CEE PULSE

From Baltic to Black Sea: A Review of Climate and Clean Energy Progress in Central and Eastern Europe

October 2025

CLEAN AIR TASK FORCE

Charting CEE's Clean Energy Future

Welcome to the first edition of CEE Pulse, a bi-annual update from Clean Air Task Force with insights from our latest work in Central and Eastern Europe.

Coming from Georgia, a beautiful seaside country at the Black Sea navigating the geopolitical conundrum of energy security and clean transition, has defined both my outlook and career trajectory. Witnessing the resounding resilience of Central and Eastern European countries in the wake of Russia's ongoing war in Ukraine has been an inspiration to bring CEE work to Clean Air Task Force. In just under two years, I have traveled, listened and engaged with countless stakeholders on the ground to better understand the unique challenges and opportunities that are critical for a just energy transition from the Baltic to the Black Sea.

Across the region, countries are navigating the complex challenge of accelerating decarbonisation while maintaining energy security and economic resilience. With growing recognition of CEE's role in shaping the EU's climate and energy agenda, recent political milestones—such as Poland's Presidency of the Council of the EU—have helped bring regional priorities to the forefront in Brussels. Looking ahead, sustained focus on clean firm power, industrial transformation, and cross-border infrastructure while ensuring just and equitable transition will be key to delivering climate goals in ways that reflect national contexts.

This first CEE Pulse edition covers all our 2025 work so far, highlighting major wins, showcasing our latest policy work, and previewing what's ahead.

Whether you're a long-time collaborator or just getting to know our work, thank you for your interest in CATF's efforts to build a climate-forward future for Central and Eastern Europe. Hope you enjoy reading this first edition!

Tamara Lagurashvili,
Director, Central and Eastern Europe, CATF

Spotlight on CEE

As part of our work in Central and Eastern Europe, we've focused on building partnerships, launching new initiatives, and engaging policymakers and stakeholders through dozens of conferences and events. To give you a sense of what this means in practice, we've pulled together three highlights from 2025 that showcase the impact of our work so far.

1. Launched a first-of-a kind initiative: the CATF CEE Fellowship

By investing in the next generation of energy and climate leaders, CATF is helping to cultivate a strong, knowledgeable, and well-connected community that can accelerate policy innovation and drive the region's energy transition.

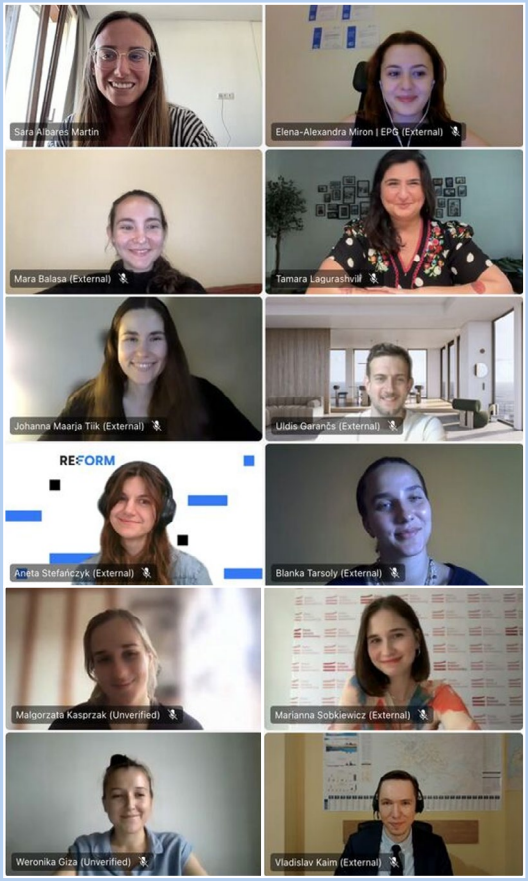
We launched the inaugural Central and Eastern Europe (CEE) Fellowship "Empowering energy and climate leaders of tomorrow". Fellows from the 2025 cohort represent six countries across the region (Estonia, Hungary, Latvia, Moldova, Poland, Romania) and include a diverse mix of backgrounds and institutions, including think tanks, NGOs, industry, and government.

The program began in early September with online modules on core climate and energy issues. In late October, fellows will convene in Brussels for a two-day workshop focused on strengthening practical skills through in-person training on public speaking, effective advocacy, and professional networking.

