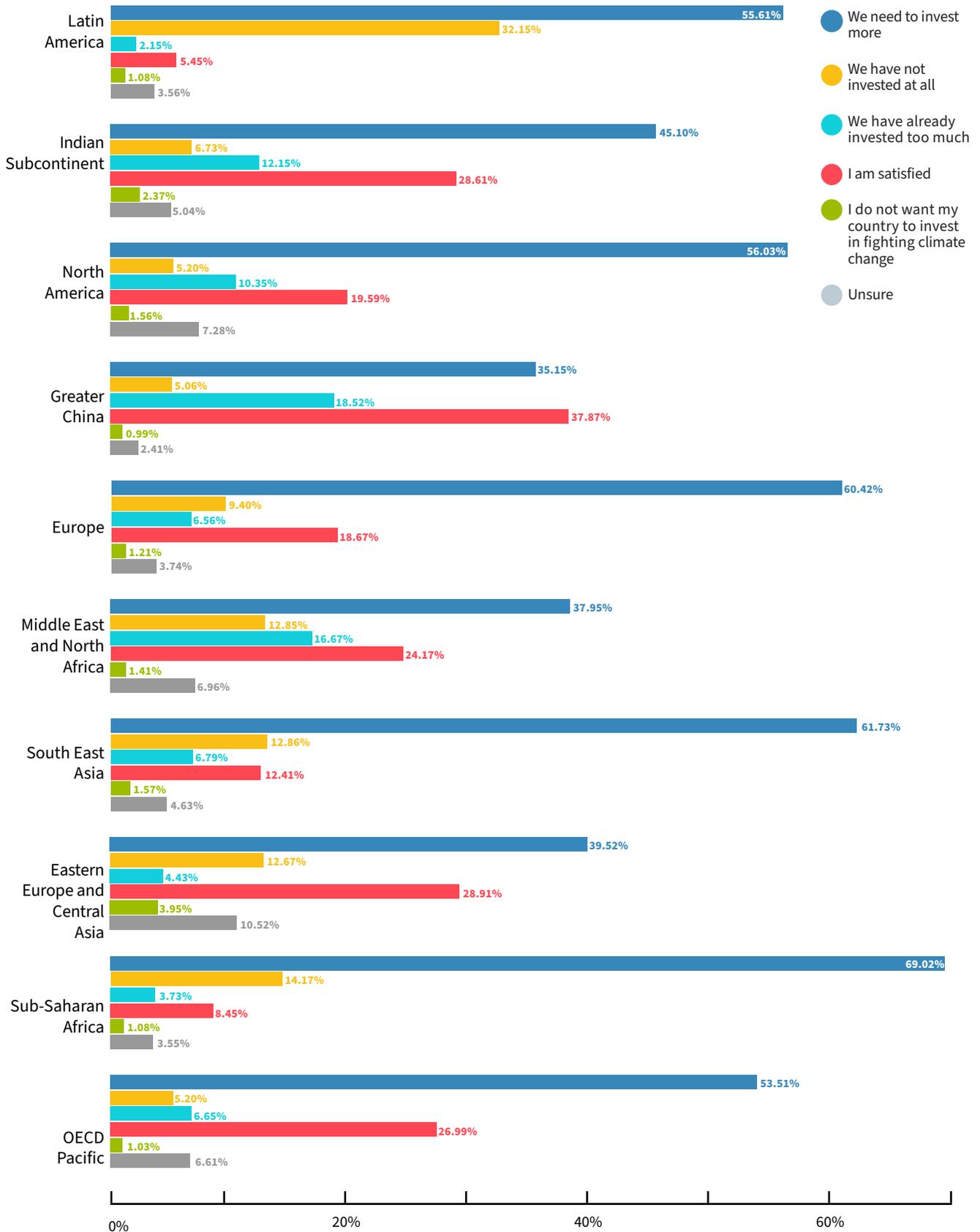
What do you feel is urgently needed at this moment?



Insights from Regional Dialogues

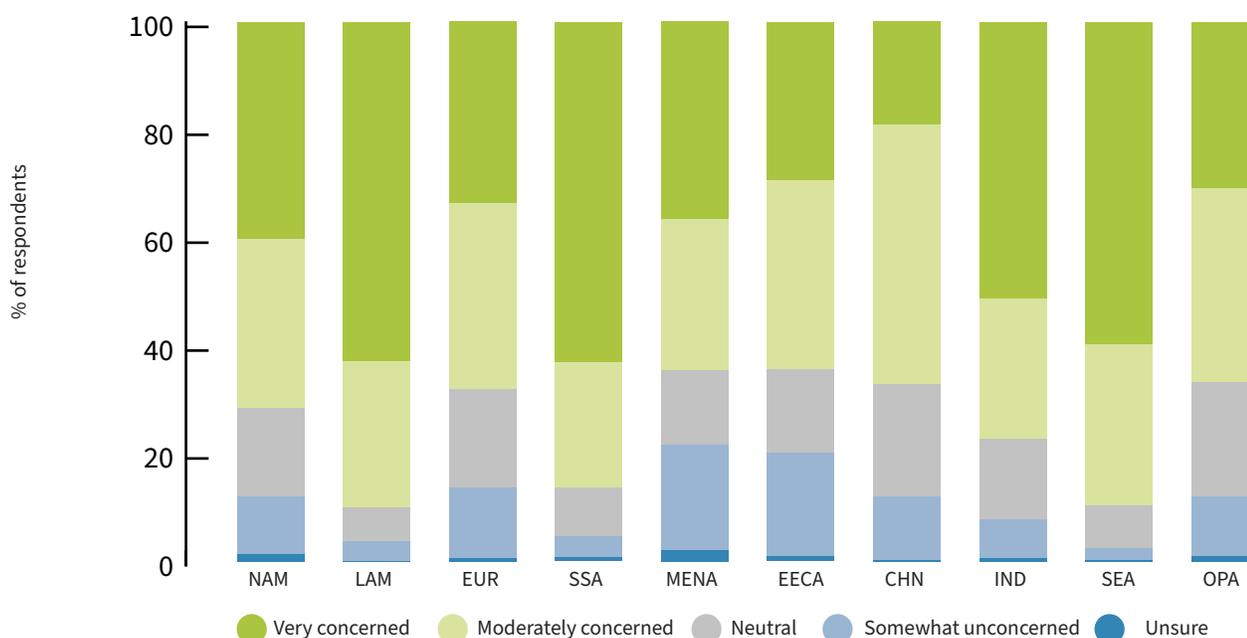
As a global average, young people reinforce the need for ambitious action on the sustainable energy transition with 81.5% of youth supporting that their country or territory declares a decarbonization target for its respective energy system. To date, over 130 countries have considered or pledged a target for net-zero emissions — fewer have officially and legally committed — with most aiming for 2050 (UK Parliament, 2021; UN, n.d.). To this end, 80.1%† of youth support governments taking drastic action to achieve net-zero by 2050, although the GYEO amplifies that youth desire greater urgency, with 65.2% indicating they want their country to reach net-zero by 2030. Indeed, the Conference of the Parties to the UNFCCC (COP 26, 2021) in Glasgow, Scotland called for countries to come forward with ambitious plans for emissions reductions by 2030, yet by the following COP 27 in Sharm El-Sheikh, many countries fell short of setting science-backed targets to limit global emissions and global temperature rise to 1.5C by 2050. Projections estimate that plans made at COP26 will take only 7.5 percent off predicted 2030 emissions, whereas a 55 percent reduction is needed to meet 1.5°C targets (United Nations Environment Program [UNEP], 2021). Countries and territories around the world must

Figure 3. Do you think your country or territory's government is investing enough in fighting climate change? (Regional)



take more immediate and significant action; 72.8% of youth indicated they are ‘concerned’ or ‘very concerned’ about pollution and emissions caused by the current global energy system, particularly youth from developing and emerging economies such as Latin America (89.2%), South East Asia (89.0%) and Sub-Saharan Africa (85.2%).

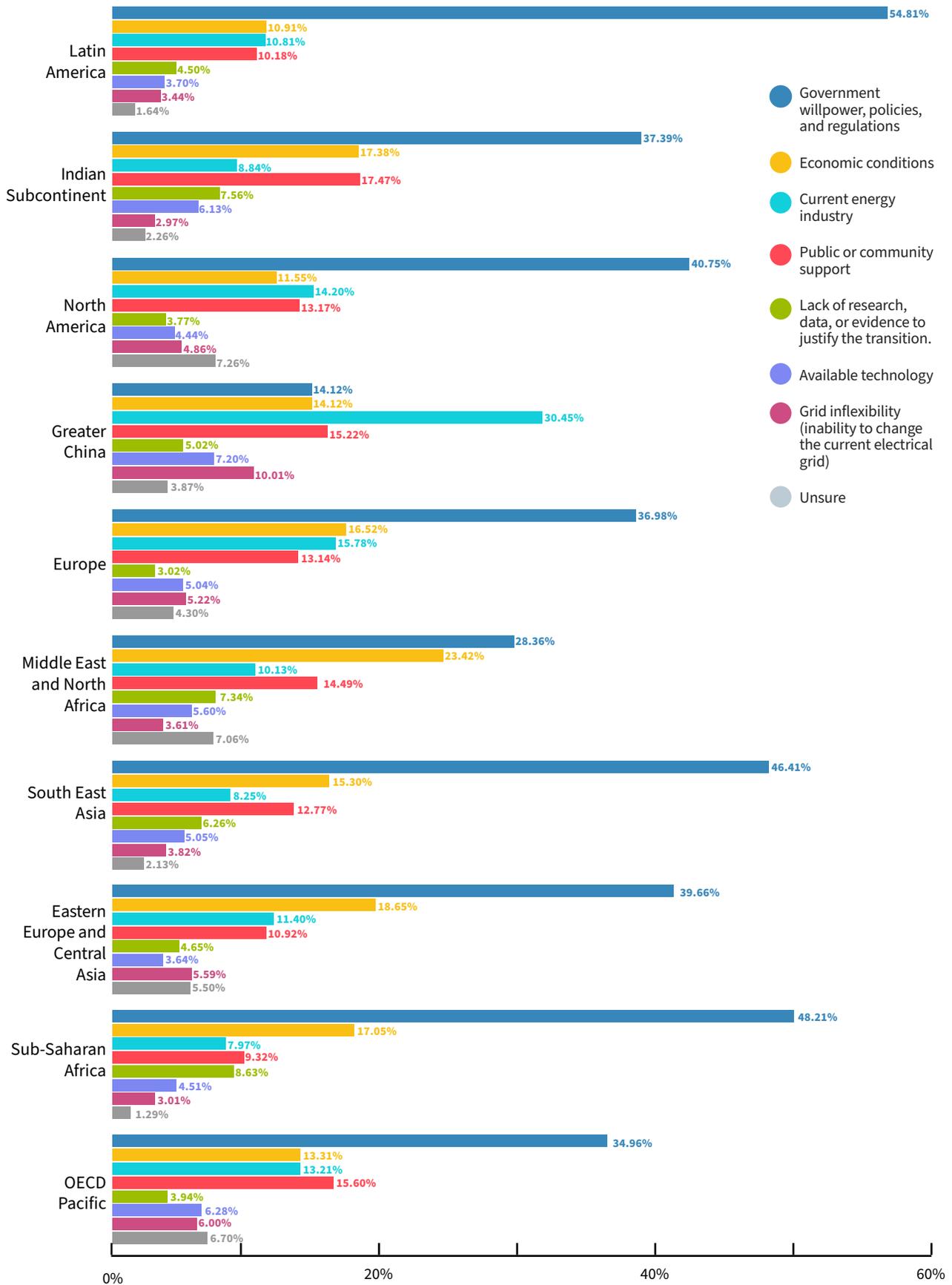
Figure 2. Are you concerned about the pollution and emissions caused by the current global energy system? (Regional)



NAM: North America **LAM:** Latin America **EUR:** Europe **SSA:** Sub-Saharan Africa **MENA:** Middle East and North Africa
EECA: Eastern Europe and Central Asia **CHN:** Greater China **IND:** Indian Subcontinent **SEA:** South East Asia **OPA:** OECD Pacific

Moreover, the United Nations’ Intergovernmental Panel on Climate Change (IPCC) proposes that an annual investment of \$2.4 trillion into the energy sector is needed in the lead up to 2035 to limit global temperatures below 1.5°C. Half (50.1%) of youth expressed the need for their country’s government to invest more in fighting climate change, with 12.3% indicating their government has made no investment at all. Of the given options, youth preferred to fund the transition to net-zero emissions by ‘taxing companies that produce emissions’ (46.2%), followed by ‘taxing companies that produce energy’ (22.9%). While 57.3%† of youth support governments across the world implementing a carbon price policy, 29.7%† support carbon price policies but do not think current formats are effective. As of 2019, studies indicate that existing carbon pricing models cover only 20% of global emissions and prices are too low to be effective, resulting in trajectories that deviate little from business-as-usual scenarios (Rosenbloom et al., 2020). Across Regional Dialogues, youth also advocated that while governments must develop standards that hold emitters accountable, they must also establish carbon trade-off programmes for communities that are disproportionately affected by carbon pricing tools. This includes rural, remote, and vulnerable communities that are more reliant on carbon-based fuels for their electricity and heating.

Figure 5. What is the biggest barrier to a sustainable energy transition in your country or territory? (Regional)



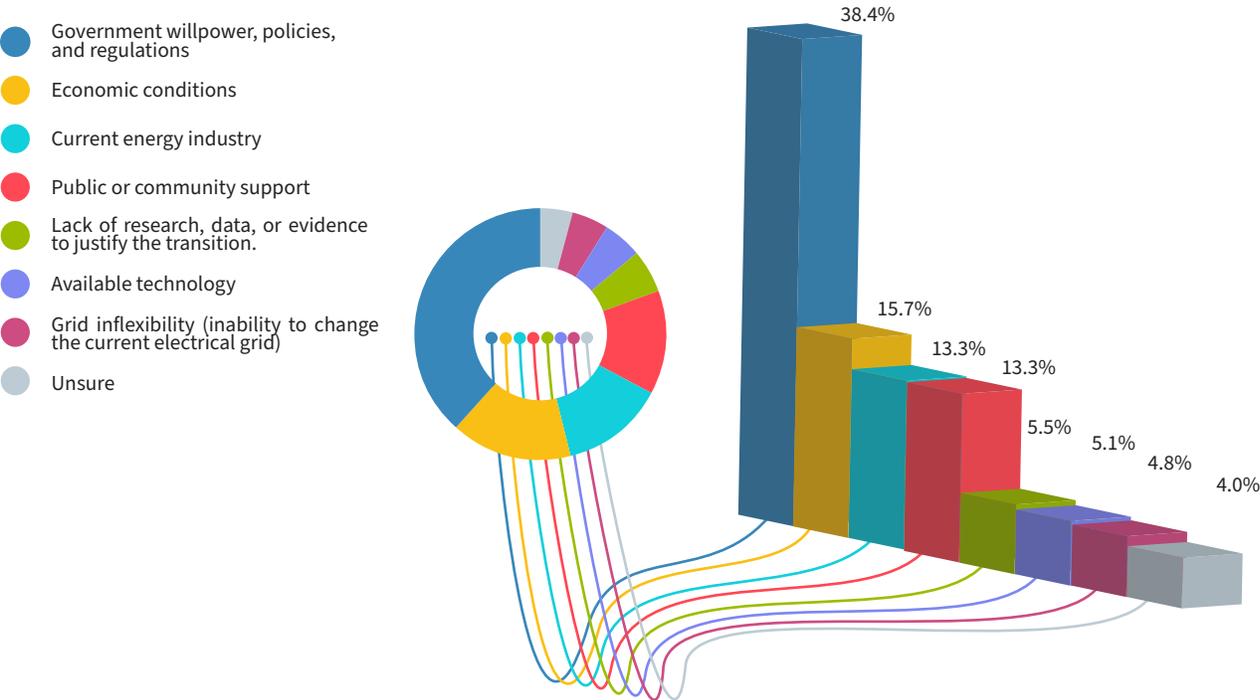
Key Actors in the Lead Up to 2030

The role of young people working with governments, industry, and the private sector is critical to our ability to maintain a commitment to net-zero emissions. A minority of youth believed that there are currently meaningful opportunities for young people to engage with policymakers (38.5%) or businesses (34.6%) on sustainable energy issues in their country or territory. Even fewer youth also believed that their perspectives on sustainable energy are valued by policymakers (16.7%) or businesses (16.1%), and nearly half of youth (48.1%†) report that they have never been asked for their perspectives on the energy sector by anyone. Young people are highly motivated to advocate for ambitious action and play a hands-on role in impacting public perceptions, influencing social acceptance and behavioural change, and developing the solutions needed to decarbonize even the most hard-to-abate sectors. Government and industry have a valuable opportunity to leverage this motivation and work collaboratively with youth on climate and energy action.

Government & Policy

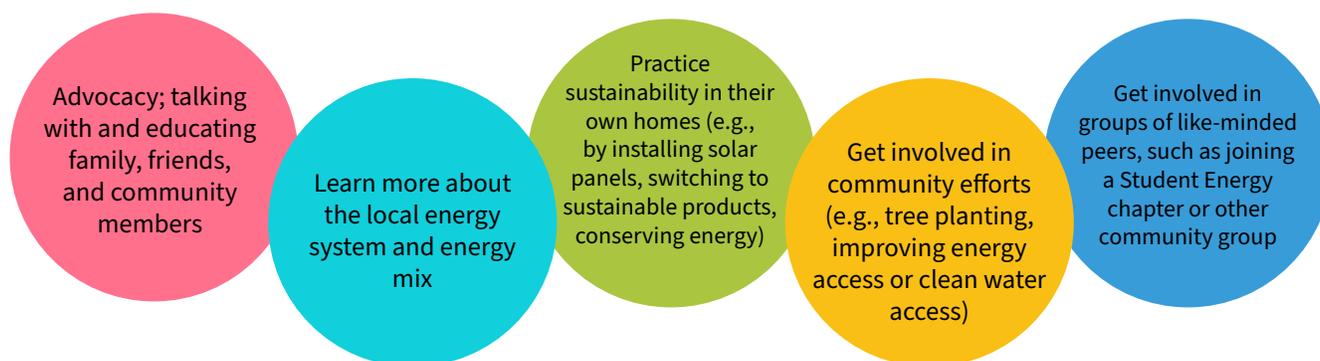
Across all regions, youth strongly believed that governments play a defining role in mobilizing the sustainable energy transition. In particular, young people were most likely (40.1%†) to believe that national-level governments (rather than local and sub-national level governments, or international level governance) are the most effective at enacting change or influencing the current energy system by addressing issues such as accessibility, emissions, and pollution. However, currently only 17 countries have enshrined their net-zero commitments into legislation (Energy & Climate Intelligence Unit [ECIU], 2022) and as of 2021, climate policies and actions by major countries are largely insufficient for meeting the Paris Agreement, yielding a projection of 2.5-2.9°C of warming by 2100 (Climate Action Tracker, 2021). It is perhaps then not surprising that, speaking to their respective country or territory, youth identified ‘government willpower, policies, and regulations’ as the current biggest barrier to achieving a sustainable energy transition (38.4%), more than twice as many as ‘economic conditions’ (15.7%), the ‘current energy industry’ (13.3%), or ‘public or community support’ (13.3%).

