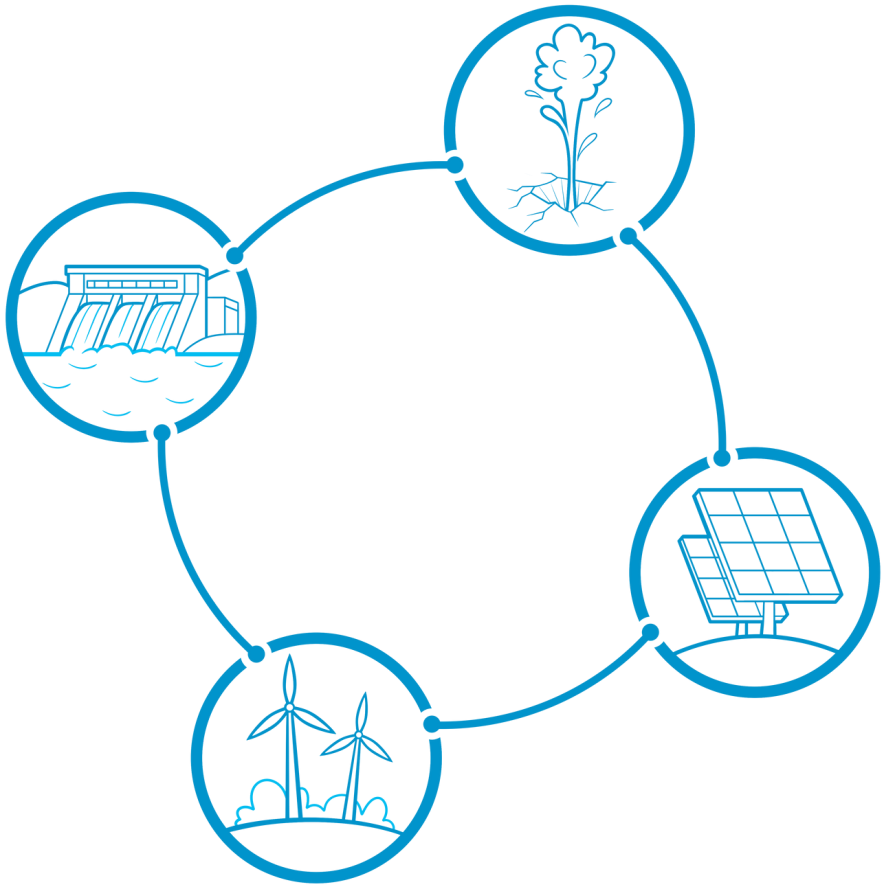

Curriculum for Energy Literacy

Background for Trainers

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energy literacy for youth
OTWARTY PLAN
YEE YOUTH AND ENVIRONMENT EUROPE
INFORSE EUROPE
MigLAB TRANSFORMING LABOUR AND MIGRATION
Funded by the European Union

Overview

The Energy Literacy for Youth (ELY) project, funded by EU Erasmus + Youth Program 2024-2026, aims to create an inclusive training environment to increase energy literacy among youth wirh fewer opportunities across Europe. The ELY handbook equips trainers and youth workers with key knowledge and practical methods to teach energy literacy to this target group. The introduction supplies global context, project approach, and methodology for the modules that follow.

1. Global Warming, Energy Crisis, and Related Conflicts
2. Energy Literacy for Youth Project: A Response to Global Challenges
3. From Needs to Action: The Participatory Approach to Energy Literacy

The training methods that are available in the Handbook for Trainers are organised into four core modules:

M1 Climate Change 1-0-1
Includes an Introduction to the topic and informs about the science behind climate change and its effects.

M2 Energy ABC
This module explores solutions to the energy crisis, demonstrating renewable energy production and covering practical concepts of efficiency and energy saving.

M3 Climate Justice
Highlights the historical basis and contemporary effects of the global injustice that lies behind climate change, emissions and energy usage.

M4 Active Citizenship
Guides participants through decision-making on climate and energy, using role play to link lifestyles and policies to outcomes, motivating active civic engagement.

Background for Trainers

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BACKGROUND FOR TRAINERS

1. Global Warming, Energy Crisis, and Related Conflicts

The year 2024 marked a devastating milestone as the warmest year ever recorded, with global temperatures reaching 1.55 °C above pre-industrial levels.[1] This never-before-seen warming has started a chain of effects around the world: from record-breaking heatwaves and devastating floods to prolonged droughts and intensifying storms.