Say hello to our 2025 cohort fellows here

Meet **Sara Albares**, our Regional Manager Europe, who has been leading this initiative.

2025 Cohort Fellows



2. Supercharging Poland's energy transition through technology optionality

Poland's energy transition is entering a decisive stage. The pace and scope of change required in the coming years must balance the EU's decarbonisation targets, the imperative of energy security, and the need to safeguard industrial competitiveness. This will demand a coherent and integrated approach that aligns national strategies and decarbonisation efforts with the European policy framework.

Carbon capture and storage for industrial decarbonisation

Poland's industry still relies on coal and other carbon-intensive sources. Carbon capture and storage (CCS) is one of the few scalable solutions for decarbonising hard-to-abate sectors such as cement, steel, and chemicals. It also provides a pathway for low-carbon hydrogen production, supporting its deployment in other economic sectors.

CATF is working to ensure the rapid deployment of CCS infrastructure so that Polish industry can decarbonise at the lowest possible cost while remaining competitive within Europe. This requires advancing the first CCS projects to Final Investment Decision, mapping and unlocking Poland's CO_2 storage potential, and fostering cross-border cooperation to secure access to storage and infrastructure beyond national boundaries.

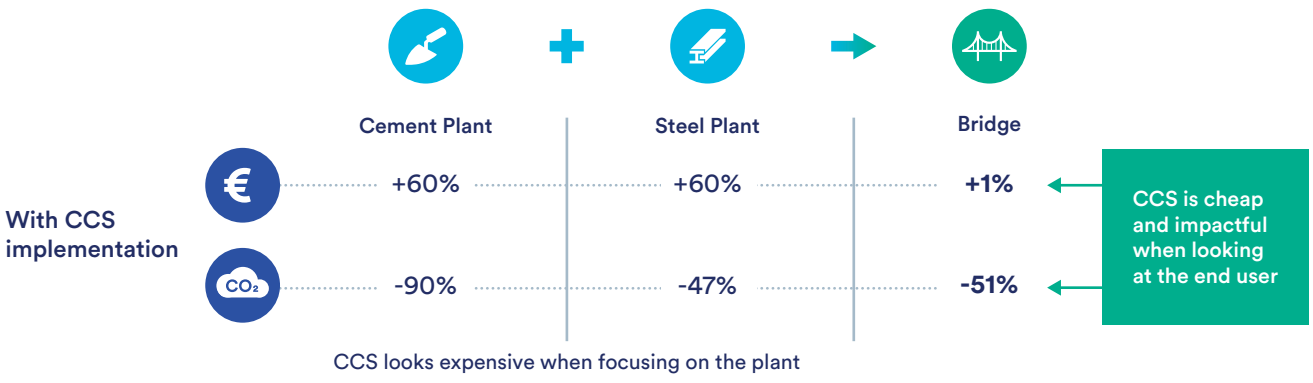
In April 2025, CATF co-organised with CCUS Poland Association, AGH University of Krakow, and TNO, the workshop "**Building Trust in Carbon Capture: Strategies for Public Engagement in Poland**", which highlighted the crucial role of public engagement in enabling CCS deployment. Stay tuned for our forthcoming brief on this matter, "*Capturing Public Trust: Social Acceptance of Carbon Capture and Storage (CCS) in Poland*".

CCS can be a cost-effective means of achieving industrial decarbonisation, especially from the perspective of end consumers. For instance, using CCS in cement and steel production would cut emissions by more than half while raising the cost of a bridge by only about 1%. As Europe accelerates the development of markets for low-carbon products, deploying CCS in industries with unavoidable process emissions is increasingly critical for CEE industries, including Poland, to remain competitive and aligned with climate goals.

Read our article on What is happening in the carbon capture and storage market in Europe and Poland?, or the newly launched report Financing Carbon Capture and Storage in Central and Eastern Europe: Strategies for Cost-Effective Deployment.

Meet **Codie Rossi**, our Carbon Capture Europe Policy Manager.