Figure 4. What is the biggest barrier to a sustainable energy transition in your country or territory? (Global)



Without legislative accountability, the world remains susceptible to the continued delay of the sustainable energy transition. Consequently, young people were also most likely to believe that ‘government policy’ is the most important factor in the lead up to a sustainable transition by 2030 (42.8%), followed by ‘technological advancement’ (31.4%) and ‘business and organizational leadership’ (32.9%). Of given policy options, youth endorsed the prioritization of ‘new regulations to mandate the use of renewable energy’ (33.5%†), ‘strengthening environmental policy’ (21.5%†), and ‘incentivizing energy efficiency and conservation’ (17.6%†) as means for their government to achieve net-zero by 2050. Further, youth largely endorsed that their country’s government needs to invest more in actionable steps towards net-zero, such as energy conservation and efficiency (82.3%†), renewable electricity (80.8%†), and decarbonizing shipping and commercial transport (78.5%†).

What do youth plan to do to facilitate a sustainable energy future?



Business & Industry

While young people desire to see governments step up and take definitive steps towards a sustainable energy future, youth also believed that business and industry hold the greatest share of responsibility when it comes to transitioning the energy system (68.7%†). 86.6%† believed that business and industry should be held legally and financially responsible for capturing and storing the carbon emissions that result from their activities, with this percentage being highest among young people in Latin America (93.3%†). Beyond that, youth identified three of the most meaningful ways they believe business and industry can take action on the sustainable energy transition: (1) lobby/cooperate with government on decarbonization (30.6%); (2) create policies to reduce company emissions (24.3%), and; (3) commit to becoming carbon neutral or carbon negative (21.2%). The vast majority of youth surveyed (93.2%†) desire to see transformative 2030 scenarios with increased demand for renewable energy, and decreased oil and gas demand and/or production. Beyond 2030, youth expect that oil and gas companies will transition to renewable energy production (33.5%†) or low-carbon fuels (24.2%†).

Overall, young people view climate action and emissions reduction as an opportunity for wider systems change. Young entrepreneurs frequently expressed a desire to push cross-sectoral innovation to address the challenge of meeting the targets outlined by the Paris Agreement, such as policy-technology solutions and social innovation. Most youth surveyed did not feel that

there are meaningful opportunities to engage with businesses on the sustainable energy transition. Regional Dialogues highlighted significant barriers to engaging with industry, including: (1) a lack of training systems that prepare the skilled workforce needed and ready to meet the urgent demand for decarbonisation, (2) inadequate and isolated policy frameworks that leave vulnerable groups behind, and (3) institutional barriers to innovation. Decision-makers must commit to strengthening policy, technology, and financial environments that enable youth to participate in industry transition.

What Young People are Willing to Do

Despite existing barriers, young people advocated for the untapped potential of youth in driving the sustainable energy transition in the lead up to 2030, with 87.2%† of youth surveyed indicating they plan to pursue a job or volunteer in the energy sector. It is crucial that governments and businesses target programs and funding towards upskilling youth as the future labour force, and create space for young people to be involved in the sustainable energy transition. Youth advocated that governments must further develop robust programmes that create employment options for marginalized youth and other vulnerable communities that are disproportionately impacted by climate change and high emissions, as well as regional communities that have less diversified economies and rely on existing industrial processes.

Although young people around the world were unlikely to believe that individual behaviour is most important for the energy transition (12.4%), they demonstrated their own accountability and role in mobilizing climate and energy action. Young people are motivated by the climate crisis to take political action, with 83.5%† of youth reporting that they would vote for a politician based on their sustainable energy policy. While demanding more from governments across the board, 39.7%† of youth believed that young people working on sustainable development issues with government are most effective at influencing or enacting change to the current energy system at the local level. Across Regional Dialogues, youth frequently expressed their intention to continue the conversation by learning more and advocating for sustainable energy and climate with family, friends, and their communities.

Regional Dialogue Key Findings

What do institutions need to do to facilitate the energy transition?

- Set credible timelines for net-zero, decarbonize operations and incentivize use of sustainable/renewable energy
- Include youth at all levels (local, national, international) such as by including them in decision-making, funding youth-led projects, and/or creating jobs and incentivizing youth hires
- Set policies to attract and regulate investment into renewable energy and related startups
- Listen to communities and provide support based on their unique needs (e.g., funding, capacity building)

What do young people feel is urgently needed at this moment?

- Data collection and research
- Greater community and public awareness of the sustainable energy transition
- Equitable inclusion of diverse youth in the energy sector
- Government support, transparency, and action
- Prioritizing the implementation of existing technologies

What do young people plan to do to facilitate a sustainable energy future?

- Advocacy: talking with and educating friends, family, and community members
- Learn more about their local energy system and energy mix
- Practice sustainability in their own homes (e.g., by installing solar panels, switching to sustainable products, conserving energy)
- Get involved in community efforts (e.g., tree planting, improving energy access or clean water access)
- Get involved in groups of like-minded peers (e.g., by joining local Student Energy Chapter)

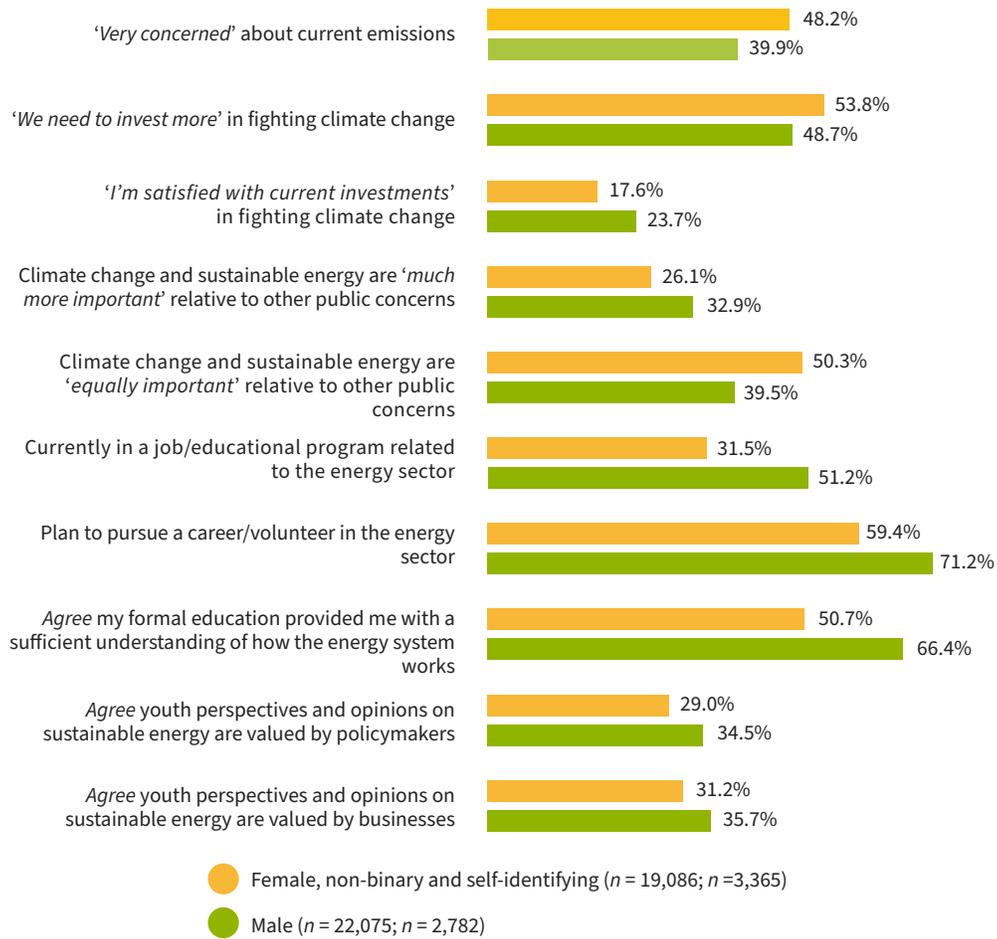
Gender

Gender¹ equality is a human right, and gender represents just one of many energy nexus issues. Women are disproportionately impacted by energy issues, including access (e.g., indoor pollution associated with unclean cooking), electricity infrastructure (e.g., inequitable access to jobs), clean energy (e.g., lack of access to financing and collateral purchase of clean energy technology), and policy (e.g., not included in consultations of decision-making)(UN, 2018). When disaggregated by gender, GYEO survey results reflect this disparity: female and gender-minority respondents were more likely than male respondents to be ‘very concerned’ about current emissions from the energy sector (48.2% vs. 39.9%, respectively), and were more likely to express that their country/territory needs to invest more in fighting climate change (53.8% vs. 48.7%) and less likely to be satisfied with current investments (17.6% vs. 23.7%).

Including women, sex, and gender minorities in decision making spaces is crucial to advancing the SDGs and achieving a just and equitable energy transition. Women represent a minority of positions as ministers overseeing energy policies, the renewable energy workforce, and positions in scientific research and development (UN, 2018). Indeed, across the global average, female and non-binary respondents were less likely to indicate that are currently in an educational program or job related to the energy sector (35.1%† vs. 51.2%†) and less likely to express plans to pursue a job or volunteer in the energy sector (59.4%† vs. 71.2%†). They were also more likely to disagree that their formal education provided a sufficient understanding of how the energy system works (50.7%† vs. 66.4%†) Moreover, they were less likely than males to agree that youth perspectives on sustainable energy are valued by policymakers (29.0% vs. 34.5%) or businesses (31.2% vs. 35.7%). Current actors and decision-makers must ensure that opportunities to amplify and empower women and gender minorities are available and well-communicated, and need to turn inward to ensure that they are provided with adequate mentorship, support, and skill-building opportunities that enable them to succeed in this traditionally male-dominated space.

¹ We wish to recognize an inaccuracy in the language used to collect participants’ gender identity, wherein response options reflected language for biological sex (i.e., female, male) and may thus supersede respondents’ gendered experiences. Still, we felt it was important to include a gender-based analysis as an important energy nexus issue. To most accurately represent how participants self-identified, we use the same terminology that was presented to participants in data collection. Due to small sample numbers, non-binary and other self-identifying participants were grouped with females as the minoritized group in this space. All results and interpretations should be considered with these limitations in mind.

Figure 5. Responses by gender for selected questions. (Global)



REGIONAL INSIGHTS

10 Global Regions

The Global Youth Energy Outlook divides the world into 10 major regions, parallel to those defined by DNV. These regions are delineated on the basis of geographical location, extent of economic development, and energy characteristics (DNV, 2021). A list of countries represented in each region can be viewed in [Appendix A](#).

Each region was headed by one or two Regional Coordinators: youth leaders in energy who provided their energy expertise and led outreach in their respective regions. Regional Coordinators conducted community engagement to connect with and include young people from diverse backgrounds in all stages of the Outlook's data collection. For more details on Regional Coordinators, refer to the [Methodology section](#).

Youth Profiles

We include several youth profiles across a range of geographic locations and project types to present alongside findings from the Global Youth Energy Outlook. These case studies were selected from Student Energy’s alumni network of youth energy leaders and are real-world demonstrations of diverse youth innovations and the ways young people are already taking action on energy in their communities.

Table 1. Respondent demographics (short-form).

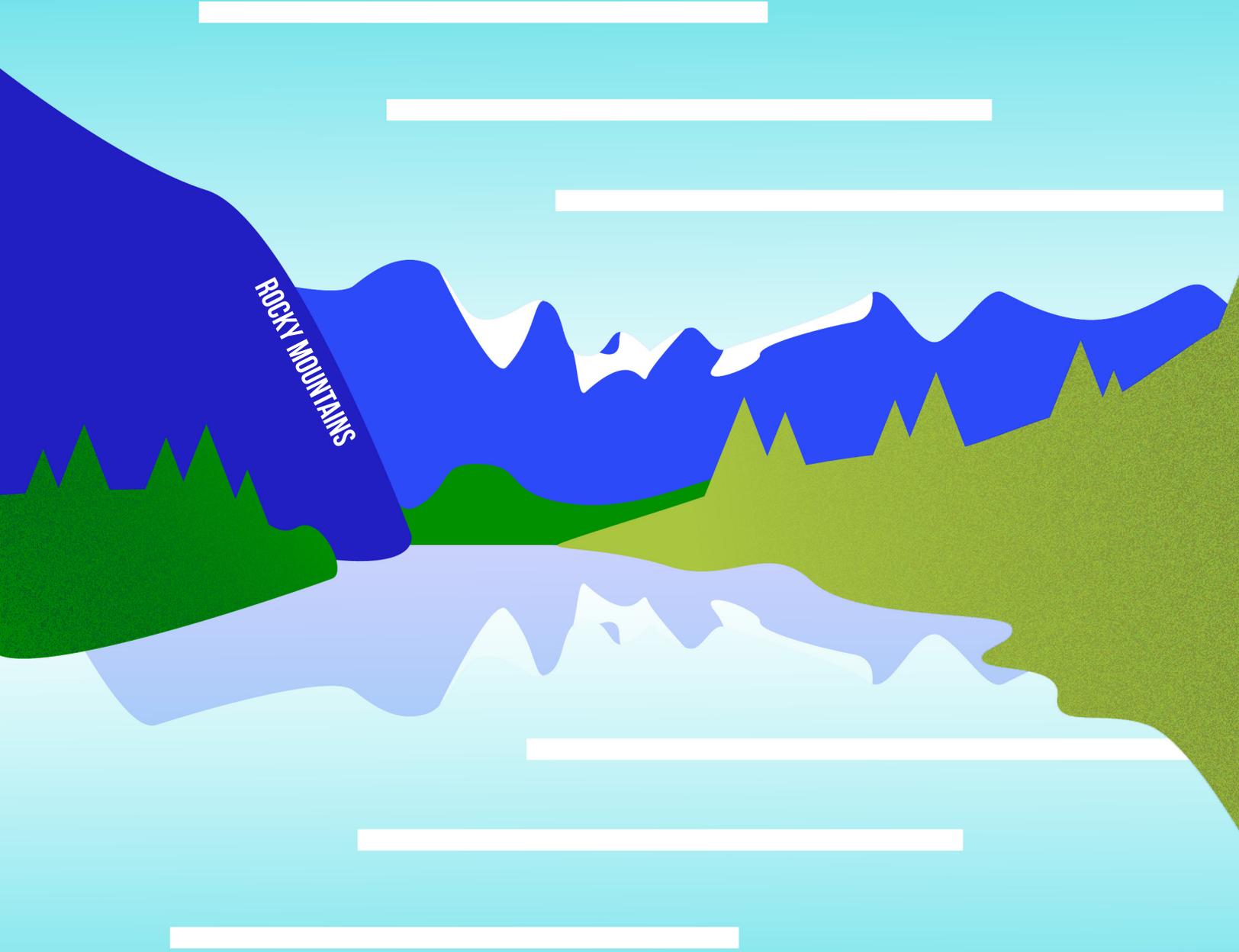
Region	Responses (41,652)	Gender			Location	
		Female	Male	Non-binary	Urban	Rural
LAM	5727	51.9%	46.2%	1.2%	87.2%	11.5%
IND	5320	36.0%	61.9%	1.1%	71.9%	23.9%
NAM	4755	44.8%	49.9%	3.4%	75.0%	20.4%
CHN	4531	52.4%	46.3%	0.6%	87.3%	11.9%
EUR	4469	42.3%	52.8%	3.8%	72.3%	23.1%
MENA	4278	38.2%	58.3%	1.9%	81.8%	13.6%
SEA	3562	51.9%	44.9%	1.7%	78.7%	18.0%
EECA	3546	33.1%	62.9%	2.3%	87.5%	10.3%
SSA	3329	41.5%	57.5%	0.5%	82.8%	15.0%
OPA	2135	45.4%	50.0%	3.0%	78.4%	18.1%

Figure 6v. Global Youth Energy Outlook Regions



*Full respondent demographic information can be viewed in Appendix F.

NORTH AMERICA



REGIONAL HIGHLIGHTS

Do you think your country/territory is investing enough in fighting climate change?

56.0% We need to invest **more**

19.6% I am **satisfied** with the investment

68.0%

Are **Moderately** or **Very Concerned** about the pollution and emissions caused by the current global energy system.

Agree...

<p>Youth perspectives and opinions on sustainable energy are valued by...</p>	<p>Policy makers 30.9%</p> <p>Businesses 31.2%</p>
<p>There are meaningful opportunities for youth to work on sustainable energy issues directly with...</p>	<p>Policy makers 41.9%</p> <p>Businesses 35.4%</p>

In your opinion, who is responsible for reducing greenhouse gas emissions released into the atmosphere?

- 1. Government**
- 2. Business and Industry**
- 3. Other organizations**
- 4. Families, Neighbourhoods, Communities**
- 5. Individuals**

59.3%

Want their country/territory to reach **net zero by 2030.**

Of the given options, what is your preferred way to fund the transition to net zero carbon emissions in your country/territory?

47.2%

Tax the production of emissions (companies that produce emissions pay this tax)

What is the biggest barrier to achieving a sustainable energy transition in your country or territory?

40.8% Government willpower, policies, and regulations

14.2% Current energy industry

13.2% Public or community support

What do you think are the most meaningful ways that business and industry could effectively take action on the sustainable energy transition?