Simultaneously, the world faces an acute energy crisis that began in 2021 and intensified dramatically following Russia's invasion of Ukraine, exposing dangerous vulnerabilities in fossil fuel-dependent energy systems. These twin crises have become primary drivers of conflict and instability worldwide. Competition for resources, displacement of populations and economic disruption create conditions that fuel violence and undermine social cohesion across multiple regions.

Scientific data from 2024 painted an alarming picture of accelerating climate change.[2]

The man-made Climate Emergency

There is no doubt that humans caused the climate crisis, driven primarily by activities since the Industrial Revolution. According to the Intergovernmental Panel on Climate Change (IPCC), it is "unequivocal that human influence has warmed the atmosphere, ocean and land" leading to widespread and rapid changes across the climate system.[3]

The dominant drivers include the combustion of fossil fuels, deforestation, industrial agriculture, and land use change, all of which increase concentrations of greenhouse gases such as CO_2, CH_4, and N_2O in the atmosphere. Since 1750, the concentration of carbon dioxide in the atmosphere has increased by more than 50%, reaching the highest level in two million years.[3]

These emissions are linked to the overuse of resources and unsustainable consumption, made worse by economic growth — particularly by high-income nations. The IPCC also highlights the role of structural inequalities: The top 10% of global emitters are responsible for more than one-third of global emissions while the most vulnerable communities.

- mainly in the Global South - experience most of the losses and damages caused by climate change." [4]

Understanding the man-made nature of the crisis is essential not only for identifying root causes but also for designing just and effective climate mitigation and adaptation strategies that address historical responsibility and ensure fair transitions to climate neutrality.

The Global Energy Crisis

The energy crisis reached new heights after 2021, fundamentally reshaping energy markets and geopolitical relationships.5 Russia's weaponization of energy supplies through its invasion of Ukraine disrupted global oil and gas markets, with European countries facing severe shortages and price spikes of up to 300% in some markets.[5]

These developments kicked off energy-saving measures like lowering temperatures in both public and private buildings and swimming pools, as well as energy renovations through better insulation and replacing windows, heating, and cooling systems with more efficient models.[6] Furthermore, the crisis accelerated the global transition to renewable energy sources. Countries that had previously moved slowly on renewable energy development suddenly found themselves racing to deploy solar, wind, and other renewable technologies such as biogas, straw, wood, and heat pumps. Investment in renewable energy reached record levels, with global spending exceeding $2 trillion for the first time.[7]

This development was fueled by the fact that solar and wind became the cheapest energy sources and was supported by regulatory adaptations at both national and transnational levels (e.g. smart meter systems, photovoltaic cells on roofs and balconies, and the rise of renewable energy communities).[8]

At the same time, some countries are choosing options that are less sustainable or not sustainable at all, like nuclear power and geoengineering. Some of these technologies remain in early research or development stages. They are expensive, and carry the risk of devastating regional or global effects.[9]

Energy-Related Conflicts

The intersection of climate change and energy insecurity has created new forms of conflict while exacerbating existing tensions worldwide.

Europe: The Russia–Ukraine Conflict represents the most visible example of how energy resources are linked to large-scale conflict.

Russia's control over significant oil and gas reserves enabled it to use energy exports as both an economic weapon and a tool of political coercion, demonstrating how energy dependence can compromise national security.[10]

Africa: Sudan's resource-driven violence around oil and gold shows how climate change and resource scarcity intensify conflicts over land and water resources.

Oil and gold extraction, paired with desertification and changing rainfall patterns have forced pastoral communities to migrate, bringing them into conflict with extraction companies and settled agricultural communities. The combination of exractivism and climate change effects has driven cycles of violence that have displaced millions.[11]

Central America: Climate Migration and Energy Poverty creates a complex crisis where climate change, energy poverty, and violence intersect to drive massive migration flows. Prolonged droughts and unpredictable rainfall have devastated agricultural communities, while limited access to reliable energy services prevents adaptation to changing conditions.[12]

Asia: Water Security and Energy Competition intensifies as climate change alters precipitation patterns and increases demand for energy-intensive water management systems. Major river systems supporting billions face unprecedented stress from changing weather patterns and competition for water resources for hydroelectric power generation.[13]

Australia: Climate injustices that include racism and exploitation are happening across this area: Mining of uranium, coal and other minerals like lithium and cobalt are harming and polluting indigenous land, destroying habitats for animals and plants that the indigenous population are living from, ultimately driving the indigenous population away from parts of their ancestral land.[14] [15]

These interconnected crises demonstrate that energy issues cannot be understood in isolation from broader questions of justice, security, and sustainability. Understanding these connections is essential for effective energy literacy education. This helps young people comprehend both local and global dimensions of energy challenges while building their capacity for effective action.