The cost of a bridge construction with carbon capture and storage



Hydrogen for a pragmatic decarbonisation

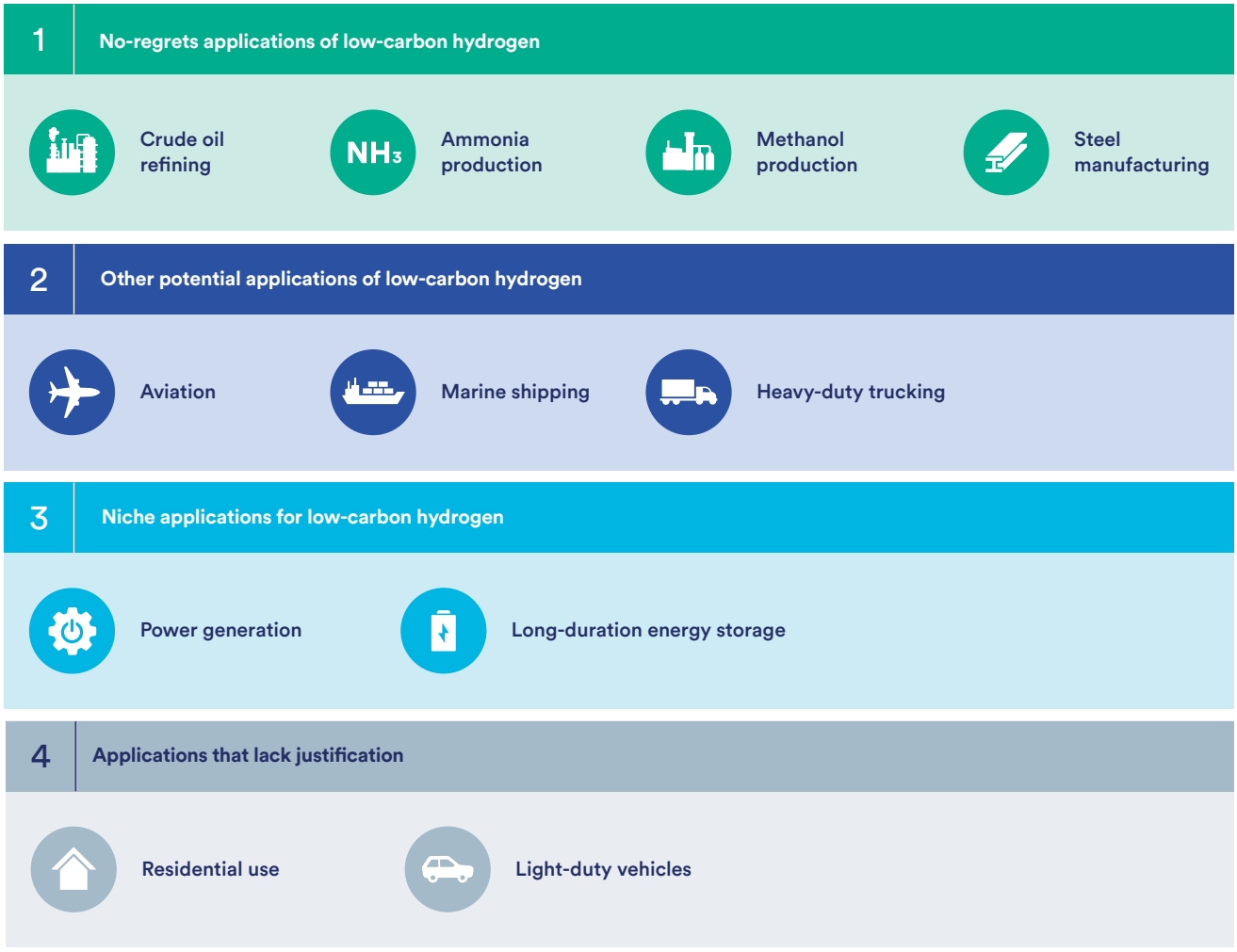
Hydrogen can be a critical lever for transitioning Poland to a net-zero economy. The country is already the third largest producer of fossil-based hydrogen in Europe, made almost exclusively from carbon-intensive, unabated steam reforming of natural gas. This hydrogen is used primarily as a crucial feedstock and fuel in Poland's significant industrial sectors, particularly in refining, petrochemicals, and fertiliser production – sectors that collectively contribute around 14% of national greenhouse gas (GHG) emissions. Replacing this emissions-intensive hydrogen with a clean alternative is crucial to decarbonise heavy industry whilst keeping the sector active and competitive.