- 1. Lobby government on decarbonization**
- 2. Commit to becoming carbon neutral or carbon negative**
- 3. Create policies to reduce company emissions**

Rank the following in terms of their importance to the sustainable energy transition leading to 2030:

- 1. Government Policy**
- 2. Technological Advancement**
- 3. Business & Organizational Leadership**

NORTH AMERICA

SUMMARY

- 61.2% of youth think their country/territory needs to invest more in fighting climate change or that their country/territory has not invested at all.
- 30.9% agreed that youth perspectives on sustainable energy are valued by policymakers, and 31.2% agreed that youth perspectives are valued by businesses. 41.9% of youth agree there are meaningful opportunities to engage with policymakers on sustainable energy issues, and 35.4% with businesses in their country/territory
- Governments were identified as holding the most responsibility for greenhouse gas emissions (31.4% ranked first) followed by business and industry (28.7% ranked second) and other organizations, including civil society, non-governmental organizations, or charities (29.9% ranked third).
- 68.0% are concerned or very concerned about emissions and pollution caused by the current energy system.
- ‘Government willpower, policies, and regulations’ was considered the biggest barrier to achieving a sustainable energy transition by 2030 (40.8%), followed by the ‘current energy industry’ (14.2%), and ‘public or community support’ (13.2%).
- ‘Government policy’ was also considered the most important factor to the sustainable energy transition (40.0%); ‘business and organizational leadership’ was most commonly ranked second (28.0%) and ‘technological advancement’ third (23.5%).
- 59.3% of youth want their country/territory to set targets to achieve net-zero by 2030
- Of given options, 47.2% of youth preferred to fund the transition to net-zero by taxing companies that produce emissions
- Young people think business and industry should demonstrate effective action by (1) cooperating with government on decarbonization; (2) committing to carbon neutrality; and (3) creating policies to reduce company emissions

	Population	Energy Use	Net CO2 Emissions	GDP (USD)
Per Capita		298 GJ	66.5t	\$61 600
Overall	366M	109 EJ	6.0 Gt	\$22.6 trillion

FOREWORD

The North American region is colonized Indigenous land known to Indigenous Peoples (First Nation, Métis, Inuit) as “Turtle Island.” As one of the North American (Turtle Island) Regional Coordinators for the Global Youth Energy Outlook (GYEO), my focus was on Canada.

The energy transition is not a simple and quick fix; it is a complicated problem with multiple stakeholders who are not equally represented in energy decision-making, often with the greatest impacts falling on marginalized groups with minimal carbon footprints. Youth have inherited the climate consequences of generations before them which is an incredibly challenging undertaking. In today’s world, there is hesitancy to take action and pay attention to NGOs, activists, and youth groups without tangible statistics and facts. I hope the GYEO can bridge this gap by providing knowledge of what youth want for their energy future.

In Canada, the energy mix varies across each province and territory; however some common themes presented by youth included community initiatives and youth training, localized energy and food sourcing rather than reliance on foreign commodities, the current unsustainable exploitation of natural resources, prioritizing truth and reconciliation, and protecting Indigenous people, knowledge, and lands. There are some incredible renewable energy technologies, but the average citizen cannot always financially afford to invest, especially without accessible government programs available. Governments and corporations need to lead change to create climate resilience infrastructure, programs, resources, sustainable products, and processes. My greatest energy concern is a shift from one unsustainable resource exploitation to another, creating a vicious cycle.

Many corporations, governments, and other industries with political power make energy and environmental decisions that affect the future of youth without properly consulting youth on such issues. The GYEO provided an accessible way for youth from across the country and without prior experience in energy to share their perspectives and connect with major stakeholders in Canada. My experience with the GYEO forever changed my life as it allowed me to connect with regional coordinators from around the world, develop relationships with energy stakeholders and youth in my region and develop a stronger understanding that communication and relationships are at the core of a just energy transition. I am incredibly proud to have been part of this project and highlight the dedication and urgency youth have for the climate and energy future.



Tianna Philippot
Regional Coordinator NAM

DISCUSSION

The United States is the second-largest contributor to global greenhouse gas emissions (World Population Review, 2022), although per capita, Canada comes in at 15.4 metric tons of CO₂ per capita to the United States' 14.7 metric tons per capita (World Bank, 2019). As of 2021, both Canada and the United States have enshrined net-zero commitments into legislation, aiming for carbon neutrality by 2050, yet 59.3% of North American youth want their country's net-zero targets to be set for 2030. Youth consistently indicated they see governments as holding key influence on energy and climate in the lead up to 2030, with 40.8% identifying 'government willpower, policies, and regulations' as the biggest barrier to the energy transition, but also the most important factor in the energy transition (40.0%). Government leaders must take action and accountability to secure a just energy future for youth and earn their support; 89.9%† of youth indicated they would vote for a political candidate or party based on their position on creating a sustainable energy transition. Of given policy options, youth (40.7%†) suggest that their governments prioritize 'new regulations to mandate the use of renewable energy' to achieve net-zero by 2050. North American youth also largely demand that their country invest more in energy conservation and efficiency (84.9%†), renewable electricity (82.5%†), and decarbonizing shipping and commercial transport (76.6%†).

A distant second to government willpower, 'the current energy industry' was voted the second (14.2%) biggest barrier to the sustainable energy transition by North American youth. As of 2022, the United States and Canada are the first and fourth biggest contributors, respectively, to global oil production (EIA, 2022). Despite this, a report out of the Tyndall Centre for Climate Change Research University of Manchester (Calverley & Anderson, 2022) highlights that both the US and Canada are countries with 'high capacity' to handle a Paris Agreement-aligned transition in terms of wealth and oil and gas dependence. Most (87.8%†) North American youth hope that by 2030, fossil fuels are phased out so that a strong majority, if not all, of power comes from renewable energy sources. Business and industry can respond to youth demand for action by lobbying and cooperating with governments to push for more ambitious decarbonization, while simultaneously turning inward to reduce company emissions or setting net-zero goals.

Youth voted 'business and organizational leadership' as the second most important factor to the energy transition (28%). Youth believed businesses should be held more (74.7%†), if not equally (21.9%†), responsible for the global energy transition relative to any other group, including governments, non-governmental organizations, interest groups, communities, or individuals. Available green technology was one of the least commonly identified barriers to the sustainable energy transition (only 4.4% ranked 1st). However, this figure should not underestimate the importance young people attribute to investments in green technologies: 91.0%† of youth, in fact, believed it is important to invest in technology or nature-based solutions that minimize the impact of fossil fuel production and use. Regional dialogues, then, provide a more nuanced result of youth perspective on green technology: the implementation of existing technologies is a far more pressing need for them than further technological innovation or development.

In a Regional Dialogue focused on Remote and Indigenous communities, youth called for governments to support Indigenous-led initiatives that allow for decentralized renewable resources and flexible energy grids, increased capacity, job opportunities, and revenue for these communities. Young people called for governments to listen to and respond to Indigenous communities' unique needs, involve communities in decision making processes, and co-design policy with youth and Indigenous energy champions.

Jack Harding and Ethan Buchanan: Northern Alberta Institute of Technology Solar Project

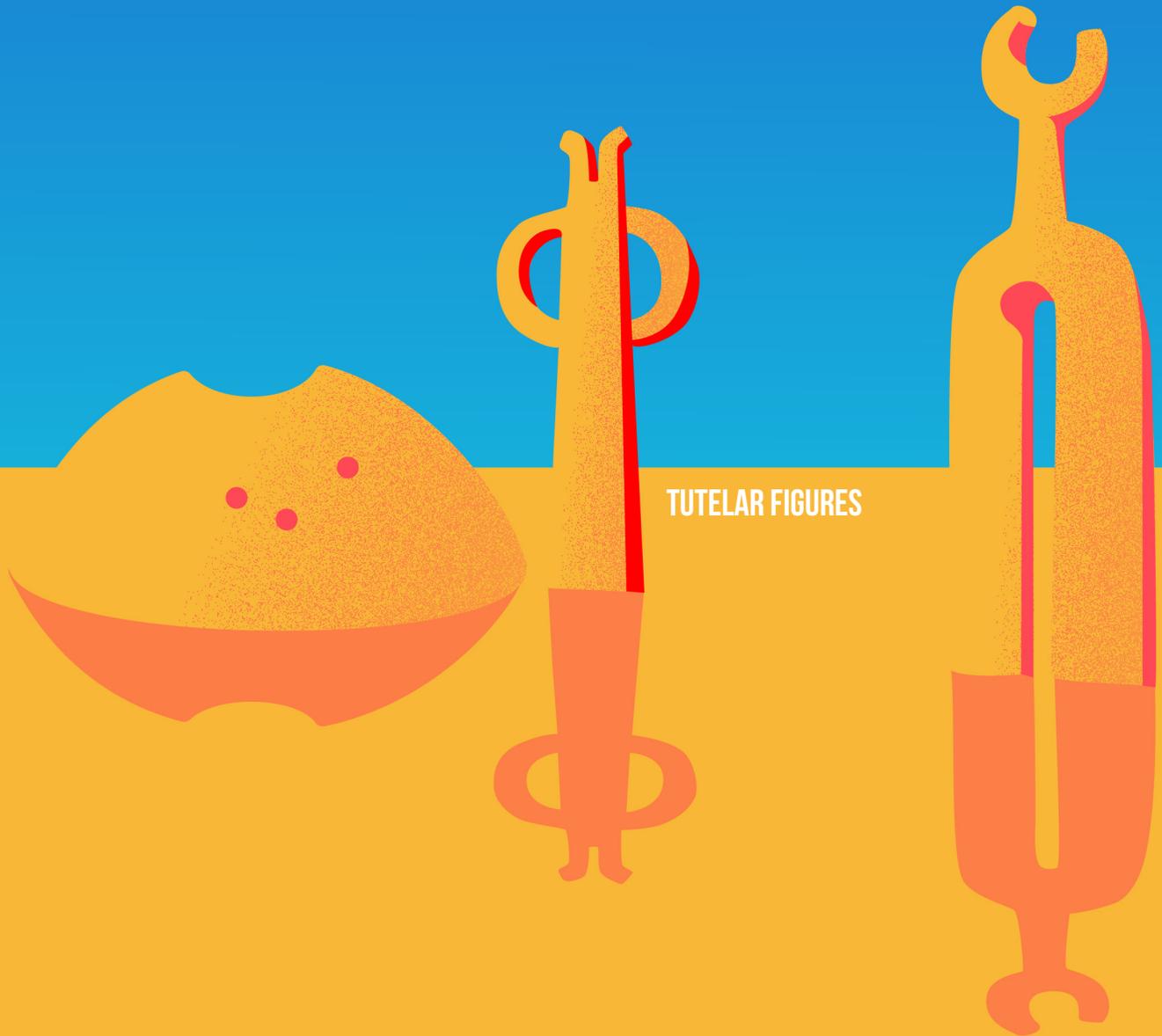
In late 2021, Student Energy began working with Jack Harding and Ethan Buchanan, students of the Northern Alberta Institute of Technology's Alternative Energy Technology program in Edmonton, Canada, to lead the development of a solar power project at NAIT, which also acted as a pilot project that resulted in a set of detailed project templates and technical documentation that other young people can access through the Student Energy Guided Projects program to replicate similar projects at their universities or in their communities.

The 11.88kWp solar PV system was completed in July 2022, and is expected to generate a total of 13.9 megawatt-hours in its first year, translating to roughly 8.2 tonnes of CO₂-equivalent emissions avoided.

Supported by an innovative model where NAIT will buy power generated by the solar array, the project represents a successful pilot for how young people can tangibly implement clean energy solutions in their communities, and how institutions can support youth in the process by sharing best practices, technical know-how, and systems to ensure their long-term success.



LATIN AMERICA



TUTELAR FIGURES

REGIONAL HIGHLIGHTS

Do you think your country/territory is investing enough in fighting climate change?

55.6% We need to invest **more**
32.2% We have not invested **at all**

Agree...

Youth perspectives and opinions on sustainable energy are valued by...

There are meaningful opportunities for youth to work on sustainable energy issues directly with...

Policy-makers **13.4%**
 Businesses **17.8%**
 Policy-makers **15.0%**
 Businesses **20.3%**

27.2% Do not agree with any of the above

89.2%

Are **Moderately** or **Very Concerned** about the pollution and emissions caused by the current global energy system.

In your opinion, who is responsible for reducing greenhouse gas emissions released into the atmosphere?

1. Government
2. Business and Industry
3. Other organizations
4. Families, Neighbourhoods, Communities
5. Individuals

66.2%
 Want their country/territory to reach **net zero by 2030.**

Of the given options, what is your preferred way to fund the transition to net zero carbon emissions in your country/territory?

54.1%

Tax the production of emissions (companies that produce emissions pay this tax)

What is the biggest barrier to achieving a sustainable energy transition in your country or territory?

54.8% Government willpower, policies, and regulations
10.9% Economic Conditions
10.8% Current energy industry

What do you think are the most meaningful ways that business and industry could effectively take action on the sustainable energy transition?

1. Create policies to reduce company emissions
2. Lobby government on decarbonization
3. Commit to becoming carbon neutral or carbon negative

Rank the following in terms of their importance to the sustainable energy transition leading to 2030:

1. Government Policy
2. Technological Advancement
3. Business & Organizational Leadership

LATIN AMERICA

SUMMARY

- 87.8% of youth think their country/territory needs to invest more in fighting climate change or that their country/territory has not invested at all.
- 13.4% agreed that youth perspectives on sustainable energy are valued by policymakers, and 17.8% agreed that youth perspectives are valued by businesses, roughly a third less than the global average. 15.0% agree that there are meaningful opportunities to engage with policymakers, and 20.3% with businesses on sustainable energy issues in their country/territory. 27.2% did not agree with any of these statements.
- Governments were identified as holding the most responsibility for greenhouse gas emissions (33.0% ranked first) followed by business and industry (31.5% ranked second) and other organizations, including civil society, non-governmental organizations, or charities (29.2% ranked third).
- 89.2% are concerned or very concerned about emissions and pollution caused by the current energy system.
- ‘Government willpower, policies, and regulations’ was considered the biggest barrier to achieving a sustainable energy transition by 2030 (54.8%), followed by ‘economic conditions’ (10.9%), and ‘current energy industry’ (10.8%).
- ‘Government policy’ was also considered the most important factor to the sustainable energy transition (48.0%); ‘technological advancement’ was most commonly ranked second (27.8%), and ‘business and organizational leadership’ most commonly third (32.6%).
- 66.2% of youth want their country/territory to set targets to achieve net-zero by 2030
- Of given options, 54.1% of youth preferred to fund the transition to net-zero by taxing companies that produce emissions
- Young people think business and industry should demonstrate effective action by (1) creating policies to reduce company emissions; (2) cooperating with government on decarbonization; and (3) committing to carbon neutrality.

	Population	Energy Use	Net CO2 Emissions	GDP (USD)
Per Capita		55 GJ	2.9t	\$16 100
Overall	657M	36 EJ	1.9 Gt	\$10.7 trillion

FOREWORD

When I was a child living in the rural areas of Bolivia, I saw how difficult the living conditions were for Indigenous people at the forefront of climate change. When I learned about the energy transition and the role energy plays in CO2 emissions, I realized one of the biggest social challenges in my region is energy education. Energy is crucial for development and quality of life, but many do not know the technological processes behind it and all the components that makeup the “energy sector.” Energy education at all levels is required, especially if we want future generations to be part of the transition.

Many Latin American country’s principal economic source is the extraction, distribution, and trade of natural gas and petroleum. The COVID-19 pandemic was an opportunity to change energy policies to promote a just and greener energy future for everyone but few countries did so, facing pressure not only from the pandemic but from the ensuing economic crisis. Governments made fast decisions about expanding fossil fuel-centered politics that allow companies to continue devastating the ancestral lands of many indigenous communities.

There are two main technical aspects to the energy transition in Latin America. First, the region has great potential for renewables like solar, eolic, and geothermal energy, but affordable storage and distribution remains a challenge. One solution is the digitalization of grids, but this is complicated in countries where grids are shared between governments (local and national) and private organizations that are constrained by bureaucratic processes. Second, there are few youth-led energy startups in Latin America. We need solutions developed by and for youth in Latin America to empower young people, women, and indigenous groups to solve the region’s energy challenges and build a more sustainable and just future for everyone.

Conducting outreach in our region was a challenging task; my team of 20 Country Ambassadors sent over 350 emails to different universities, regional, national, and local youth-led organizations, NGOs and other private energy organizations in Latin America. The connections we made helped us unite a regional network of youth organizations working for the energy transition. I think the Global Youth Energy Outlook is an important first step to provide data supporting youth perspectives that push stakeholders to take effective action, while also empowering youth to take initiative towards a clean energy future.



Paola Flores Carvajal
Regional Coordinator, LAM

DISCUSSION

Even with relatively low regional emissions, Latin American youth were most likely than any other region to express they are ‘very concerned’ (62.3%) about emissions and pollution caused by the current energy system. A strong majority want their country/territory to declare net-zero by 2030 targets, though only one fifth of the countries in this region have declared or pledged any net-zero target and another fifth have proposed or discussed, but not yet pledged, a target (ECIU, 2021).

Of all global regions, Latin American youth had the strongest consensus that ‘government willpower, policies, and regulations’ pose the biggest barrier to the sustainable energy transition. Climate and energy are at the forefront of youth concerns, with Latin American youth being more likely than any other region to indicate they would vote for a political candidate or party based on their position on creating a sustainable energy system in their country/territory (92.7%†). Relative to the global average, youth in Latin America more strongly called for their country/territory to invest more in fighting climate change (87.8%), improving energy conservation and efficiency (95.3%†), renewable electricity (94.6%†), and decarbonizing shipping and commercial transport (89.9%†). Regarding personal transportation, Latin American youth had the lowest expectations for the proportion of personal and public transportation vehicles that will be electric in the next ten years ($M = 30.6\%$, $SD = 22.0\%†$). A minority of youth in this region agree that energy in their country/territory is currently accessible to all regardless of age, gender, ethnicity, or other individual factors (31.4%†); affordable (21.7%†); reliable (16.5%†); sustainable (7.1%†); safe (20.8%†); or modern (4.7%†).

Over two thirds (71.9%†) of youth surveyed are already involved in, or expressed a desire to pursue, an educational program, volunteer position, or job in the energy sector. Despite this ambition, Latin American youth were least likely of all regions to agree that youth perspectives on the energy transition are valued by policymakers or businesses, or that there are meaningful opportunities to engage with these actors on energy issues. Likewise, over half (56.6%†) expressed that they have never been asked for their thoughts or opinions on the energy transition by anyone. There is a significant gap between Latin American youth’s desire to be involved in the energy transition and the opportunities available for them to engage with actors. Policymakers, businesses and industry have a great opportunity to bridge this gap and engage youth in mobilizing the energy transition to leverage their skills and fresh perspectives.

YOUTH PROFILE: JOICE MENDEZ, TECHNOXOMANIST

Joice Mendez is a Technoxamanist, TEDx lecturer, and social entrepreneur working on transboundary cooperation in the water-energy-food nexus with an emphasis on energy justice. Currently, she is the Latin American and Caribbean Regional Focal Point of the SDG7 Youth Constituency and member of the IRENA's Director General's Global Council on Enabling Youth Action for SDG7. Joice works continuously with several organizations she has co-founded including the Latin American Observatory of Geopolitics of Energy, the Moema Viezzer Environmental Observatory, and Paraguayan Youth Network for Water and Climate. With both observatories, they developed a course on "Energy Literacy Towards the Transition to Sustainable Societies" to support the energy transition at the community level.

Joice's family's history inspired her interest in climate action and also understanding the relationship of a fair and inclusive energy transition with climate justice as a form of social justice. Her mother's family lost their land due to coal mining back in Colombia, where Joice was born. Unfortunately, this displaced her family who needed to migrate several times and in the process left behind their culture, language and identity.