Europe's Fossil Fuel Dependency on Non-Democratic Regimes

Europe's dependency on fossil fuel imports - from Russia and other non democratic states - has become one of the most pressing geopolitical and climate related challenges of the 21st century. The fossil dependency first became clear in the 1970s oil crisis. Since then there was significant development of renewable energy and advances in energy conservation, but the dominance of fossil fuels, like oil, gas and coal, has not changed.[16]

Energy policy remained shaped by cost-efficiency, logistical convenience, and an underestimation of geopolitical risk.[17] Since the Cold War, European countries have imported large quantities of fossil fuels from the Russian Federation.

The construction of pipelines such as Druzhba (for oil) and Nord Stream 1 (for natural gas) symbolized a strategy of economic interdependence between Europe and Russia.[18] By 2021, Russia accounted for over 40% of the EU's natural gas imports, around 27% of oil imports, and over 45% of coal imports.[19] Countries such as Germany, Italy, and Hungary were especially dependent due to long-term supply agreements and infrastructure investments.

The rationale was largely economic: Russian fossil fuels were relatively cheap and abundant. In addition, some policymakers believed that energy interdependence would foster political stability and deter conflict.[20] However, this strategy backfired with Russia's annexation of Crimea in 2014, and even more so with the invasion of Ukraine in 2022, which exposed the EU's critical vulnerability to energy coercion.[21]

This dependency created a paradox: while the EU promoted democratic values, human rights, and climate action, it simultaneously funded authoritarian regimes.[22]

Russia used fossil fuel revenues to consolidate power, suppress opposition, and finance military aggression.

Similarly, other major suppliers—including Algeria, Azerbaijan, Saudi Arabia, and Qatar—have been criticised for autocratic governance, suppression of dissent, and violations of human rights.[23]

In practice, fossil fuel dependency became a tool of geopolitical influence. For example, in 2021–2022, Gazprom strategically reduced gas deliveries to the EU in response to Western sanctions, triggering an energy crisis.[24] This unfortunately coincided with major technical problems and temporary closure of French nuclear power reactors. This resulted in price shocks caused inflation, threatened industry competitiveness, and disproportionately affected low-income households across Europe.

In response, the European Commission launched the REPowerEU strategy in 2022.6 Its goals include reducing gas demand by 30% by 2030, diversifying energy supplies toward democratic and stable partners, accelerating renewable energy deployment, mainly solar and wind power.

REPowerEU has made significant progress, by doubling the rate of energy efficiency improvements and increasing electricity interconnections.

Short-term measures, like importing liquified natural gas (LNG) from other autocratic states (e.g., Qatar, Algeria), also raise concerns about replacing one dependency with another.[25]

Furthermore, some countries have temporarily reopened coal-fired power plants as emergency measures, undermining climate goals. New challenges are also the growing electricity demand of the booming use of data clouds, and artificial intelligence.

Europe's energy dependency is not just a security issue - it's a climate justice issue. Fossil fuel imports delay the transition to renewables, reinforce polluting industries, and undermine the EU's credibility as a global climate leader.[27] Moreover, energy insecurity disproportionately affects marginalised groups, especially in Eastern and Southern Europe, where energy poverty is widespread.[28]

This crisis reveals that energy democracy - giving people control over their energy sources, systems, and futures - is important for decarbonisation. Local renewables, energy cooperatives, and participatory governance are key to building a resilient, just, and sustainable European energy system.[29]

2. Energy Literacy for Youth Project: A Response to Global Challenges

Youth have emerged as a vital force in responding to the European energy crisis by raising awareness, advocating for policy change, and promoting sustainable practices. Their contributions span from grassroots activism to institutional engagement, reflecting both moral urgency and practical action.