One of CATF's goals is to prioritise the use of scarce clean hydrogen in Poland for the hardest-to-abate 'no regrets' sectors, ensuring its strategic deployment where hydrogen is necessary for sectoral operations or no other decarbonisation options are feasible.

Given Poland's limited domestic energy resources for producing its own clean hydrogen – both in terms of natural gas supply and renewable energy capacity – efforts should focus on the development of the most feasible clean hydrogen production and its prioritised deployment in the hardest-to-abate sectors. To find out more, read **Clean Hydrogen for Poland's Decarbonisation**.

Meet **Alex Carr**, our Hydrogen Program Europe Deputy Director.

Hydrogen application in no-regrets sectors



Nuclear energy for 24/7 carbon free energy

The success of Poland's energy transition hinges on securing abundant, affordable, and low-carbon electricity and heat. Nuclear energy can displace coal, complement renewables, and boost industrial competitiveness by providing reliable, low-carbon baseload generation, thereby laying the groundwork for a just transition in which neither industry nor society is left behind.

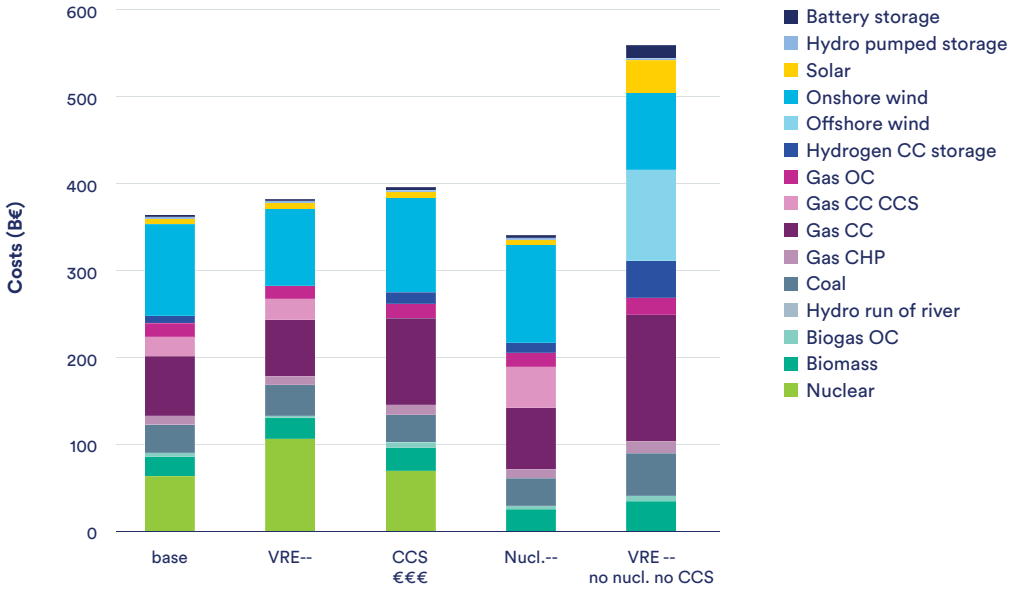
CATF recognises scaling up nuclear energy as part of the solution for Poland's transition to a zero-carbon economy by 2050 and advocates for its timely deployment through participation in policy formation and convening key stakeholders.

Excluding or delaying nuclear power from the energy mix could significantly increase the cost of a decarbonised system and triple the amount of necessary energy infrastructure, such as transmission networks. Find out more: Decarbonising Poland's Power System: A Scenario-Based Evaluation or read CATF's reaction to Poland's nuclear energy program (PPEJ).

Malwina Qvist,
Nuclear Energy Program Director

Lindsey Popken,
Program Implementation Manager

System costs within Poland across scenarios of electricity system decarbonisation



Clean firm electricity for competitive economy

As the tenth most manufacturing-dependent economy in Europe, Poland must transform their carbon-intensive energy system while preserving economic competitiveness. In addition to growing overall electricity supply, replacing Poland's aging coal fleet, which provides firm power to power industry, will be key. While renewables and storage will play a big role, clean firm power technologies such as nuclear will be vital to ensuring reliable and stable power supply and prices.