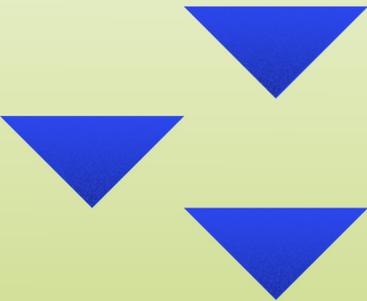
"We always were and still are treated as migrants, and due to this relationship with land, energy, culture I decided to study energy engineering to promote energy justice in my region, Abya Yala (Latin America)."

Joice's goal is Theatics: Theory and Practice! She wants to have a theatic life in sustainability and the energy transition.

"It isn't enough to talk about the transition or to remain merely in the virtual space; I want to preach what I live and so I aspire to build a sustainable home and to keep supporting other communities and countries in their transitions! Likewise, along with my best friend, Roxana, Mamani an Indigenous Quechua leader from the Peruvian Amazon, and the UNILA Chapter members, we are developing the project: Aylluq Q'anchaynin to take internet and electricity to her community (the Alto Mishagua, Megantoni community)."

*As an inaugural team selected for Student Energy's **Guided Projects** Program, Project Aylluq Q'anchayni aims to provide an indigenous community with access to the internet, communication and education. The team will install a solar PV and satellite internet system in the remote village of Alto Mishagua, in the Peruvian Amazon, with the aim of serving ~40 households.*





STONEHENGE



EUROPE

REGIONAL HIGHLIGHTS

Do you think your country/territory is investing enough in fighting climate change?

60.4% We need to invest **more**

18.6% I am **satisfied** with the investment

66.1%

Are **Moderately** or **Very Concerned** about the pollution and emissions caused by the current global energy system.

Agree...

Youth perspectives and opinions on sustainable energy are valued by...

There are meaningful opportunities for youth to work on sustainable energy issues directly with...

Policy makers	27.1%
Businesses	31.5%
Policy makers	33.3%
Businesses	28.4%

In your opinion, who is responsible for reducing greenhouse gas emissions released into the atmosphere?

- 1. Government**
- 2. Business and Industry**
- 3. Other organizations**
- 4. Individuals**
- 5. Families, Neighbourhoods, Communities**

60.6%

Want their country/territory to reach **net zero by 2030.**

Of the given options, what is your preferred way to fund the transition to net zero carbon emissions in your country/territory?

51.4%

Tax the production of emissions (companies that produce emissions pay this tax)

What is the biggest barrier to achieving a sustainable energy transition in your country or territory?

37.0%	Government willpower, policies, and regulations
16.5%	Economic conditions
15.8%	Current energy industry

What do you think are the most meaningful ways that business and industry could effectively take action on the sustainable energy transition?

- 1. Lobby government on decarbonization**
- 2. Commit to becoming carbon neutral or carbon negative**
- 3. Create policies to reduce company emissions**

Rank the following in terms of their importance to the sustainable energy transition leading to 2030:

- 1. Government Policy**
- 2. Business & Organizational Leadership**
- 3. Technological Advancement**

EUROPE

SUMMARY

- 69.8% of youth think their country/territory needs to invest more in fighting climate change or that their country/territory has not invested at all.
- 27.1% agreed that youth perspectives on sustainable energy are valued by policymakers, and 31.5% agreed that youth perspectives are valued by businesses, roughly a third less than the global average. 33.3% of youth agree there are meaningful opportunities to engage with policymakers, and 28.4% with businesses on sustainable energy issues in their country/territory.
- Governments were identified as holding the most responsibility for greenhouse gas emissions (30.5% ranked first) followed by business and industry (29.8% ranked second) and other organizations, including civil society, non-governmental organizations, or charities (26.9% ranked third).
- 66.1% are concerned or very concerned about emissions and pollution caused by the current energy system
- ‘Government willpower, policies, and regulations’ was considered the biggest barrier to achieving a sustainable energy transition by 2030 (37.0%), followed by ‘economic conditions’ (16.5%), and ‘current energy industry’ (15.8%)
- ‘Government policy’ was also considered the most important factor to the sustainable energy transition (41.2%); ‘business and organizational leadership’ was most commonly second (27.3%) and ‘technological advancement’ third (23.9%).
- 60.6% of youth want their country/territory to set targets to achieve net-zero by 2030
- Of given options, 51.4% of youth preferred to fund the transition to net-zero by taxing companies that produce emissions
- Young people think business and industry should demonstrate effective action by (1) cooperating with government on decarbonization; (2) committing to carbon neutrality ; and (3) creating policies to reduce company emissions

	Population	Energy Use	Net CO2 Emissions	GDP (USD)
Per Capita		136 GJ	6.7t	\$42 000
Overall	545M	74 EJ	3.7 Gt	\$22.9 trillion

FOREWORD

Much has changed globally, regionally, and locally since the initiation of the Global Youth Energy Outlook back in early 2020. Both the COVID-19 pandemic and the war in Ukraine have had immense influence on our everyday lives, partly due to its impacts on our energy systems. Looking at the past two years, we first had to change our lives significantly due to COVID-19. Travel restrictions forced us on stay-cation, and work and conferences went digital, causing a significant drop in emissions from transportation, in particular aviation. Fast forward two years and we now find ourselves in another crisis. The Russian invasion of Ukraine and subsequent energy crisis has increased living costs, transport, and energy prices, putting more households at risk of energy poverty - especially those living in the 75% of Europe's housing stock that is deemed energy inefficient. The pathways to energy security should not include reopening coal fired power plants, but rather focus on increased energy efficiency, significant investments in and new opportunities to scale up renewable and clean energy solutions, and increasing efforts by both public and private actors to decarbonise the heavy industry. As one of the findings of the GYEO states, we need to invest more to fight climate change, as a lack of action will only increase the pressure on the energy systems, as felt during the summer of 2022, which was the hottest in history and led to increased need for cooling and issues of drought across Europe.

With a clean energy transition comes an important focus on structural inequalities and making sure that no one is left behind. A recent event by the Global Covenant of Mayors Europe focused on the importance of looking at the energy transition through a gender lens, as female-led households have a higher risk of suffering energy poverty. Policy processes should be made more inclusive and it's crucial to look at energy intersectionally, ensuring that diverse and disadvantaged groups are involved.

Being a part of the GYEO has made me more optimistic about the future knowing that young people are willing to engage and take action on the clean energy transition if governments and businesses are willing to support and invest in youth. Throughout the work of the GYEO, I have advocated for the inclusion of youth perspectives at various high level political forums, most memorably at COP26. I am incredibly thankful to each and every one of the +3000 European youth who have participated in this ambitious project. I owe a massive thanks to the youth organisations that have played an active part in the outreach, in particular the European Youth Parliament, YES-Europe, YES-DC, and the European Youth Energy Network. With your help, the Outlook has reached youth in over 80% of countries in the European region.



Linette Knudsen
Regional Coordinator EUR

DISCUSSION

Over half of countries in the European region have declared net-zero targets, most of them aiming for 2050, yet 60.6% of European youth called for their country/territory to reach net-zero by 2030. Like youth in other regions, most European youth (37.0%) considered ‘government willpower, policies, and regulations’ as the current biggest barrier to the energy transition. This is a valid concern - for example, Copenhagen, the capital city of Denmark, recently abandoned its pledge to reach net-zero by 2025 after setting the target in 2012 (George, 2022). Setting net-zero targets alone is insufficient, without collective action, accountability, investments, and government willpower.

There is no shortage of support for an ambitious government — 90.5%† of youth indicated they would vote for a political candidate or party based on their position on creating a sustainable energy system in their country/territory. Of the given policy options, the most popular policies that youth want their governments to prioritize to reach net-zero by 2050 were 1) implementing new regulations that mandate the use of renewable energy and 2) incentivizing energy efficiency and conservation†. Across all regions, European youth most strongly preferred that their country/territory to be fully powered by renewables by 2030 (42.2%†) while few (13.3%†) agreed that energy in their country/territory is currently sustainable. Youth want their country/territory to invest more in improving energy conservation and efficiency (81.6%†), renewable electricity (79.4%†), and decarbonizing shipping and commercial transport (81.9%†). In regional dialogues, European youth recognized that countries within the region have unique energy issues and different starting points in the transition to a sustainable energy system. For example, youth in the United Kingdom expressed hopes that their government would invest in urban planning and the built environment by refurbishing buildings, urban gardening, and electrifying public transportation, while youth from Poland discussed the pressing need to equitably transition the coal industry and incentivize households to swap carbon-based energy sources for renewable ones.

Relative to other groups (including governments, non-governmental organizations, individuals, or community groups), European youth believed that business and industry should be held more responsible for the global energy transition (71.4%†). Decision-makers should also make greater efforts to engage with youth actors in the energy transition; 59.0%† of youth expressed an interest in pursuing a job or volunteering in the energy sector, and nearly just as many (53.3%†) indicated they have never been asked to share their thoughts or opinions on the energy sector by anyone. Still, a third of European youth believe there are meaningful opportunities to engage with policymakers or businesses on energy issues.

SUB-SAHARAN AFRICA



SERENGETI



REGIONAL HIGHLIGHTS

Do you think your country/territory is investing enough in fighting climate change?

- 69.0%** We need to invest **more**
- 14.2%** We have not invested **at all**

Agree...

Youth perspectives and opinions on sustainable energy are valued by...

There are meaningful opportunities for youth to work on sustainable energy issues directly with...

- Policymakers **31.0%**
- Businesses **34.8%**
- Policymakers **39.2%**
- Businesses **46.2%**

85.2%

Are **Moderately** or **Very Concerned** about the pollution and emissions caused by the current global energy system.

In your opinion, who is responsible for reducing greenhouse gas emissions released into the atmosphere?

- 1. Government**
- 2. Business and Industry**
- 3. Other organizations**
- 4. Families, Neighbourhoods, Communities**
- 5. Individuals**

68.1%
Want their country/territory to reach **net zero by 2030.**

Of the given options, what is your preferred way to fund the transition to net zero carbon emissions in your country/territory?

44.9%

Tax the production of emissions (companies that produce emissions pay this tax)

What is the biggest barrier to achieving a sustainable energy transition in your country or territory?

- 48.2%** Government willpower, policies, and regulations
- 17.1%** Economic conditions
- 9.2%** Public or community support

What do you think are the most meaningful ways that business and industry could effectively take action on the sustainable energy transition?

- 1. Create policies to reduce company emissions**
- 2. Commit to becoming carbon neutral or carbon negative**
- 3. Lobby government on decarbonization**

Rank the following in terms of their importance to the sustainable energy transition leading to 2030:

- 1. Government Policy**
- 2. Technological Advancement**
- 3. Business & Organizational Leadership**

SUB-SAHARAN AFRICA

SUMMARY

- 85.2% are concerned or very concerned about emissions and pollution caused by the current energy system.
- 83.2% of youth think their country/territory needs to invest more in fighting climate change or that their country/territory has not invested at all.
- 31.0% agreed that youth perspectives on sustainable energy are valued by policymakers, and 34.8% agreed that youth perspectives are valued by businesses, roughly a third less than the global average. 39.2% of youth agree there are meaningful opportunities to engage with policymakers, and 46.2% with businesses on sustainable energy issues in their country/territory. 15.4% did not agree with any of these statements.
- Governments were identified as holding the most responsibility for greenhouse gas emissions (36.0% ranked first) followed by business and industry (32.3% ranked second) and other organizations, including civil society, non-governmental organizations, or charities (29.9% ranked third).
- ‘Government willpower, policies, and regulations’ was considered the biggest barrier to achieving a sustainable energy transition by 2030 (48.2%), followed by ‘economic conditions’ (17.1%), and ‘public or community support’ (9.3%).
- ‘Government policy’ was also considered the most important factor to the sustainable energy transition (47.4%); ‘technological advancement’ was most commonly second (33.2%) and ‘business and organizational leadership’ third (36.6%).
- 68.1% of youth want their country/territory to set targets to achieve net-zero by 2030
- Of given options, 44.9% of youth preferred to fund the transition to net-zero by taxing companies that produce emissions.
- Young people think business and industry should demonstrate effective action by (1) creating policies to reduce company emissions; (2) committing to carbon neutrality; and (3) cooperating with government on decarbonization.

	Population	Energy Use	Net CO2 Emissions	GDP (USD)
Per Capita		23 GJ	0.9t	\$4 000
Overall	1.11M	26 EJ	1.0 Gt	\$4.5 trillion

FOREWORD

Africa is home to the world's youngest population, making the continent's energy-related challenges a global emergency. According to the International Energy Agency's Africa Energy Outlook Report 2022, Africa accounts for less than 3% of the world's energy-related carbon dioxide emissions to date and has the lowest emissions per capita of any region. However, Africans are at a greater risk of experiencing the negative impacts of climate change such as water stress, reduced food production, lower economic growth and increased frequency of extreme weather events which fuels massive migration and regional instability. In Sub Saharan Africa, more than 500 million people lack access to electricity, with economic strains associated with COVID-19 recovery and the global energy crises reversing some of the progress achieved in electricity access over the years. Affordable electricity access is a key priority for most people in my region. From my perspective, unaffordability, inefficient energy supply chains, political instability, infrastructure deficits, and price hikes of energy commodities are among the biggest energy challenges faced by Sub Saharan Africa.

Some of the highlights from the Regional Dialogues I conducted in my region were that no single energy technology could best meet the growing energy needs of Sub Saharan Africa. Maximizing the energy mix in a sustainable manner is needed to deliver on the region's energy demand by 2030. More so, access to energy is critical for the development of the SSA region which is better achieved by creating enabling environments that allow youth creativity to thrive. According to the Outlook, nearly four out of five youth are concerned about the pollution and emissions caused by the current global energy system and many youth surveyed hope to pursue a job or volunteer within the energy sector. I found these results inspiring because they provide clear evidence that young people are ready to play a significant role in advancing a sustainable energy future for all, and I am proud to be one of them.

The Global Youth Energy Outlook offered the youth in Sub Saharan Africa a critical opportunity to contribute their perspectives on the ideal energy future they envision. I leveraged social media, my network of friends and colleagues across various sectors and the support of more than 20 Country Ambassadors from 14 countries in Sub Saharan Africa. The connections made with major energy organizations across my region, the collaborations with international energy organizations such as REN21 and interactions with young people during the regional dialogues made the experience worthwhile. I am hoping that the GYEO will be used to influence favourable people-centered policies leading to sustainable and significant economic development in Sub Saharan Africa. The Outlook outlines brilliant youth perspectives that can transform the economic landscape of all regions if engaged by policy makers, business leaders, and individuals.



Chibunna Ogbonna
Regional Coordinator SSA

DISCUSSION

Africa's rapidly growing and urbanizing population is a major driving force behind both the region's and global energy trends. Young people make up the largest share of Africa's population, yet there is a data gap around youth involvement in energy decision making (Africa Energy Outlook, IEA, 2019). While having the lowest emissions of any other global region, youth in SSA were second most likely than any other region to express they are 'very concerned' about current emissions caused by the energy sector (62.1%) and many of the world's most vulnerable countries to climate change are in this region, including Chad, Kenya, Malawi, Niger, Somalia, and Sudan (ND-GAIN, 2022). Currently, South Africa is the only country in the SSA region to have a formal commitment to net-zero (2050) with another four countries in the region having pledged a target (ECIU, 2022) despite strong youth endorsement for net-zero by 2030 (68.1%). Youth in SSA were second most likely to indicate 'government willpower, policy, and regulations' as the biggest barrier to the energy transition, only after Latin American youth. Youth endorsed that their country/territory's government prioritize policies that (1) mandate the use of renewable energy, (2) strengthen environmental policies, and (3) incentivize energy efficiency and conservation as strategies for achieving net-zero by 2050†.

SSA includes many of the world's Least Developed Countries (LDCs), thus current trajectories focus on human-development outcomes and economies. Global finance and technology transfer will be crucial to the region's pursuit of low-emission development (DNV, 2021b). SSA is also the least electrified region, with only 42% of the population having electricity access (DNV, 2021a) making the region a critical area of focus in achieving SDG7. Even further, only 2% of global renewable energy is installed in Africa despite abundant availability of renewable resources (IEA, 2019). Nearly 50% of youth in Sub-Saharan Africa feel that energy is not accessible, with only a minority indicating that energy in their country/territory is currently accessible (28.6%†), affordable (19.5%†), reliable (16.8%†), sustainable (15.1%†), safe (20.0%†), or modern (14.0%†). Youth in SSA call for their countries to invest more in improving energy conservation and efficiency (92.0%†), renewable electricity (90.7%†), and decarbonizing shipping and commercial transportation (88.9%†).

YOUTH PROFILE: KAKEMBO GALABUZI BRIAN



As an attendee of the 2015 International Student Energy Summit, Brian was inspired to start the Waste to Energy Youth Enterprise (WEYE), a project aimed at equipping youth with practical and entrepreneurial skills in waste management, clean energy production and smart agriculture. WEYE transitions East African consumers from wood fuel to fuel briquettes manufactured from waste. Initially, the initiative engaged over 200 young people, with the goal of providing energy for the over 85% of Ugandans who cannot afford clean energy sources.

As of 2019, WEYE is now a fully fledged commercial enterprise with 12 full-time and 4 part-time staff working across two production units. WEYE now also holds training workshops for women and youth, resulting in their award of the iF Social Impact Prize. Brian has additionally won the 2019 Africa Energy Innovation Competition, 2020 Commonwealth Young Person of the Year, and was a winner of Greenpreneurs 2018, a startup incubator providing mentorship and support through the partnership between Student Energy, Youth Climate Lab, and the Global Green Growth Institute.