One of the most visible youth interventions has been through climate movements such as Fridays for Future (FFF) and Youth Climate Strike. These groups together with other climate movements e.g., Climate Action Network, Climate Justice now and Friends of the Earth, have placed pressure on European Union institutions and national governments to accelerate the phase-out of fossil fuels and oppose continued investments in coal and gas infrastructure.30 Their activism has contributed to political momentum behind the European Green Deal and REPowerEU plan, which aims to reduce the EU's dependency on imported fossil fuels, particularly from Russia through expansion of renewable energy and energy efficiency. 31

On the UN level, youth activists are also pushing for ambitious targets and implementation through YOUNGO, the official Children and Youth Constituency of the United Nations Framework Convention on Climate Change (UNFCCC).

Youth also play an important role in shaping energy consciousness at the community level. Peer-to-peer education projects, youth-led energy audits, and awareness campaigns on energy saving and renewable sources empower local communities and reduce consumption. Many young people are directly involved in energy cooperatives and urban energy transition planning, promoting decentralised and democratic energy systems. 32

An increasing number of youth pursue studies in environmental science, green engineering, and climate policy, thereby contributing to a skilled workforce for the renewable energy transition, influencing the future of energy through educational and career pathways. 33

At the same time, their consumption patterns — prioritising sustainability and ethics — shift demand toward carbon neutral and more efficient technologies.

Yet, despite their contributions, youth are often excluded from formal decision making. With the Energy Adventure Room we conducted participatory action research in four countries, that shows that young people, especially from marginalised backgrounds, face barriers to accessing energy education and lack confidence in engaging with policy structures.34 Addressing these gaps by embedding youth voices in energy planning processes is crucial for a just and inclusive energy transition.

Against the background of escalating climate emergencies and energy crises outlined above, a critical gap emerges in how societies prepare their most vulnerable populations to understand and respond to these challenges. marginalised youth— including migrants, socioeconomically deprived individuals, and differently abled young people—face systematic barriers to accessing quality education about energy and climate topics.

Migrants frequently encounter language barriers, cultural disconnection from educational content, and institutional obstacles that prevent meaningful engagement.

Socioeconomically disadvantaged youth may lack access to schools with adequate resources for comprehensive environmental education while facing immediate survival concerns. Differently abled young people often find themselves excluded from educational programs that fail to accommodate diverse learning needs.

Furthermore, conventional climate education has historically centered on the experiences of privileged populations, often presenting solutions that assume access to resources, political power, and social capital that marginalised communities lack. Such approaches not only fail to serve marginalised youth effectively but also miss the valuable insights these communities can contribute to addressing energy and climate challenges.

Recognizing these systemic failures, the Energy Literacy for Youth (ELY) project emerged as a strategic response designed to address interconnected global challenges while centering the needs and experiences of marginalised youth.

Rather than adapting existing educational models, Energy Literacy for Youth fundamentally reimagines energy literacy education through a lens of social justice and participatory democracy.

Project Foundation and Approach

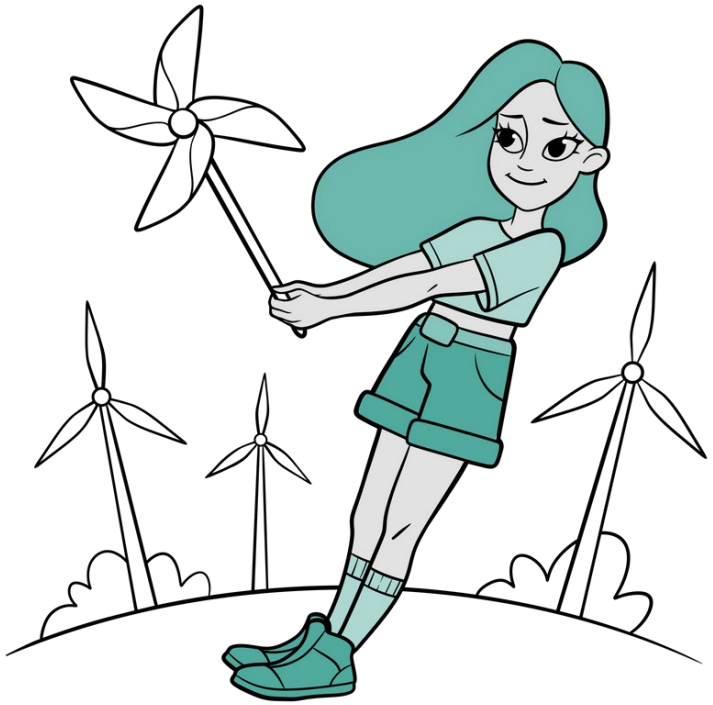
Extensive research across multiple countries revealed that traditional approaches to energy education have been inadequate for addressing the scale and complexity of current challenges.