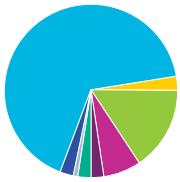
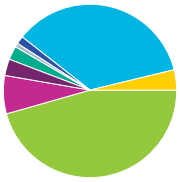
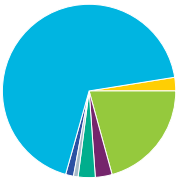
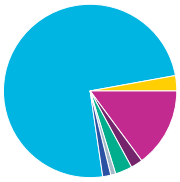
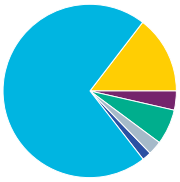
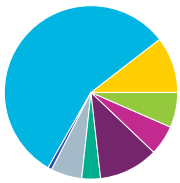
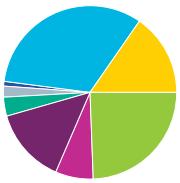
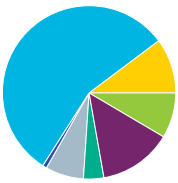
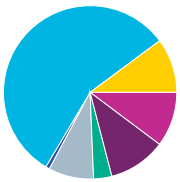
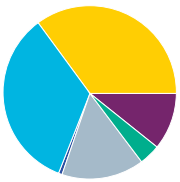
CATF advocates for an approach that expands the clean energy portfolio as it ensures that the transition to a clean economy is reliable, cost-effective, and socially responsible, while maintaining security of supply. This means supporting technologies such as nuclear energy, carbon capture and storage, geothermal, and long-duration energy storage with incentives, technology deployment roadmaps, and more.

CATF-commissioned modeling by Quantified Carbon shows that limiting technological options, such as excluding new nuclear power and/or carbon capture plants, will result in high costs and prices or make decarbonization unlikely. Find out more: Decarbonising Poland's Power System: A Scenario-Based Evaluation.

Read our report What the Public Consultation reveals about Poland's Updated National Energy and Climate Plan (published February 2025) or our Policy Guidance for the Ministry of Energy and Ministry of Climate and Environment of Poland (August 2025).

Meet **Bartłomiej Kupiec**, CEE Policy (Consultant), supporting our Poland work.

Summary of key characteristics of main scenarios of electricity system

Parameter	Scenario (2050)				
	Technology neutral ('base')	Low renewable deployment (VRE --)	CCS costs more than expected (CCS €€€)	Nuclear industry struggles ('nucl. --')	No nuclear & no CCS, VRE costs stagnate (VRE -- no nucl. no CCS)
Generation mix Solar Wind Hydro run of river Storage Bio Gas Gas CCS Nuclear					
Capacity mix Solar Wind Hydro run of river Storage Bio Gas Gas CCS Nuclear					
Security of supply	✓	✓	✓	✓	✓
Average electricity price*	Lowest	+15%	+4%	+15%	+166%
Relative dependency on transmission infrastructure for power, hydrogen & CO_2	Moderate	Lowest	Moderate	Higher	Highest
Relative cumulative greenhouse gas emissions through 2050	Moderate	Moderate	Lowest	Highest	Higher
Relative land use and use of critical minerals	Moderate	Lowest	Moderate	Higher	Higher

3. Making the Invisible Visible: Tackling Methane in Central and Eastern Europe

Methane is a powerful greenhouse gas, trapping over 80 times more heat in our atmosphere than carbon dioxide over a 20-year period. Since pre-industrial times, methane is responsible for .5° of increase of temperature. Being a short-lived climate super pollutant, reducing its emissions is one of the fastest and most effective ways to slow global warming. In 2025 alone, we have partnered with national and regional NGOs in Hungary, Romania, Croatia, and Czechia to bring the new European Methane regulation to life and hold polluters accountable. We combine our gas thermography technology and expertise with field investigations, engagements with communities, and media outreach to make it possible.