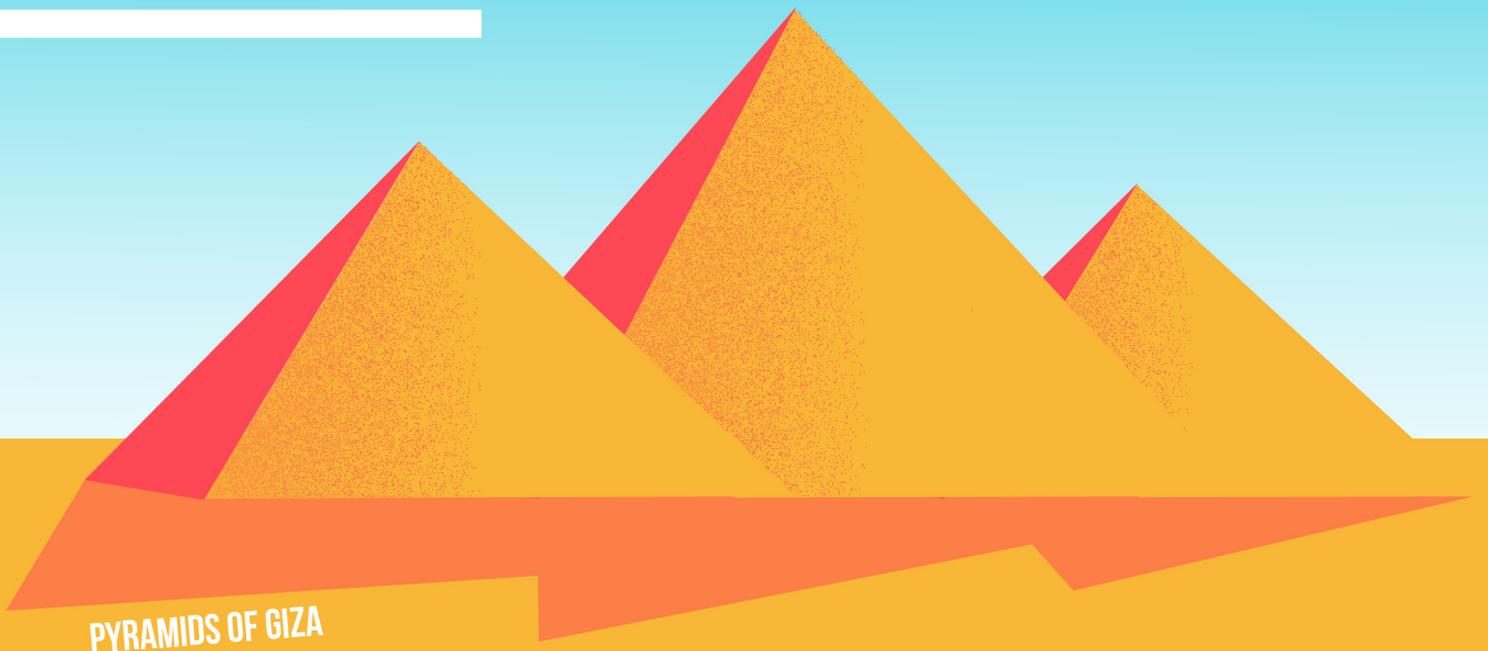
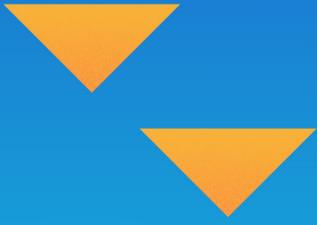
YOUTH PROFILE: JEREMIAH THORONKA



President of the African Leadership University Chapter, Jeremiah won the Chegg.org Global Student Prize in 2021 for his device that uses kinetic energy from traffic and pedestrians to generate clean power. At 17, studying at the African Leadership University in Rwanda, Jeremiah launched Optim Energy which transforms vibrations from vehicles and pedestrian footfall on roads into an electric current. It is unique from established renewable energy sources, including wind and solar, because it generates power without relying on changeable weather. At the same time, no battery and no electricity connection to an external power source is needed.

Piloted in Jeremiah's neighbourhoods, Makawo in Sierra Leone and Kuntoluh near the capital of Freetown, just two devices provided free electricity to 150 households comprising 1500 citizens, as well as 15 schools where more than 9000 students attended. Jeremiah is developing plans to expand into the healthcare sector. Optim Energy was voted the most Innovative Energy Startup 2020 by the United Nations Major Group on Children and Youth (UNMGCY) and the SDG7 Youth Constituency. Jeremiah Thoronka is also one of the World Wildlife Fund's (WWF) top 100 Young African Conservation Leaders.

MIDDLE EAST & NORTH AFRICA



PYRAMIDS OF GIZA

REGIONAL HIGHLIGHTS

Do you think your country/territory is investing enough in fighting climate change?

38.0% We need to invest **more**

24.17% I am **satisfied** with the investment

61.5%

Are **Moderately** or **Very Concerned** about the pollution and emissions caused by the current global energy system.

Agree...

<p>Youth perspectives and opinions on sustainable energy are valued by...</p>	<p>Policymakers 28.3%</p> <p>Businesses 26.1%</p>
<p>There are meaningful opportunities for youth to work on sustainable energy issues directly with...</p>	<p>Policymakers 27.5%</p> <p>Businesses 22.2%</p>

In your opinion, who is responsible for reducing greenhouse gas emissions released into the atmosphere?

- 1. No one**
- 2. Government**
- 3. Business and Industry**
- 4. Other Organizations**
- 5. Individuals**

70.5%

Want their country/territory to reach **net zero by 2030.**

Of the given options, what is your preferred way to fund the transition to net zero carbon emissions in your country/territory?

36.6%

Tax the production of emissions (companies that produce emissions pay this tax)

What is the biggest barrier to achieving a sustainable energy transition in your country or territory?

28.4% Government willpower, policies, and regulations

23.4% Economic conditions

14.5% Public or community support

What do you think are the most meaningful ways that business and industry could effectively take action on the sustainable energy transition?

- 1. Lobby government on decarbonization**
- 2. Create policies to reduce company emissions**
- 3. Commit to becoming carbon neutral or carbon negative**

Rank the following in terms of their importance to the sustainable energy transition leading to 2030:

- 1. Government Policy**
- 2. Technological Advancement**
- 3. Business & Organizational Leadership**

MIDDLE EAST AND NORTH AFRICA

SUMMARY

- 70.5% of youth want their country/territory to set targets to achieve net-zero by 2030
- 50.8% of youth think their country/territory needs to invest more in fighting climate change or that their country/territory has not invested at all.
- 28.3% agreed that youth perspectives on sustainable energy are valued by policymakers, and 26.1% agreed that youth perspectives are valued by businesses, roughly a third less than the global average. 27.5% of youth agree there are meaningful opportunities to engage with policymakers, and 22.2% with businesses on sustainable energy issues in their country/territory.
- Governments were identified as holding the most responsibility for greenhouse gas emissions (31.2% ranked first) followed by business and industry (26.1% ranked second) and other organizations, including civil society, non-governmental organizations, or charities (23.0% ranked third).
- 61.5% are concerned or very concerned about emissions and pollution caused by the current energy system.
- ‘Government willpower, policies, and regulations’ was considered the biggest barrier to achieving a sustainable energy transition by 2030 (28.4%), followed by ‘economic conditions’ (23.4%), and ‘public or community support’ (14.5%).
- ‘Government policy’ was also considered the most important factor to the sustainable energy transition (45.9%); ‘technological advancement’ was most commonly second (34.3%) and ‘business and organizational leadership’ third (37.7%).
- Of given options, 36.6% of youth preferred to fund the transition to net-zero by taxing companies that produce emissions.
- Young people think business and industry should demonstrate effective action by (1) cooperating with government on decarbonization; (2) creating policies to reduce company emissions; and (3) committing to carbon neutrality

	Population	Energy Use	Net CO2 Emissions	GDP (USD)
Per Capita		91 GJ	6.9t	\$20 600
Overall	539M	49 EJ	3.7 Gt	\$11.2 trillion

FOREWORD

Most countries in the Middle East and North Africa (MENA) region are highly reliant on fossil fuels due to the huge amount of oil and gas reserves, totalling 57% and 41% of the world's resources, respectively. According to the World Bank, MENA is also endowed with exceptional solar resources. Currently, oil and gas account for almost 95% of electricity generation in the Middle East and North Africa with renewables producing less than 3% of total electricity generation in nine out of ten of the region's producer economies. Due to its high dependence on oil and gas, the region is still behind in employing reforms in the electricity sector and the potential for renewable energy remains under-explored. Solar and wind integration mostly pose challenges to existing power systems in the region due to resource variability. The major drawback is lack of private sector investment, firsthand experience with renewables, and poor government policies, the latter of which was selected in the GYEO Outlook as the biggest barrier to achieving a sustainable energy transition. However, despite low renewable energy use in the region, many countries in the region have set ambitious targets to increase their shares of renewables by 2030.

Throughout the GYEO process, I managed to connect with enthusiastic sustainable energy activists in the region, some of whom ended up working as Country Ambassadors helping to circulate the GYEO questionnaire with their peers from school or work, their family members across rural or remote groups, and marginalized communities. Apart from the individual connections, I managed to connect with some organizations like IRENA, Clean Energy Business Council (CEBC) and Iran Renewable Energy Association (IrREA) who were already major influencers in integrating renewable energies in the region. I hope the outlook will be used to foster collaboration between youth and decision makers and allow youth to participate in the establishment of policy, regulatory, technical, and economic frameworks that mobilize adoption of renewable energy and utilize the region's massive resource potential



Nyashadzashé Kunaka
Regional Coordinator MENA

DISCUSSION

The MENA region includes some of the top oil-producing countries (for example, Saudi Arabia, Iraq, UAE, Iran, and Kuwait rank among the top ten globally), and the top natural gas-producing countries (Iran, Qatar, Saudi Arabia, Algeria rank among the top ten globally). In addition to its extensive oil and gas production, MENA is also abundant in solar radiation year-round, yet the region has amongst the lowest shares of solar in their regional energy mix (DNV, 2021a). While overall consistent with trends in other regions, youth in the MENA region were most split in identifying the biggest barrier to the energy transition in their region identifying ‘economic conditions’ (23.4%) as a close second to ‘government willpower, policy, and regulations’ (28.4%). MENA was one of only two regions where youth were most likely to believe that ‘no one’ is responsible for reducing greenhouse gas emissions above governments, business and industry, other organizations, individuals, families, or communities (the other region is the Indian Subcontinent).

Currently, six of twenty countries in the MENA region have declared or pledged net-zero targets with goals ranging from 2050 to 2060 (ECIU, 2022). Young people also call on their governments to invest more in improving energy conservation and efficiency (82.0%†), renewable electricity (80.7%†), and decarbonizing shipping and transportation (85.1%†). A minority of youth agreed that energy in their region is currently reliable (42.2%†), sustainable (16.8%†), safe (39.1%†), or modern (22.4%†), though half agree that energy is accessible (59.0%†) and affordable (49.7%†). Of all regions, MENA had the highest proportion of youth expressing that they do not wish for nuclear to be part of the global energy system (29.2%†) though many are in favour of nuclear in the form of small modular reactors (27.3%†). The region has ambitious goals for increasing renewable energy use and electric vehicle uptake (DNV, 2021a), and young people are on board; of youth who indicate they plan to purchase a vehicle in the next decade, 84.5%† reported they would consider purchasing an EV with the most influential factor in their decision being access to charging infrastructure (26.5%†).

EASTERN EUROPE & CENTRAL ASIA

LAKE BAIKAL

REGIONAL HIGHLIGHTS

Do you think your country/territory is investing enough in fighting climate change?

39.5% We need to invest **more**

28.9% I am **satisfied** with the investment

60.4%

Are **Moderately** or **Very Concerned** about the pollution and emissions caused by the current global energy system.

Agree...

Youth perspectives and opinions on sustainable energy are valued by...

There are meaningful opportunities for youth to work on sustainable energy issues directly with...

Policy makers	30.6%
Businesses	24.4%
Policy makers	31.6%
Businesses	30.9%

23.2% Do not agree with any of the above

In your opinion, who is responsible for reducing greenhouse gas emissions released into the atmosphere?

- 1. Government**
- 2. Business and Industry**
- 3. Other organizations**
- 4. Individuals**
- 5. Families, Neighbourhoods, Communities**

69.8%

Want their country/territory to reach **net zero by 2030.**

Of the given options, what is your preferred way to fund the transition to net zero carbon emissions in your country/territory?

53.8%

Tax the production of emissions (companies that produce emissions pay this tax)

What is the biggest barrier to achieving a sustainable energy transition in your country or territory?

39.7%	Government willpower, policies, and regulations
18.6%	Economic conditions
11.4%	Current energy industry

What do you think are the most meaningful ways that business and industry could effectively take action on the sustainable energy transition?

- 1. Create policies to reduce company emissions**
- 2. Lobby government on decarbonization**
- 3. Commit to becoming carbon neutral or carbon negative**

Rank the following in terms of their importance to the sustainable energy transition leading to 2030:

- 1. Government Policy**
- 2. Technological Advancement**
- 3. Business & Organizational Leadership**

EASTERN EUROPE AND CENTRAL ASIA

SUMMARY

- 52.2% of youth think their country/territory needs to invest more in fighting climate change or that their country/territory has not invested at all.
- 30.6% agreed that youth perspectives on sustainable energy are valued by policymakers, and 24.4% agreed that youth perspectives are valued by businesses, roughly a third less than the global average. 31.6% of youth agree there are meaningful opportunities to engage with policymakers, and 30.9% with businesses on sustainable energy issues in their country/territory. 23.2% of youth did not agree with any of these statements.
- Governments were identified as holding the most responsibility for greenhouse gas emissions (32.3% ranked first) followed by business and industry (28.5% ranked second) and other organizations, including civil society, non-governmental organizations, or charities (28.9% ranked third).
- 60.4% are moderately concerned or very concerned about emissions and pollution caused by the current energy system.
- ‘Government willpower, policies, and regulations’ was considered the biggest barrier to achieving a sustainable energy transition by 2030 (39.7%), followed by ‘economic conditions’ (18.6%), and the ‘current energy industry’ (11.4%).
- ‘Government policy’ was also considered the most important factor to the sustainable energy transition (40.9%); ‘technological advancement’ was most commonly second (32.0%) and ‘business and organizational leadership’ third (33.4%).
- 69.8% of youth want their country/territory to set targets to achieve net-zero by 2030
- Of given options, 53.8% of youth preferred to fund the transition to net-zero by taxing companies that produce emissions
- Young people think business and industry should demonstrate effective action by (1) creating policies to reduce company emissions; (2) cooperating with government on decarbonization; and (3) committing to carbon neutrality

	Population	Energy Use	Net CO2 Emissions	GDP (USD)
Per Capita		140 GJ	9.4t	\$18 000
Overall	319M	45 EJ	3.0 Gt	\$5.7 trillion

FOREWORD

As a young energy leader in Eastern Europe and Central Asia (EECA), it has been incredibly challenging to collect opinions, assessments, and perspectives for the Global Youth Energy Outlook in my region. It has always been comparatively diverse in terms of public, culture, and energy landscape. As the region faced an unprecedented geopolitical crisis, this was reflected across youth viewpoints on the future of energy. I firmly believe that, with the help of the GYEO, we have managed to unite the region despite all differences and unite youth across diverse backgrounds. Supported by Country Ambassadors and partners in Azerbaijan, Belarus, Kazakhstan, Mongolia, Russia, Ukraine, Turkmenistan and other countries, our outreach engaged indigenous peoples of the North, youth from rural areas, young managers from the oil and gas sector, government employees working with nuclear energy, and eco-activists from environmental NGOs. Thanks to interviews and joint projects with friends, colleagues, and mentors, we found a way to explain why the GYEO is important and how it can be used for the green transformation of the industry and society.

There were several key features and problems highlighted by EECA Regional Dialogues. We touched upon region-specific issues such as energy access in the Arctic, the innovation landscape, a sustainable built environment, and energy transition in developing countries. For instance, we discussed the virtues of renewables and small modular nuclear reactors in remote communities in the Arctic of Northern Russia and deserts of Central Asia. The lack of climate change awareness and adequate environmental education in provinces, and even central areas of all countries, was identified as one of the major barriers in the way of a more successful energy transition. It was so rewarding to be approached by local teachers at COP26 in Glasgow who said that they were going to use our data for educational purposes at schools. This is also a reason I made every effort to spread our research at schools in provinces, including my own hometown, Irkutsk, in Siberia.

The final results show us that the majority of the youth in EECA see no other option than a low-carbon or carbon-neutral energy future and that young people have breakthrough ideas about implementing this future. I hope that the GYEO will be seen as an impetus for governments, businesses, and civil society to integrate the youth in energy expertise, planning, and governance. Together, we will make a clean, sustainable and peaceful future a reality.



Arsenii Kirgizov-Barski
Regional Coordinator EECA

DISCUSSION

Taken in consideration with other regions, young people in the EECA region seem to indicate that they are not being sufficiently heard by governments and businesses, or that their opinions are valued. The survey demonstrated that youth in EECA were less likely (65.9%†) than any other region to report that they've been asked to share their thoughts or opinions on the energy transition by governments, companies, non-governmental organizations, or charities in their country or territory. Likewise, youth in EECA were more likely to disagree (23.2%) that their opinions on the energy sector are valued by business or policymakers, or that there are meaningful opportunities to engage with these actors, than other regions, second only to Latin American youth. This may contribute to why fewer youth in this region were confident in their plans to pursue a job or volunteer within the energy sector (43.4%†) while many were unsure (39.9%†). According to these results, there is a clear gap in youth engagement in the energy sector in the EECA region. As a generation of future leaders, it's crucial for current actors in the region's energy system to work harder to engage and involve youth in energy spaces. This may further instill young people with confidence in the accessibility and availability of sustainable alternatives: while 70.4%† of youth in the region indicated they plan to purchase a personal vehicle in the next 10 years, only 47.3%† also indicated they would consider an electric vehicle, with the most significant factor influencing this decision being accessible charging infrastructure.

Within this region, Russia is the second largest contributor globally to total fossil fuel production (911 Metallurgist, n.d.). Currently, only four of fourteen countries in the region have pledged or declared net-zero targets, while 69.8% of youth advocate for their country/territory to reach net-zero by 2030. EECA youth were less likely to believe that climate change and sustainable energy are 'more important' relative to other public concerns (39.8%†) than any other region, though many (49.5%†) still agree it is 'equally important'. They were also less likely to indicate that they would vote for a political party or candidate based on their position on creating a sustainable energy system in their country/territory, though the majority (68.5%†) did indicate this is a significant issue in their decisions. Many youth call for their governments to invest more in improving energy conservation and efficiency (65.3%†), renewable electricity (67.2%†), and decarbonizing shipping and commercial transport (68.2%†). EECA countries all have high energy intensity economies, therefore improving energy efficiency is key to national economic development and maximizing effective use of resources and decreasing energy intensity are at the forefront of emerging energy policies in the region (DNV, 2021a). Many youth agree that energy in their country/territory is currently accessible (55.3%†), affordable (32.2%†), reliable (30.2%†), sustainable (31.5%†), and safe (29.9%†), though few agree it is modern (13.5%†).



YANGTZE RIVER

GREATER CHINA

REGIONAL HIGHLIGHTS

Do you think your country/territory is investing enough in fighting climate change?

37.9% I am **satisfied** with the investment

35.2% We need to invest **more**

63.8%

Are **Moderately** or **Very Concerned** about the pollution and emissions caused by the current global energy system.

Agree...

Youth perspectives and opinions on sustainable energy are valued by...

Policymakers **33.7%**

Businesses **47.5%**

There are meaningful opportunities for youth to work on sustainable energy issues directly with...