While technical education and behaviour change campaigns have their role, they are insufficient to create the systemic changes needed to tackle climate change, energy poverty, and energy conflicts affecting billions.

The ELY project was developed based on findings that marginalised youth often lack access to comprehensive energy education, despite being disproportionately affected. This gap sustains inequalities and limits the potential for innovative solutions addressing local energy needs and global sustainability.

In addition to access to energy education, the initiative recognises that energy literacy goes beyond technical knowledge.

The ELY training materials combine understanding of the science and functioning of renewable energy with the social, economic, and political aspects of energy systems—how decisions are made, who benefits, and how young people can help create fairer and more sustainable alternatives.



3. From Needs to Action: The Participatory Approach to Energy Literacy

The Energy Literacy for Youth (ELY) project is grounded in that meaningful energy education must emerge from the lived experiences of those most affected by energy and climate challenges. Rather than applying a top-down approach, the project adopted a participatory approach — drawing on the principles of participatory action research (PAR)— to ensure the training responds directly to the realities of marginalised youth being trained.

This approach integrates research and training development by treating learners not as passive recipients, but as co-creators of knowledge. Through facilitated small-group discussions, visual prompts, and open-ended reflection, young people across participating countries identified their own knowledge gaps and priorities around topics like democratic participation, social impacts of energy systems, and energy production.

These findings directly shaped the structure and content of the five training modules presented in this handbook. The modules - ranging from climate science to civic action - incorporate interactive and inclusive methods that centre learners' experiences and support critical thinking, collaboration, and local relevance.

The participatory process not only ensured curriculum relevance; it also fostered early engagement, community ownership, and a strong foundation for inclusive energy advocacy. In this way, the ELY project moves beyond information delivery to support empowerment, collective learning, and action toward more just and sustainable energy systems.

Implementation Strategies

Community Partnership and Ownership

To effectively address the educational needs of marginalised youth, energy literacy programms require genuine partnership with community organisations and community ownership of educational processes. This means working with rather than for communities, ensuring programs serve community-identified needs.

Trainer Development and Support

Comprehensive trainer development and ongoing support helps facilitators develop knowledge and skills necessary for inclusive participatory education. This includes both content knowledge about energy issues and pedagogical skills for facilitating participatory learning processes.

Flexible and Adaptive Programming Participatory education requires flexibility allowing programs to respond to changing circumstances and emerging needs. This means developing modular curricula adaptable to different time frames, group sizes, and contexts while maintaining educational integrity.

Methodological Approaches

Popular Education Methods emphasise starting with participants' experiences, analysing root causes of problems, and developing strategies for action and change. The cycle begins with sharing experiences, moves to analysing these experiences to understand root causes, and concludes with developing action strategies.

Critical Dialogue and Problem-Posing provide tools for facilitating discussions that help participants develop critical thinking skills, while building understanding of complex issues. Problem-posing involves presenting real-world problems requiring analysis and creative thinking.

Experiential Learning and Reflection creates opportunities for participants to learn through direct experience while developing reflection and analysis skills. In energy literacy, this can include hands-on activities with renewable energy technologies, energy efficiency demonstrations, or community engagement projects.

Arts-Based and Creative Methods

For inclusivity it is vital to offer alternative ways to engage with energy issues, especially for participants less responsive to traditional academic approaches. Creative methods can include storytelling, visual arts, music, drama, or other forms that help explore energy issues from diverse perspectives.

ELY Training Methods

The participatory principles outlined above directly inform the four training modules that follow in this handbook. Each Module incorporates participatory methodologies that position learners as co-creators of knowledge rather than passive recipients of information.

These modules are designed to be implemented flexibly, allowing trainers to adapt content and methods to their specific contexts while maintaining focus on empowering marginalised youth to understand and act on energy challenges.

The participatory approach ensures that training builds on participants' existing knowledge and experiences while developing their capacity for critical analysis and collective action toward more just and sustainable energy systems.

Understanding these foundational principles prepares trainers to implement the specific methods and activities presented in the following sections, ensuring that energy literacy education serves not just as knowledge transmission but as a tool for empowerment and social transformation.

The curriculum is more than a collection of activities. It is a tool that turns energy knowledge into confidence, agency and social change. The methods are organised in modules, that are flexible. Trainers can adjust the methods to the needs of their groups.