Policymakers **54.3%**

Businesses **35.1%**

In your opinion, who is responsible for reducing greenhouse gas emissions released into the atmosphere?

1. Government

2. Business and Industry

3. Other organizations

4. Individuals

5. Families, Neighbourhoods, Communities

47.1%

Want their country/territory to reach **net zero by 2030.**

Of the given options, what is your preferred way to fund the transition to net zero carbon emissions in your country/territory?

43.6%

Tax the production of emissions (companies that produce emissions pay this tax)

What is the biggest barrier to achieving a sustainable energy transition in your country or territory?

30.5% Current energy industry

15.2% Public or community support

14.1% Economic conditions & Government willpower, policies, and regulations

What do you think are the most meaningful ways that business and industry could effectively take action on the sustainable energy transition?

1. Lobby government on decarbonization

2. Create policies to reduce company emissions

3. Commit to becoming carbon neutral or carbon negative

Rank the following in terms of their importance to the sustainable energy transition leading to 2030:

1. Technological Advancement

2. Government Policy

3. Business & Organizational Leadership

GREATER CHINA

SUMMARY

- 40.3% of youth think their country/territory needs to invest more in fighting climate change. 37.9% are satisfied with their country's investments.
- 33.7% agreed that youth perspectives on sustainable energy are valued by policymakers, and 47.5% agreed that youth perspectives are valued by businesses, roughly a third less than the global average. 54.3% of youth agree there are meaningful opportunities to engage with policymakers, and 35.1% with businesses on sustainable energy issues in their country/territory. Only 2.4% did not agree with any of these statements.
- Governments were identified as holding the most responsibility for greenhouse gas emissions (39.3% ranked first) followed by business and industry (31.8% ranked second) and other organizations, including civil society, non-governmental organizations, or charities (28.9% ranked third).
- 67.1% are concerned or very concerned about emissions and pollution caused by the current energy system.
- The 'current energy industry' was considered the biggest barrier to achieving a sustainable energy transition by 2030 (30.4%), followed by 'public or community support' (15.2%) and 'economic conditions' (14.1%) and 'government willpower, policies, and regulations' (14.1%).
- 'Technological advancement' was considered the most important factor to the sustainable energy transition (34.6%); 'government policy' was most commonly second (30.8%) and 'business and organizational leadership' third (31.1%).
- 47.1% of youth want their country/territory to set targets to achieve net-zero by 2030, 38.2% by 2050.
- Of the given options, 43.6% of youth preferred to fund the transition to net-zero by taxing companies that produce emissions
- Young people think business and industry should demonstrate effective action by (1) investing in research and development for new technologies; (2) creating policies to reduce company emissions; and (3) lobbying governments on decarbonization.

	Population	Energy Use	Net CO2 Emissions	GDP (USD)
Per Capita		100 GJ	11.8t	\$21 200
Overall	1.44B	145 EJ	8.1 Gt	\$30.6 trillion

FOREWORD

During the preparation stage of the GYEO in September 2020, the Government of the People's Republic of China announced the goal of reaching a carbon peak before 2030 and carbon neutrality by 2060. One of the biggest challenges in Greater China's energy transition is its traditional energy composition. Although China has been continuing to deploy renewable energy systems and leading the world in installed wind, solar, electric vehicles, and super grids, fossil fuels remain the majority in the energy mix. Our data shows that more than 30% of youth considered the current energy industry as the top barrier to the transition. Additionally, the COVID-19 pandemic in China adversely affected social and economic activities and created even more challenges for the renewable energy transition.

During our Regional Dialogues, many young energy leaders expressed aspirations to collaborate with policymakers to address climate challenges. In July, the Ministry of Education of the People's Republic of China published an Action Plan for Carbon Neutrality and Technological Innovation in Institutions of Higher Learning. More than 20 universities in China established Research Institutes focusing on different subject areas of carbon neutrality. In addition to having educational and research programs, many young leaders hope to have more direct opportunities to work with policymakers to make personal impact.

To engage a diverse group of young people, more than 50 regional ambassadors were recruited from 7 geographic districts in China. They not only reached out to their networks to promote the survey, but also helped organize 5 themed Regional Dialogues in Summer 2021. Our ambassadors have diverse backgrounds including engineering, economics, environmental studies, and political science. Throughout the outreach and Regional Dialogue stages, we utilized multiple Chinese social media platforms to create content that amplified GYEO activities and sustainable energy. More than 50 student groups and organizations helped circulate and promote our surveys and regional dialogues on their social media platforms. I want to extend my gratitude to our excellent volunteers and supportive partnered organizations who helped promote the GYEO program in the Greater China region. As the Regional Coordinator in China, I hope the Outlook can serve as a tool to showcase our youth's dedication to tackling climate change challenges and help our region transition to a sustainable energy system.



Ye Zheng
Regional Coordinator CHN

DISCUSSION

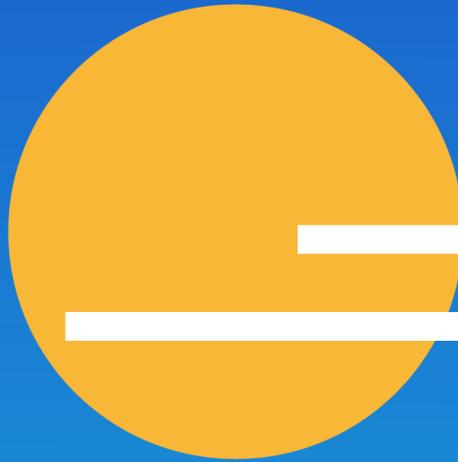
China is the world's largest contributor to global greenhouse gas emissions (World Population Review, 2022). China has created policy aiming to reach net-zero emissions by 2060, while Taiwan, Hong Kong, Guangdong and Macau have pledged for net-zero by 2050 (Yeung, 2020). Youth in Greater China were more likely to endorse net-zero by 2050 targets (36.2%) relative to other regions, but the majority advocate for accelerating these targets to 2030 (47.1%). Many youth agreed that energy in their country/territory is currently accessible (60.8%†), affordable (67.4%†), reliable (56.4%†), sustainable (32.6%†), safe (57.9%†), and modern (45.5%†).

Greater China was the only region that identified the 'current energy industry' as the biggest barrier to the energy transition, both specific to their country/territory (30.5%) and globally (22.8%†), over 'government willpower, policies, and regulations.' Youth in the region were also more likely to express confidence in their country or territory's current investments into fighting climate change, with 37.9% reporting they are satisfied; however, most youth surveyed in the region still expressed desire for further investment into fighting climate change (40.2%), improving energy conservation and efficiency (60.2%†), renewable electricity (58.0%†), and decarbonizing shipping and commercial transport (58.1%†). **CHN was the second highest region (after South East Asia) to express that business and industry should be held legally and financially responsible for capturing and storing their carbon emissions (88.0%†).**

Youth in CHN identified 'technological advancement' as the most important factor in the energy transition leading up to 2030, and yet few identified 'available technology' as the key barrier to the energy transition (7.2%), suggesting instead that technology has the potential to be the driver of the energy transition, and perhaps that young people are confident in the availability and capacity of existing technologies to make transformative changes to the energy system. For example, youth in this region had higher expectations than any other region for the percentage of personal and public transportation vehicles that will be electric in the next ten years ($M = 60.99\%$, $SD = 22.4\%$)†.

Furthermore, youth in Greater China were more likely than any other region to express confidence that youth perspectives are valued by policymakers, business and industry, and that there are meaningful opportunities to engage with these actors on sustainable energy issues. Still, 46.0%† indicated that they have never directly been asked to provide their thoughts and opinions on the energy sector by anyone. Nearly two-thirds (58.1%†) of youth surveyed indicated that they plan to pursue a job or volunteer in the energy sector, providing decision makers with a great opportunity to collaborate with and amplify youth working towards the energy transition. Particularly, CHN youth were more likely than any other region to believe that they are most effective in working with local-level governments (49.2%†), while a majority (47.5%†) recognize that national-level governments are the most effective at changing or influencing the current energy system.

INDIAN SUBCONTINENT



THE HIMALAYAS



REGIONAL HIGHLIGHTS

Do you think your country/territory is investing enough in fighting climate change?

45.1% We need to invest **more**

28.6% I am **satisfied** with the investment

75.0%

Are **Moderately** or **Very Concerned** about the pollution and emissions caused by the current global energy system.

Agree...

<p>Youth perspectives and opinions on sustainable energy are valued by...</p>	<p>Policymakers 48.2%</p> <p>Businesses 42.8%</p>
<p>There are meaningful opportunities for youth to work on sustainable energy issues directly with...</p>	<p>Policymakers 49.2%</p> <p>Businesses 43.4%</p>

In your opinion, who is responsible for reducing greenhouse gas emissions released into the atmosphere?

1. No one
2. Government
3. Business and industry
4. Other organizations
5. Individuals

61.9%

Want their country/territory to reach **net zero by 2030.**

Of the given options, what is your preferred way to fund the transition to net zero carbon emissions in your country/territory?

38.0%

Tax the production of emissions (companies that produce emissions pay this tax)

What is the biggest barrier to achieving a sustainable energy transition in your country or territory?

37.4% Government willpower, policies, and regulations

17.5% Public or community support

17.4% Economic Conditions

What do you think are the most meaningful ways that business and industry could effectively take action on the sustainable energy transition?

1. Commit to becoming carbon neutral or carbon negative
2. Create policies to reduce company emissions
3. Lobby government on decarbonization

Rank the following in terms of their importance to the sustainable energy transition leading to 2030:

1. Government Policy
2. Technological Advancement
3. Business & Organizational Leadership

INDIAN SUBCONTINENT

SUMMARY

- 51.8% of youth think their country/territory needs to invest more in fighting climate change or that their country/territory has not invested at all. 28.6% are satisfied with their country's investments.
- 48.2% agreed that youth perspectives on sustainable energy are valued by policymakers, and 42.8% agreed that youth perspectives are valued by businesses, roughly a third less than the global average. 49.2% of youth agree there are meaningful opportunities to engage with policymakers, and 43.4% with businesses on sustainable energy issues in their country/territory. Only 7.4% did not agree with any of these statements.
- Governments were identified as holding the most responsibility for greenhouse gas emissions (26.8% ranked first) followed by business and industry (23.1% ranked second) and other organizations, including civil society, non-governmental organizations, or charities (20.0% ranked third).
- 75.0% are concerned or very concerned about emissions and pollution caused by the current energy system.
- 'Government willpower, policies, and regulations' was considered the biggest barrier to achieving a sustainable energy transition by 2030 (37.4%), followed by 'public or community support' (17.5%) and 'economic conditions' (17.4%).
- 'Government policy' was considered the most important factor to the sustainable energy transition (46.9%); 'technological advancement' was most commonly ranked second (36.0%) and 'business and organizational leadership' third (37.0%).
- 61.9% of youth want their country/territory to set targets to achieve net-zero by 2030.
- Of given options, 38.0% of youth preferred to fund the transition to net-zero by taxing companies that produce emissions
- Young people think business and industry should demonstrate effective action by (1) committing to carbon neutrality; (2) creating policies to reduce company emissions; and (3) cooperating with government on decarbonization

	Population	Energy Use	Net CO2 Emissions	GDP (USD)
Per Capita		25 GJ	1.5t	\$6 900
Overall	1.83B	46 EJ	2.9 Gt	\$12.7 trillion

FOREWORD

The Indian Subcontinent has a carbon intensive regional energy system, with fossil fuels supplying 70% of electricity in the region. Coal use in India, as the largest country in the region, is of particular concern both in terms of emissions reductions and in energy access and health impacts. The top three countries with the most polluted air in the world are within this region (Bangladesh, Pakistan, and India), with 4 countries in this region also falling within the top 10 of countries most affected by extreme weather events in the past decade (India, Afghanistan, Bangladesh, and Pakistan) (DNV Energy Transition Outlook 2021 Indian Subcontinent Regional Analysis). These intersecting energy, health, climate resilience, and economic challenges make this a complex region to transition to net zero.

However, the region is also home to rapidly expanding renewable energy capacity, with several countries and states setting net-zero and decarbonization targets.

More than 60% of the regional population comprises young people below the age of 35, making young people a major stakeholder in decision-making. In the process of doing the Outlook, it became clear that the majority of young people in the Indian Subcontinent region want their countries to decarbonize faster, with immediate action to bend the curve on emissions and transition to a sustainable energy future. No policy can be successful without taking all the relevant stakeholders onboard and I hope that the regional governments will consider the youth perspectives and insights from the Outlook to make inclusive provincial, national, and regional energy policies. By designing youth-inclusive energy policies, the current energy system can be transformed to one which will ensure a sustainable future for the coming generations.

The Indian Subcontinent's reliance on fossil fuels to meet rising demand for energy is proving to be a significant vulnerability in today's energy crisis. Meeting energy security and emissions goals will require countries in the region to make major efforts to improve energy efficiency, accelerate renewable and sustainable power generation, and switch to low emissions fuels. In countries such as Bangladesh, India, and Pakistan, the current energy scenario is considered unsustainable due to diverse issues such as economic, environmental, geopolitical, technological options for energy exploitation, and negligible volume of regional energy trade. Though, within the region, India is leading a phase of energy transition and economic transformation through renewable energy development. The countries need to exhibit well in the development of their renewable sources following the rapid pace of renewable energies worldwide.

My experience as a Regional Coordinator was absolutely amazing. Our outreach focused on achieving inclusive youth participation across gender, rural and urban communities, diverse educational, economic, and social backgrounds, visible minorities, and youth with and without formal education. I recruited 22 country ambassadors and received support from regional universities and institutions who played a vital role in outreach and ensured our recruitment was as diverse as possible.

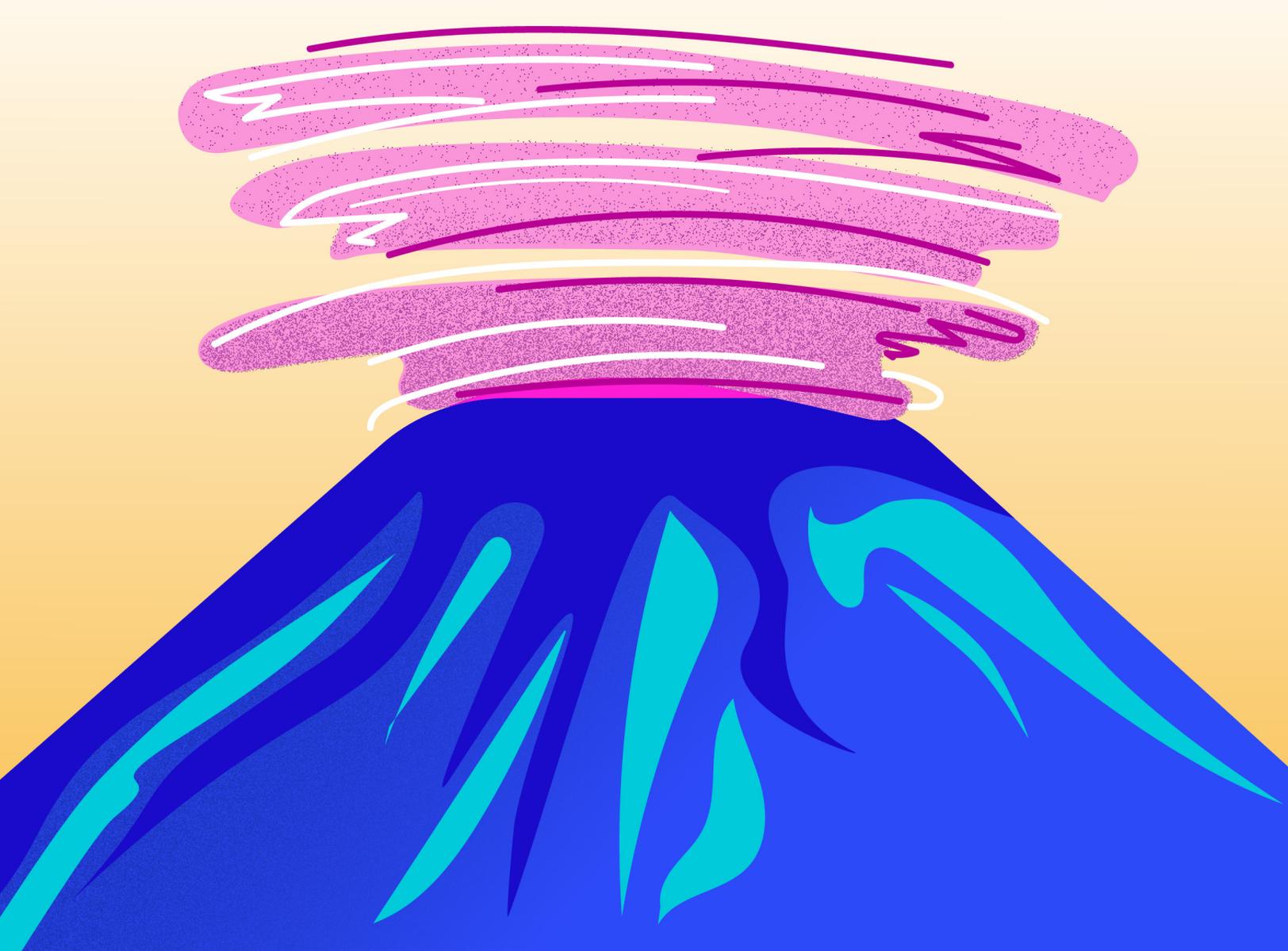


Syed Faisal Shah
Regional Coordinator IND

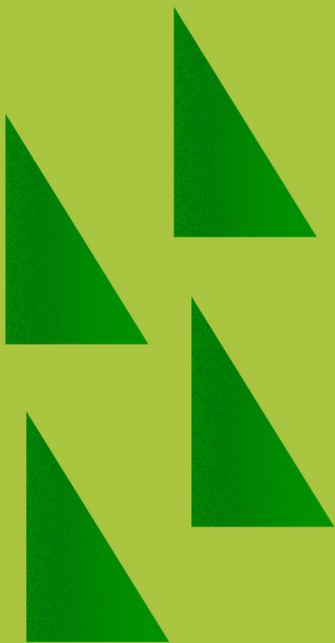
DISCUSSION

This region houses some of the countries most vulnerable to the negative impacts of climate change. It is perhaps then not surprising that youth in this region were more likely than any other region to believe that climate change and sustainable energy are ‘much more important’ (45.6%†) relative to other public concerns, including healthcare, employment, education, cost of living, and gender equality. Young people in IND expressed strong motivation to take action on the energy transition across multiple levels. 80.0%† of youth surveyed are interested in pursuing a job or volunteering in the energy sector. They are also committed to making sustainable choices in their lives; 82.4%† said they would vote for a political candidate or party based on their position on creating a sustainable energy system, and 84.5%† of youth planning to purchase a personal vehicle in the next ten years would consider purchasing an EV. ‘Accessible charging infrastructure’ was endorsed as the most influential factor in this decision (26.5%†) followed closely by ‘price comparability to traditional vehicles’ (21.6%†).

So far, 3 of 8 countries in the Indian Subcontinent region have committed to or pledged net-zero targets ranging from 2050 to 2070, with another 3 countries proposing or discussing targets (ECIU, 2022), while 61.9% of youth call for net-zero by 2030. Youth in the IND region were more likely than any other to be satisfied with their country/territory’s current investments into fighting climate change (28.6%), though a majority still call for greater investment into fighting climate change (51.8%), improving energy conservation and efficiency (80.9%†), renewable electricity (78.7%†), and decarbonizing shipping and commercial transportation (77.2%†). Of given policy options, youth endorsed that their country/territory’s government prioritize (1) regulations mandating the use of renewable energy, (2) strengthen environmental policies, and (3) incentivize energy efficiency and conservation†.



MAYON VOLCANO



SOUTH EAST ASIA

REGIONAL HIGHLIGHTS

Do you think your country/territory is investing enough in fighting climate change?

- 61.7%** We need to invest **more**
- 12.9%** We have not invested **at all**

Agree...

Youth perspectives and opinions on sustainable energy are valued by...

There are meaningful opportunities for youth to work on sustainable energy issues directly with...

- Policymakers **40.7%**
- Businesses **38.4%**
- Policymakers **53.1%**
- Businesses **48.3%**

89.0%

Are **Moderately** or **Very Concerned** about the pollution and emissions caused by the current global energy system.

In your opinion, who is responsible for reducing greenhouse gas emissions released into the atmosphere?

- 1. Government**
- 2. Business and Industry**
- 3. Other organizations**
- 4. Families, Neighbourhoods, Communities**
- 5. Individuals**

61.9%
Want their country/territory to reach **net zero by 2030.**

Of the given options, what is your preferred way to fund the transition to net zero carbon emissions in your country/territory?

48.3%

Tax the production of emissions (companies that produce emissions pay this tax)

What is the biggest barrier to achieving a sustainable energy transition in your country or territory?

- 46.4%** Government willpower, policies, and regulations
- 15.3%** Economic conditions
- 12.8%** Public or community support

What do you think are the most meaningful ways that business and industry could effectively take action on the sustainable energy transition?

- 1. Create policies to reduce company emissions**
- 2. Commit to becoming carbon neutral or carbon negative**
- 3. Lobby government on decarbonization**

Rank the following in terms of their importance to the sustainable energy transition leading to 2030:

- 1. Government Policy**
- 2. Technological Advancement**
- 3. Business & Organizational Leadership**

SOUTH EAST ASIA

SUMMARY

- 74.6% of youth think their country/territory needs to invest more in fighting climate change or that their country/territory has not invested at all.
- 40.7% agreed that youth perspectives on sustainable energy are valued by policymakers, and 38.4% agreed that youth perspectives are valued by businesses, roughly a third less than the global average. 53.1% of youth agree there are meaningful opportunities to engage with policymakers, and 48.3% with businesses on sustainable energy issues in their country/territory. Only 8.6% did not agree with any of these statements, indicating that the majority of youth believe that there are pathways to engage with policymakers and businesses.
- Governments were identified as holding the most responsibility for greenhouse gas emissions (32.1% ranked first) followed by business and industry (31.8% ranked second) and other organizations, including civil society, non-governmental organizations, or charities (30.1% ranked third).
- 89.0% are concerned or very concerned about emissions and pollution caused by the current energy system.
- ‘Government willpower, policies, and regulations’ was considered the biggest barrier to achieving a sustainable energy transition by 2030 (46.4%), followed by ‘economic conditions’ (15.3%) and ‘public or community support’ (12.8%).
- ‘Government policy’ was considered the most important factor to the sustainable energy transition (45.7%); ‘technological advancement’ was most commonly ranked second (30.1%) and ‘business and organizational leadership’ was most commonly ranked third (35.3%).
- 61.9% of youth want their country/territory to set targets to achieve net-zero by 2030.
- Of given options, 48.3% of youth preferred to fund the transition to net-zero by taxing companies that produce emissions
- Young people think business and industry should demonstrate effective action by (1) creating policies to reduce company emissions; (2) committing to carbon neutrality; and (3) cooperating with government on decarbonization

	Population	Energy Use	Net CO2 Emissions	GDP (USD)
Per Capita		48 GJ	2.6t	\$13 400
Overall	673M	32 EJ	1.7 Gt	\$9 trillion

FOREWORD

Southeast Asia will see expanding energy demand in the coming decades. This growth is accompanied by increasing motorization and urbanization, with the region having some of the densest and most congested megacities in the world like Manila, Jakarta, Bangkok, and Ho Chi Minh City. Similarly, industrialization also increases energy demand as energy-intensive sectors such as steel production, car and garment manufacturing, and construction expand. Behind this image of massive growth, significant portions of the regional population have yet to experience the energy access they need. Around 5% of the Southeast Asian population remains unelectrified and power outages are common in electrified areas, especially in rural regions. In addition, up to 30% of the region's population does not have access to clean cooking. This unequal access to energy is part of the huge disparity in development across the region, with Singapore on one end, consuming energy at three times the global average per capita, and Myanmar and Cambodia on the other, consuming only one-quarter of the global average.

Due to the economic, social, and political pressures within this context, South East Asia has become one of the few regions in the world where the share of coal power has been expanding, despite South East Asian countries having nominally promoted the development of renewable energy. Local communities—which experience the hardest impacts of climate change in one of the most climate-vulnerable regions in the world—have little voice, and much less power, over the direction of the energy transition in the region. Big industries define the rules of the game, creating paradoxical situations like old-growth forests being cleared to make way for solar farms as the ‘greener’ alternative to coal.

Being the last generation that can prevent the worst impacts of the climate crisis, we, the youth, have the ethical imperative to push against the expansion of fossil power. According to the regional dialogues we conducted, South East Asian youth call for “a holistic approach to a genuine and just transition that includes the government, civil society, and businesses, and is led by grassroots communities greatly affected by climate injustice.” Core to this approach is emphasizing energy self-sufficiency at the community level, with projects scaled down to sizes wherein more players —perhaps even the communities themselves—can participate. Improving energy literacy and skills development through comprehensive National Just Energy Transition Education Plans is key to ensuring that youth, communities, and even fossil fuel industry workers are included in this transition.

The Global Youth Energy Outlook is our attempt to reveal insights and provide answers on what young people really want for the future of energy. With the commitment to capture youth perspectives in this populous and culturally-diverse region, Salsa and I reached out to the ASEAN Center for Energy, Friedrich-Ebert-Stiftung in Asia, Climate Action Network - Southeast Asia, other NGOs working within and outside the energy sector, academic institutions, government workers, industry groups, farmers and labor groups, youth volunteer groups, and the general public. The call for climate action through a genuine and just energy transition is an urgent issue that cannot be left unaddressed. The Outlook should remain open in the hands of South East Asia's policymakers, educators, business people, and activists, to inspire real change towards the energy future that South East Asian youth desire.



Joshua Miguel Lopez
Regional Coordinator SEA

FOREWORD

Realistically speaking, with the current emission rate, we have less than 7 years to deliver on the 1.5 degree Celsius promise. The climate crisis is an intergenerational injustice. Consequently, I believe that young people deserve to co-design their own future by taking the lead. For that reason, I put my effort, passion, and expertise towards supporting Student Energy's mission of gathering youth's aspirations for the energy transition and their demands for action at political, technological, financial, and societal levels. Most feel very concerned about our energy-related emissions and pollution. Unfortunately, young people are underrepresented in decision-making, their voices are unheard or they have never been asked for their opinions in the first place, as expressed by more than half of our respondents.

From multiple regional dialogues that I conducted in South East Asia, one throughline is that the destructive business-as-usual pathway is no longer an option and we are running out of time to avoid the most catastrophic impacts of climate change. We are calling for more ambitious resource and financing mobilization towards low-carbon investment for a post-pandemic green economic recovery. We want to increase the share of renewable energy in the global energy mix, ensure universal access to affordable and clean energy, improve energy efficiency efforts, and accelerate the decarbonization of heavy industry. As the current and future workforce, we aspire to have more green jobs, and we demand to have a just and equitable transition by making sure no one is left behind. We also demand more low-carbon innovations to be supported, and we urge for bold actions to phase out the existing carbon-intensive technologies. Most importantly, we would like to see more adaptation actions so we can be a climate-resilient society.

While more and more countries set net-zero targets for 2050 or even beyond, young people want their countries to decarbonize faster, by 2030. It is unbelievable that 85% of our energy still comes from fossil fuels, particularly in South East Asian countries. We need to keep fossil fuels in the ground, and we should produce and consume energy in a more sustainable manner. We have to correct the current market failure and internalize the formerly overlooked social and environmental cost of carbon so that we, humankind, don't suffer the consequences of short-sightedness and the obsession with infinite economic progress that prevent us from having sustainable coexistence with nature. We are calling on policy and decision-makers to always keep future generations' interests in mind and to meaningfully engage youth when formulating climate and energy policies.

I would like to thank my colleague, Joshua, for his perseverance in ensuring that South East Asian youth voices are being heard. Furthermore, I would like to thank South East Asia and the Pacific Country Ambassadors who helped us extend the GYEO's outreach in their respective countries so that we could get diversified responses, ranging from civil society organizations in Malaysia, to youth-led startups in Fiji. I sincerely hope that this Outlook can hold all stakeholders accountable for the promise of pursuing efforts to limit warming to 1.5 degrees Celsius.



Nabila 'Salsa' Putri Salsabila
Regional Coordinator SEA

DISCUSSION

The SEA region is currently facing rising energy demand from growing populations and economies across the region. Despite the growth and uptake of smart grids, hydrogen, wind, and solar, the region maintains a high dependence on carbon-based energy sources with concurrently expanding coal operations (DNV, 2021a). So far, only 7 of 37 countries in this region have committed to or pledged net-zero targets (ECIU, 2022), while 61.9% of youth surveyed advocate that their country/territory set net-zero targets for 2030. Despite relatively low regional emissions, SEA youth expressed higher levels of concern over global greenhouse gas emissions than the global average (89.0%). While many youth agreed that energy in their country/territory is currently accessible (42.5%†), affordable (34.4%†), reliable (22.9%†), and safe (24.4%†), few agreed that it is sustainable (13.1%†) or modern (13.7%†).

As the biggest identified barrier to achieving the energy transition, SEA youth want their governments to prioritize policies that (1) mandate the use of renewable energy, (2) strengthen environmental policies, and (3) incentivize energy efficiency and conservation†. They also call for their country/territory to invest more in improving energy conservation and efficiency (86.8%†), renewable electricity (75.6%†), and decarbonizing shipping and commercial transportation (81.0%†).

Young people in the region are also keen to be involved in the energy transition. A large proportion of SEA youth agreed that there are meaningful opportunities to engage with policymakers (53.1%) and businesses (48.3%) on sustainable energy issues in their country/territory, and 61.7%† of youth surveyed in this region are interested in pursuing a job or volunteering in the energy sector.

YOUTH PROFILE: EASY BIKE

Easy Bike is a startup developed by students at Padjadjaran University in Indonesia to provide students with solar-powered electrical bike sharing. Initiated in 2019 and participants of Greenpreneurs 2020, Easy Bike is equipped with Radio Frequency Identification (RFID), GPS, and a calorie counter, and multiple charging stations have been installed on the university campus. Easy Bike aims to reduce the use of motor vehicles on campus and reduce the carbon emissions of students. Easy Bike's solar-electric bicycles won first place in the Student category of the National Scientific Writing Competition at VOSICO event, hosted by the State University of Malang in August, 2020. Easy Bike has been featured in the news and media, including BBC Indonesia, Tempo.com and Kompas.com, and presented to the Governor of West Java Indonesia.



OECD PACIFIC

GREAT BARRIER REEF



REGIONAL HIGHLIGHTS

Do you think your country/territory is investing enough in fighting climate change?

53.5% We need to invest **more**

27.0% I am **satisfied** with the investment

64.1%

Are **Moderately** or **Very Concerned** about the pollution and emissions caused by the current global energy system.

Agree...

<p>Youth perspectives and opinions on sustainable energy are valued by...</p>	<p>Policymakers 31.3%</p> <p>Businesses 33.3%</p>
<p>There are meaningful opportunities for youth to work on sustainable energy issues directly with...</p>	<p>Policymakers 37.7%</p> <p>Businesses 31.4%</p>

In your opinion, who is responsible for reducing greenhouse gas emissions released into the atmosphere?

- 1. Government**
- 2. Business and Industry**
- 3. Other organizations**
- 4. Individuals**
- 5. Families, Neighbourhoods, Communities**

58.0%

Want their country/territory to reach **net zero by 2030.**

Of the given options, what is your preferred way to fund the transition to net zero carbon emissions in your country/territory?

43.3%

Tax the production of emissions (companies that produce emissions pay this tax)

What is the biggest barrier to achieving a sustainable energy transition in your country or territory?

35.0% Government willpower, policies, and regulations

15.6% Public or community support

13.3% Economic conditions

What do you think are the most meaningful ways that business and industry could effectively take action on the sustainable energy transition?

- 1. Lobby government on decarbonization**
- 2. Commit to becoming carbon neutral or carbon negative**
- 3. Create policies to reduce company emissions**

Rank the following in terms of their importance to the sustainable energy transition leading to 2030:

- 1. Government Policy**
- 2. Business & Organizational Leadership**
- 3. Technological Advancement**

OECD PACIFIC

SUMMARY

- 58.7% of youth think their country/territory needs to invest more in fighting climate change or that their country/territory has not invested at all. 27.0% are satisfied with their country's investments.
- 31.3% agreed that youth perspectives on sustainable energy are valued by policymakers, and 33.3% agreed that youth perspectives are valued by businesses, roughly a third less than the global average. 37.7% of youth agree there are meaningful opportunities to engage with policymakers, and 31.4% with businesses on sustainable energy issues in their country/territory. 13.3% did not agree with any of these statements.
- Governments were identified as holding the most responsibility for greenhouse gas emissions (31.5% ranked first) followed by business and industry (30.4% ranked second) and other organizations, including civil society, non-governmental organizations, or charities (24.6% ranked third).
- 64.1% are concerned or very concerned about emissions and pollution caused by the current energy system.
- 'Government willpower, policies, and regulations' was considered the biggest barrier to achieving a sustainable energy transition by 2030 (35.0%), followed by 'public or community support' (15.6%) and 'economic conditions' (13.3%).
- 'Government policy' was considered the most important factor to the sustainable energy transition (41.4%); 'business and organizational leadership' was most commonly ranked second (25.1%) and 'technological advancement' third (22.1%).
- 58.0% of youth want their country/territory to set targets to achieve net-zero by 2030.
- Of given options, 43.3% of youth preferred to fund the transition to net-zero by taxing companies that produce emissions
- Young people think business and industry should demonstrate effective action by (1) cooperating with government on decarbonization; (2) committing to carbon neutrality ; and (3) creating policies to reduce company emissions

	Population	Energy Use	Net CO2 Emissions	GDP (USD)
Per Capita		174 GJ	11.5t	\$41 200
Overall	207M	36 EJ	2.4 Gt	\$8.5 trillion

FOREWORD

Despite the overlapping memberships and sharing complementary economic and governance systems among countries within the OECD Pacific region, the general energy context – not to mention social, political and technological context – differs vastly between countries.

To avoid sweeping generalizations and assumptions it is crucial to take a closer look at each of the country's current positions to deduce common themes.

The various energy contexts such as the country's energy trade and energy supply structures could give a hint as to why some countries in the OPA region take more or less initiative in the energy transition – as a rule of thumb, those who feel that they have more to lose proceed with more caution. So much has happened during GYEO in the making – COVID variants, COP26, the Ukraine invasion – that had inevitably shifted circumstances and impacted positions on energy security, climate justice and clean energy.

In terms of climate related pledges, resource-rich New Zealand was one of the first countries in the region to adopt its net-zero emission target by 2050 in the year of 2019 and had even announced a revision of its 2030 target to toughen its ambition. After a year, Japan and South Korea made the commitment to carbon neutrality, a move that resulted more out of reluctantly succumbing to international pressure than a unified sense of climate urgency and deliberate intention. We can see how this hesitance plays out in the countries' insufficient and loophole-filled climate action plans.

This loophole can be especially found in doubling down on 'clean coal', heavy betting on hydrogen, ESG greenwashing, and allowing leeway to invest in coal power overseas, which serve as mere distractions that divert attention away from doing what we need to do the most - limiting global temperature to 1.5 degrees. The major challenge then is not that we aren't ambitious enough but that we're trying to find an easy way out. There is no easy way out. We have to face the hard truth free of false promises in order to move forward.

Though the concerns felt amongst youth worldwide may be relatable across the globe, I believe that no sense of frustration and call for action directed towards the government, businesses, and society is the same. Lumping them together as one generational 'trend' would prove detrimental to sustainable development of the specific region. Being able to identify these nuanced wants and needs is what made working on GYEO so meaningful for me.

By reaching out to diverse educational institutions, climate and environmental groups, individuals, not only did I make connections but also found meaning in helping others build relationships with each other as well (both within and across regions!) I am immensely grateful to my fellow regional coordinators, country ambassadors and outreach partners who have not just supported but truly believed in the mission of the initiative and made this all possible.

Most of all to Student Energy, in all its efforts to give youth the agency and power to shape their own paths to a sustainable future, thank you. I have learned immensely and continue to carry a part of your inspirational energy everywhere I go.



Kayla Choi
Regional Coordinator OPA

DISCUSSION

All four countries in this region have committed to net-zero by 2050 (ECIU, 2022) yet 60.6% of youth surveyed want their country/territory to achieve net-zero by 2030. While youth in this region were more likely to be satisfied with their country/territory's current investments into fighting climate change than the global average (27.0%), most want their governments to invest more in fighting climate change (58.7%), improving energy conservation and efficiency (85.0%), renewable electricity (82.1%), and decarbonizing shipping and commercial transportation (82.1%). A relatively high proportion of youth in this region reported that they do not want nuclear to be part of the global energy system (27.7%), with the majority (32.4%) advocating that existing nuclear plants be maintained but new facilities should not be built. Few youth (26.6%) endorse that their country/territory should invest more in nuclear energy with many youth in the region expressing the belief that their country/territory has already invested too much (25.4%).

53.8% of youth surveyed expressed interest in pursuing a job or volunteering within the energy sector.

88.2% of youth who plan to purchase a personal vehicle in the next ten years would consider an EV, with the most influential factor in their decision being the ethical sourcing of materials used to build the vehicle (24.9%), followed by price comparability to traditional vehicles (22.5%).