M1 Climate Change 1-0-1

This module is an introduction to climate change and informs about the science behind climate change and the effects of climate change on society. By picking the participants up at their individual knowledge level this modules fills gaps and engages exchange through discussion.

M2 Energy ABC

This experiment-based module introduces the issues of the Energy Crisis, and shows, explains and demonstrates the roles and functioning of renewable energy production as well as covering the practical concepts of energy efficiency and energy saving. Participants learn the inner workings of renewable energy production as well as zero electricity alternatives using natural energy sources.

M3 Climate Justice

This comprehensive training module employs system thinking and story telling to highlight the historical basis and contemporary effects of the global injustice that lies behind Climate Change, Emissions and Energy Usage.

M4 Active Citizenship

The interactive methods of module four take the participants through local, national and transnational decision-making processes that affect climate and energy. Using role playing and relating individual lifestyles and systemic policies to climate outcomes, participants are motivated to engage in democratic pathways and civic society as active citizens.

Each module comprises 3-4 methods, which can be used stand alone as well as with the complete curriculum.

The training content of the modular ELY curriculum is adaptable to each participant groups' needs. Please refer to the Handbook for Trainers for the concrete methods and training instructions.

Sources

1. World Meteorological Organization (WMO). (2025, January 10). WMO confirms 2024 as warmest year on record at about 1.55 °C above pre-industrial level. World Meteorological Organization. Retrieved from https://wmo.int/news/media-centre/wmo-confirms-2024-warmest-year-record-about-155degc-above-pre-industrial-level

2. Copernicus Climate Change Service. (2025). Global Climate Highlights 2024. Retrieved from https://climate.copernicus.eu/global-climate-highlights-2024

3. IPCC. (2021). Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Retrieved from https://www.ipcc.ch/report/ar6/wg1/

4. IPCC. (2022). Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Retrieved from https://www.ipcc.ch/report/ar6/wg2/

5. European Commission. EU Action to Address the Energy Crisis. EU Action to Address the Energy Crisis. Retrieved from https://commission.europa.eu/topics/energy/eu-action-address-energy-crisis_en

6. European Commission. REPowerEU Plan Overview. Retrieved from https://www.consilium.europa.eu/en/policies/repowereu-plan

7. BloombergNEF. Global Investment in the Energy Transition Exceeded $2 Trillion in 2024. Retrieved from https://about.bnef.com/insights/finance/global-investment-in-the-energy-transition-exceeded-2-trillion-for-the-first-time-in-2024-according-to-bloombergnef-report/

8. International Energy Agency. Clean Energy Investment to Reach $2 Trillion in 2024. Retrieved from https://www.iea.org/news/investment-in-clean-energy-this-year-is-set-to-be-twice-the-amount-going-to-fossil-fuels

9. BloombergNEF. (2025, January 9). Energy Transition Investment Trends 2025 [Report summary]. Bloomberg NEF. Retrieved from https://about.bnef.com/insights/finance/energy-transition-investment-trends/

10. Cottier, T. (2023). Weaponizing energy: Energy trade and investment law in the new geopolitical reality. American Journal of International Law, Cambridge University Press. Retrieved from https://www.cambridge.org/core/journals/american-journal-of-international-law/article/weaponizing-energy-energy-trade-and-investment-law-in-the-new-geopolitical-reality/0BC65417FE02320FDAEBB46ABB0C7762

11. United Nations Environment Programme (UNEP). (2023). Sudan: Conflict and environmental decline go hand in hand. Retrieved from https://www.unep.org/news-and-stories/story/sudan-conflict-and-environmental-decline-go-hand-hand

12. Montoya, A. (2024, July 22). The Honduran town slowly submerged by rising waters. Le Monde. Retrieved from https://www.lemonde.fr/en/environment/article/2024/07/22/the-honduran-town-slowly-submerged-by-rising-waters_6693284_114.html

13. Shepherd, C. (2023). Asia's water wars: Climate change and competition over hydro power. Financial Times. Retrieved from https://www.ft.com/content/49ef27fb-ba46-4ffb-8c36-48eb58d70fc9

14. Leyton-Flor, S. A., & Sangha, K. (2024). The socio-ecological impacts of mining on the well-being of Indigenous Australians: A systematic review. Extractive Industries and Society, 17, Article 101429. Retrieved from: https://doi.org/10.1016/j.exis.2024.101429

15. Owen, J. R., & Kemp, D. (2023). 54% of projects extracting clean energy minerals overlap with Indigenous lands, research reveals. Retrieved from https://theconversation.com/54-of-projects-extracting-clean-energy-minerals-overlap-with-indigenous-lands-research-reveals-195438

16. International Energy Agency. (2022). Key findings – World Energy Outlook 2022. Retrieved from https://www.iea.org/reports/world-energy-outlook-2022/key-findings

17. Goldthau, A., & Sitter, N. (2015). A Liberal Actor in a Realist World: The European Union Regulatory State and the Global Political Economy of Energy. Oxford University Press. Retrieved from: https://doi.org/10.1093/acprof:oso/9780198719595.001.0001

18. Henderson, J., & Mitrova, T. (2020). Impacts of the Ukraine Crisis on Russian Energy Policy and Exports. Oxford Institute for Energy Studies. Retrieved from https://www.oxfordenergy.org/wpcms/wp-content/uploads/2022/03/Russia-Ukraine-crisis-Implications-for-global-oil-markets.pdf

19. Eurostat. (2021). EU imports of energy products – recent developments. Retrieved from https://ec.europa.eu/eurostat/statistics-explained/index.php?title=EU_imports_of_energy_products_-_latest_developments

20. Noël, P. (2008). Beyond Dependence: How to Deal with Russian Gas. ECFR Policy Brief. Retrieved from https://ecfr.eu/publication/beyond_dependence_how_to_deal_with_russian_gas

21. Bradshaw, M., Siddi, M., & Overland, I. (2022). Europe's Energy Crisis and the Russia-Ukraine War. Energy Research & Social Science, 91, 102758. Retrieved from https://doi.org/10.1016/j.erss.2022.102758

22. Youngs, R. (2021). Europe's Energy Strategy Must Tackle Authoritarianism. Carnegie Europe. Retrieved from https://carnegieeurope.eu/2021/07/15/Europe-s-energy-strategy-must-tackle-authoritarianism-pub-84951

23. Freedom House. (2023). Freedom in the World 2023: Marking 50 Years in the Struggle for Democracy. Retrieved from https://freedomhouse.org/report/freedom-world/2023/marking-50-years

24. Siddi, M. (2022). The EU's Energy Security Dilemma: Between Geopolitics and Decarbonization. Global Affairs, 8(1), 69–83. Retrieved from https://www.tandfonline.com/doi/full/10.1080/23340460.2022.2042052

25. Scholten, D., & Bosman, R. (2022). The Geopolitics of Energy Transition: Governing Carbon and Beyond. Energy Policy, 162, 112742. Retrieved from https://doi.org/10.1016/j.enpol.2022.112742

26. Newell, P., & Simms, A. (2020). Towards a Fossil Fuel Non-Proliferation Treaty. Climate Policy, 20(8), 1043–1054. Retrieved from https://doi.org/10.1080/14693062.2019. 1585317

27. Bouzarovski, S. (2018). Energy Poverty: (Dis)Assembling Europe's Infrastructural Divide. Palgrave Macmillan. Retrieved from https://doi.org/10.1007/978-3-319- 72398-3

28. Sovacool, B. K., & Dworkin, M. H. (2015). Energy Justice: Conceptual Insights and Practical Applications. Applied Energy, 142, 435–444. Retrieved from https://doi.org/ 10.1016/j.apenergy.2015.01.002

29. Fisher, D. R., & Nasrin, S. (2021). Youth climate activism and the politics of the future. Annual Review of Sociology, 47, 159–178. Retrieved from https://doi.org/10.1146/annurev-soc-090820-020226

30. European Commission (2022) REPowerEU: Joint European action for more affordable, secure and sustainable energy. Retrieved from https://ec.europa.eu info/strategy/priorities-2019-2024/european-green-deal/repowereu_en

31. Kalkbrenner, B. J., & Roosen, J. (2016). Citizens' willingness to participate in local renewable energy projects: The role of community and trust. Energy Research & Social Science, 13, 60–70. Retrieved from https://doi.org/10.1016/j.erss.2015.12.006

32. IEA. (2023). Empowering youth for the clean energy transition. International Energy Agency. Retrieved from https://www.iea.org/reports/empowering-youth

33. Open Plan Foundation. (2025). Energy Literacy for Inclusion. A research report on learning with marginalised communities. Energy Literacy for Youth Project https://energyliteracyforyouth.eu/energy-literacy/