METHODOLOGY

REGIONAL COORDINATORS

The GYEO was spearheaded by a multidisciplinary team of 12 Regional Coordinators (RCs) representing each of the 10 global regions of the Outlook. The Regional Coordinator team brought expertise in energy, research, policy, international development, and youth engagement. They co-designed the Outlook's research methodology and community engagement with the GYEO management team, and developed their own regional strategies for engaging youth, ensuring that young people from diverse regional and socioeconomic backgrounds were meaningfully engaged and represented.

Student Energy put out an open call in May 2020 for applications for Regional Coordinators. We aimed to select RCs with diverse experiences across academia, business and entrepreneurship, policy, and non-profit work. Regional Coordinators were briefed in the goals and objectives of the Outlook and tasked with recruiting three- to five-thousand survey responses for their respective regions. RCs participated in regular coordination calls with the Student Energy research team. Bios for the Regional Coordinators can be viewed at studentenergyoutlook.org/about.

PHASE 1: SURVEY

SURVEY DEVELOPMENT

Survey questions were designed to target several key perspectives and topics on climate and energy. Specific topics we aimed to address included policy, energy investments, technology, and justice and equity across critical sectors including shipping and heavy transportation, industry, buildings and energy efficiency, and batteries and storage. Several questions were also targeted at evaluating the skills, support, and networks young people have and/or need to succeed as emerging energy leaders now and beyond 2030.

A short-form of the survey was presented to all participants consisting of 10 selected questions targeting key perspectives on the energy transition, as well as basic demographic information which were optional. Beyond this, respondents had the option of continuing to complete the full form of the survey with 31 additional questions. The GYEO survey was translated into 9 languages: Arabic, Chinese (Simplified), English, French, Indonesian, Japanese, Korean, Russian, and Spanish. The full list of questions (English) can be viewed in [Appendix E](#).

OUTREACH AND RECRUITMENT

The Global Youth Energy Outlook aimed to collect responses from 50,000 youth around the world. Respondents were recruited in two ways: firstly, through engagement by Regional Coordinators, Country Ambassadors, and Community partners. Secondly, to increase reach and response collection, the majority of respondents were recruited via Pollfish, an organic sampling platform that utilizes random device engagement. Regional Coordinators were responsible for

developing an engagement plan for their respective regions to think critically about how to engage diverse groups and communities, including individuals across the spectrums of gender and religious identity, cultural background, employment status, and location. Engagement plans referred to the potential of university student clubs and networking societies, social media, youth organizations, and snowball sampling (i.e., when respondents refer individuals in their own social networks), as potential means of recruiting a diverse sample. Survey responses were collected between November 2020 and September 2021. After data cleaning, a total of 41,652 valid responses (short-form) were included in the analysis.

Upon completion of the survey, participants had the option of answering a mathematical knowledge-testing question to be entered in a draw to win a prize: A Nintendo Switch or a year-long subscription to Masterclass; a range of cash prizes; and bursaries to attend the next International Student Energy Summit, Student Energy's pinnacle biennial student-led conference on energy.

DATA CLEANING AND ANALYSIS

Young people from all around the world were eligible to complete the survey so long as they were between the ages of 18 and 30 years old. Respondents were additionally required to disclose their country and global region as this information was pertinent to our analysis and reporting structure. Those who did not meet our age criteria or refused to disclose their location were ineligible to continue with the survey. Country was collected via text-entry response; participants who did not provide a valid response (e.g., "246") or entered more than one country were removed from analysis. In instances where participants selected a region that did not correspond to their country (e.g., Country: Indonesia, Region: North America) their location was recoded with precedence given to their country.

Quantitative data collected by the GYEO was analyzed using descriptive frequencies. Summary tables of results for both short- and long-form surveys are available for download in [Appendix F](#). To preserve participant anonymity, countries with fewer than 5 respondents had their country location re-tagged with their respective region. Countries with fewer than 5 respondents are noted in [Appendix A](#), and a detailed breakdown of the number of responses by country can be found in [Appendix F](#).

Sample Characteristics Between Short- and Long-Form Survey Respondents

Participants from the South East Asian region were far more likely to opt into the long-form survey, accounting for 5.4% of the short-form sample versus 26.1% of the long-form sample. Participants from Europe and the Middle East and North Africa were less likely to opt into the long-form, accounting for 11.7% and 11.6% of the short-form sample versus 5.0% and 2.6% of the long-form sample, respectively. Participants who opted into the long-form version of the survey were more likely to be between 18 and 24 years of age (making up 60.0% of the short-form sample versus 70.6% of the long-form sample), identify as female (42.5% vs 52.5%), be in urban/suburban location (79.7% vs. 83.4%), and currently a student (24.5% vs. 52.9%). Long-form respondents were more likely to endorse that their country/territory set a net-zero emissions target for 2050 (25.1% vs. 38.3%) and express that they are 'very concerned' about current global greenhouse gas emissions from the energy sector (39.9% vs. 64.5%).

PHASE 2: REGIONAL DIALOGUES

Regional Dialogues (RDs) were 60-120-minute interactive virtual events aimed at gathering qualitative input and youth perspectives on energy nexus issues (e.g., energy and water) that could not be adequately addressed in the survey. RDs were led and facilitated by Regional Coordinators in their respective region, and engaged youth in deep-dive discussions about topics pertinent to their region, recognizing that there would be regional differences regarding the importance and urgency of certain energy and energy-related issues. Topics were chosen by the Regional Coordinators based on what they felt would be particularly relevant and interesting to their region. Some Regional Dialogues were co-hosted with GYEO partners, including LeadIT and REN21, to discuss specialized topics like the heavy industry transition (LeadIT). The structure of Regional Dialogues was informed by the Future Workshop Strategy: small group deliberations which imagine future solutions to current problems. The process unfolds in four stages, and moves from problem identification to solution and implementation planning. A total of 25 RDs were held via Zoom between November 2020 and August 2021. A full list of Regional Dialogues can be found in [Appendix B](#).

COP 26 EVENT

Student Energy presented initial insights from the Global Youth Energy Outlook and launched the official GYEO website at COP26 in Glasgow, United Kingdom, in November of 2021. The launch event broke down key insights from Student Energy's youth-led research and featured an intergenerational and global lineup of speakers who outlined how the GYEO can be effectively mobilized at the grassroots level, within government institutions, and in the energy sector. Featured speakers included:

- GYEO Regional Coordinators: Linette Knudsen (EUR), Arsenii Kirgizov-Barskii (EECA), Nabila Putri Salsabila (SEA), and Chibunna Ogbonna (SSA)
- Representatives from several national governments, including the Honourable Jonathan Wilkinson, Minister of Natural Resources Canada, and Jorn Verbeeck, then Global Head of Research and Innovation at the Global Covenant of Mayors for Climate & Energy (GCoM)
- Representatives from companies in the energy sector, such as DNV.

For a full recap of the COP event, including a livestream recording, visit <https://studentenergy.org/site/global-youth-energy-outlook-launching-initial-insights-at-cop26/>

COVID-19

The COVID-19 pandemic highlighted both the vulnerabilities and potentialities of the global energy mix. Though data collection for the GYEO was conducted during the pandemic (2020-2021), the GYEO survey did not include questions targeting pre- and post-COVID energy scenarios or impacts. Still, many Regional Dialogues discussed the Green Recovery and the opportunity the pandemic has for transformative change to the energy system. Many participants expressed frustration that the climate crisis has lacked the same drastic societal change the world saw in response to COVID-19, and expressed a strong desire for leaders to step up and make similar strides in transitioning the energy system and achieving a sustainable future.

LIMITATIONS

Findings from the Global Youth Energy Outlook are subject to several important limitations. The survey questions were designed by Student Energy staff and are in some cases limited by biased word choice and ambiguous or confusing instructions or response scales. In the attempt to keep the survey limited to as few questions as possible, several questions were combined which resulted in loss of detail and, in some cases, challenged our ability to interpret results. Additionally, findings from the long-form survey are subject to self-selection bias of those who opted in to complete the survey (see details of sample characteristics above), and the smaller sample size further limits our ability to generalize results. Five questions from the survey were excluded from final analyses and presentation due to poor quality or ambiguity. Excluded questions are noted in [Appendix E](#).

Results from Regional Dialogues should be considered with further limitations, as these were attended by small groups, ranging from approximately 5 to 30 participants in each dialogue. Throughout the report, we present RD findings that reflect popular or common perspectives shared across participants; however, references to RDs are limited to the perspective of few individuals who self-selected to attend. Additionally, 4 RDs were held in a language other than English and time constraints prevented us from seeking translation. Thus, we only have results available for 21 of 25 recorded Regional Dialogues. These recordings were reviewed and discussion notes were transcribed by three members of our research team.

As a result of these limitations, we elected not to conduct in-depth regional analysis or comparisons to avoid over-generalizing or extending the interpretation of our results beyond the integrity of our data. Discussions in the regional chapters reflect descriptive statistics of the survey which we attempt to situate within the region's energy context and trends informed by external literature search and consultation with Regional Coordinators. While we are committed to presenting our research objectively and transparently, all discussions and recommendations made are subject to researcher bias.

COVID-19

The COVID-19 Pandemic unfortunately disrupted some aspects of the GYEO methodology. We originally intended that Regional Coordinators would have opportunities to travel within their regions for in-person engagement and to host Regional Dialogues; however travel and health restrictions prevented this from being feasible.

GYEO PARTNERS

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- Sustainable Energy for All
- SDG7 Youth Constituency
- REN21
- International Energy Agency
- International Renewable Energy Agency
- Melbourne Centre for Cities
- Global Covenant of Mayors for Climate & Energy

GLOSSARY

Definitions used for the Global Youth Energy Outlook reflect those provided to participants when completing the GYEO survey.

Carbon Price: A cost applied to carbon dioxide emissions, to encourage polluters to reduce the amount of carbon emissions they produce.

Climate Change: Climate change refers to changes in the Earth's climates at local, regional, or global scales, and can also refer to the effects of these changes. Climate change has been driven primarily by human activity since the pre-Industrial period, particularly the burning of fossil fuels and removal of natural carbon sinks like forests.

Energy Efficiency: Energy efficiency means using less energy as an input to provide the same energy service or output

Energy System: Every component involved in the production and consumption of energy, beginning with energy production from primary energy sources, to conversion, transmission, and distribution of energy to its end use by consumers.

Fossil Fuels: Fossil fuels were formed from ancient plants and organisms, and primarily refer to coal, oil, and natural gas.

Greenhouse Gases: Gases that trap some of the sun's heat within the planet's atmosphere, contributing to the greenhouse effect, which is important for regulating the earth's surface temperature. Burning fossil fuels creates a higher concentration of greenhouse gases in the atmosphere and leads to a rapid rise in average global temperatures, resulting in climate change.

Nature-Based Solutions: Nature-based solutions are actions which protect, manage, and restore ecosystems while addressing societal challenges. They provide additional benefits to human well-being and species biodiversity.

Net Zero Carbon Emissions: Any greenhouse gas emissions released into the atmosphere by a product, company, or country are balanced by emissions removed from the atmosphere through carbon sinks. This can be achieved by reducing greenhouse gases emitted, by increasing the capacity to absorb emissions, or both.

Nuclear Energy: Nuclear energy is produced by splitting atoms, typically uranium and plutonium, releasing energy that heats water into steam, which is used to generate electricity.

Renewable Energy: Renewable resources are energy sources that cannot be depleted and are able to supply a continuous source of clean energy. Examples include wind, solar, and geothermal sources among others.

Sustainable: Causing little or no damage to the environment and therefore able to continue for a long time.

Sustainable Development: Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Sustainable Development Goals: Adopted by all United Nations member states in 2015, the Sustainable Development Goals are a blueprint to achieving a better and more sustainable future for all. They aim to end poverty and inequality, address climate change and protect the planet, and improve life for everyone, everywhere.

Sustainable Energy: Energy that serves the world's needs in a way that is economically, socially, and environmentally equitable, and does not compromise the ability of future generations to meet their needs.

Sustainable Energy Transition: Transforming the energy system to serve the world's needs in a way that is economically, socially, and environmentally equitable, and does not compromise the ability of future generations to meet their needs.

Youth/Young People: Individuals between the ages of 18 and 30.

APPENDIX A. COUNTRIES IN EACH REGION

Countries with less than 5 responses

No data

Latin America

Includes Argentina, Barbados, Bolivia, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Netherlands Antilles, Nicaragua, Panama, Paraguay, Peru, Saint Martin, Trinidad and Tobago, Uruguay, Venezuela, *Antigua and Barbuda, The Bahamas, Belize, Cuba, Curaçao, Dominica, Guyana, Haiti, Puerto Rico, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Aruba, Bermuda, British Virgin Islands, Caribbean Netherlands, Cayman Islands, Falkland Islands (Malvinas), French Guiana, Grenada, Guadeloupe, Martinique, Saint Barthélemy, Saint Kitts and Nevis, Saint Maarten, Turks and Caicos Islands, and Virgin Islands (U.S.).*

Indian Subcontinent

Includes Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka.

North America

Includes Canada, The United States of America (including 50 states, excluding dependencies), Saint Pierre, and Miquelon.

Greater China

Includes Mainland China, Taiwan, Hong Kong SAR, and Macao SAR.

Europe

Includes Albania, Austria, Belgium, Croatia, Czechia/Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Kosovo, The Netherlands, Norway, Poland, Portugal, Romania, Serbia, The Slovak Republic, Slovenia, Spain, Sweden, Switzerland, The United Kingdom of Great Britain and Northern Ireland (including England, Scotland, Wales, and Northern Ireland), *Bulgaria, Cyprus (including Northern Cyprus, Akrotiri and Dhekelia), Estonia, Greenland, Iceland, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Montenegro, Andorra, Bosnia and Herzegovina, Channel Islands, Faeroe Islands, Gibraltar, Isle of Man, Liechtenstein, Monaco, San Marino, Svalbard, Vatican, and Åland.*

Middle East and North Africa

Includes Algeria, Bahrain, Egypt Arab Rep., Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Palestine, Saudi Arabia, Syria, Tunisia, Turkey, United Arab Emirates, and Yemen.

South East Asia and Pacific

Includes Darussalam, Cambodia, Fiji, Indonesia, Malaysia, Myanmar, Papua New Guinea, Philippines, Singapore, Thailand, Tonga, Viet Nam, *Brunei*, *Lao People's Democratic Republic*, *Timor-Leste*, *Solomon Islands*, American Samoa, Christmas Island, Cocos Island, Cook Islands, French Polynesia, Guam, Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru, New Caledonia, Niue, Norfolk Island, Northern Mariana Islands, Palau, Pitcairn, Samoa, Tokelau, Tuvalu, Vanuatu, and Wallis and Futuna Islands.

Eastern Europe and Central Asia

Includes Azerbaijan, Belarus, Kazakhstan, The Kyrgyz Republic, Russian Federation, Tajikistan, Turkmenistan, Ukraine, *Armenia*, *Georgia*, *Mongolia*, *The Republic of Moldova*, *Uzbekistan*, and Democratic People's Republic of Korea.

Sub-Saharan Africa

Includes Botswana, Burkina Faso, Cameroon, Chad, The Republic of Congo, Côte d'Ivoire, Ethiopia, The Gambia, Ghana, Kenya, Lesotho, Liberia, Madagascar, Mali, Mozambique, Namibia, Nigeria, Rwanda, Senegal, South Africa, Sudan, Togo, Uganda, Zambia, Zimbabwe, *Angola*, *Benin*, *Malawi*, *Niger*, *Somalia (including Somaliland)*, *United Republic of Tanzania*, *Sierra Leone*, *Burundi*, *Cabo Verde*, *Comoros*, *The Democratic Republic of the Congo*, *Djibouti*, *Equatorial Guinea*, *Eritrea*, *Gabon*, *Guinea*, *Mauritania*, *Mauritius*, *South Sudan*, *Swaziland*, Central African Republic, Guinea-Bissau, Mayotte, Réunion, Saint Helena, Sao Tome and Principe, Seychelles, and Western Sahara.

OECD Pacific

Includes Australia, Japan, New Zealand, and the Republic of Korea.

APPENDIX B. REGIONAL DIALOGUES

**This table includes only the Regional Dialogues for which we have recordings and notes. For further details, please refer to the Limitations in the Methodology section.*

Date	Region	Topic
2020-11-09	SEA	LeadIT: Energy Transition
2020-11-11	EUR	LeadIT: Energy Transition
2020-11-11	NAM	LeadIT: Energy Transition
2020-11-12	LAM	LeadIT: Energy Transition
2020-12-04	SEA	REN21: Policy Intervention
2020-12-15	SSA	REN21: SSA Transition
2021-02-16	EECA	Energy Access in the Arctic
2021-03-20	EUR	Cities and the Built Environment
2021-03-20	EUR	YES: Urban Energy Systems
2021-04-23	SSA	Energy, Jobs, and the Just Transition
2021-04-30	SEA	Energy Access in Rural and Remote Communities
2021-05-07	SSA	Energy Markets and Finance
2021-05-14	LAM	Energy Poverty
2021-05-19	MENA	Energy and Green Recovery
2021-05-21	EECA	Energy Transition in the Context of Global Climate Action
2021-05-26	SSA	Achieving Energy Access in SSA Region
2021-05-28	LAM	Popular Energy Transition
2021-05-28	MENA	Energy Efficiency and Energy Conservation
2021-05-28	SEA	Energy, Jobs and the Just Transition
2021-05-7	MENA	Energy Access in MENA Region
2021-06-04	OECD	Cities and the Built Environment: Pioneering Future Pathways
2021-07-04	IND	Energy Access in Rural and Remote Communities
2021-07-08	NAM	Energy Access in Indigenous and Remote Communities
2021-07-31	OPA	Climate Education
2021-08-01	IND	Energy Efficiency and Energy Conservation
2021-08-22	IND	Energy Poverty

NAM = North America; LAM = Latin America; EUR = Europe; SSA = Sub Saharan Africa; MENA = Middle East and North Africa; EECA = Eastern Europe and Central Asia; CHN = Greater China; IND = Indian Subcontinent; SEA = South East Asia; OPA = OECD Pacific

APPENDIX C. TABLES & FIGURES

Figure 1. How important do you think climate change* and sustainable energy are when compared to public concerns including healthcare, employment, access to education, cost of living, gender equality, and others?

Figure 2. Are you concerned about the pollution and emissions caused by the current global energy system? (Regional)

Figure 3. What is the biggest barrier to achieving a sustainable energy transition in your country or territory? (Global)

Figure 4. What is the biggest barrier to achieving a sustainable energy transition in your country or territory? (Regional)

Figure 5. Responses by gender for select questions. (Global)

Figure 6. Global Youth Energy Outlook Regions. (Map)

Table 1. Respondent demographics (short-form).