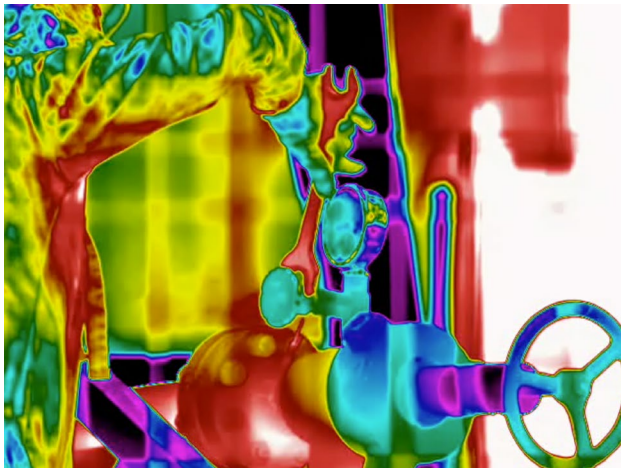
Lifting the lid on hidden emissions for the first time in **Croatia**. CATF teamed up with Greenpeace to carry out the country's first-ever independent methane survey at more than 25 oil and gas sites, including production fields and the main gas pipeline from the coast to Zagreb. We captured revealing footage of leaks and gas releases using our infrared OGI cameras while providing training to civil society groups on how to detect emissions and use data to accompany policy change. The story broke into headlines across Europe with over 100 outlets covering the findings, building pressure into immediate impact: Croatia's Ombudswoman, the country's top human rights institution, launched an official inquiry into the state inspectorate's oversight of oil and gas operations.

In **Czechia**, CATF and our partner Centre for Transport and Energy (CDE) revisited oil and gas sites to track progress since earlier visits. By documenting persistent emissions, training local experts, and working with national authorities, we are helping ensure that methane reduction commitments under the EU Methane Regulation become real-world results.

CATF's thermographer Théophile Humann-Guilleminot together with Greenpeace and media in the field, March 2025 (credits: Bojan Haron Markicevic)

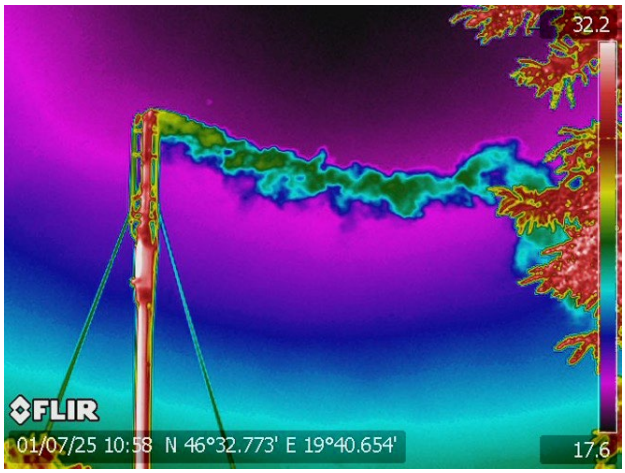
Romania - Leaks found, action taken. Romania is our hotspot in the fight against methane pollution in Europe, and a place where field investigations drive visible change. With our partner 2Celsius, we surveyed over 50 oil and gas facilities across the country using both our optical gas imaging camera and our gas analyzer to detect and document the invisible emissions. These tools allowed us to capture methane leaks in real-time and, in 20 cases, to guide field workers onsite to seal and perform repairs directly on the spot.

To bring these findings beyond the usual technical and policy circles, we hosted five artists in the field through the Otherwise Marginal art residency. Their work takes inspiration from our work crossing methane detection technology, frontline communities support, and environmental neglect investigations, to translate methane science and technology into cultural resonance.



Repair being performed by field worker onsite during one of CATF's survey in Romania (July 2025). The valve attached to the pressure gauge of this oil well was releasing a large and continuous stream of gas. In 30 seconds, repair was performed, and no emissions could be detected by our OGI camera.

Hungary: Eyes on Szank. In collaboration with Greenpeace Hungary and the Clean Air Action Group, CATF closely monitored the gas field of Szank in Bács-Kiskun county. Our field investigation documented significant methane leaks from an unlit flare and large intentional emissions from venting, leading the national groups to file an official complaint under the new European methane regulation to the Hungarian authorities. Policy changes in Brussels drive change all over Europe, including in places like Szank where methane and other associated gases are emitted, threatening the town's people right to clean air.



CATF has been monitoring Szank gas processing and compressor station since 2021 (Bács-Kiskun county, Hungary). Our optical gas imaging camera has captured a continuous stream of methane from the unlit flare of the facility (see above), leading the Clean Air Action Group, one of CATF's partners in Hungary, to do an official complaint under the methane regulation.

These efforts are part of a broader push to secure strong implementation of the EU Methane Regulation across the region. When several governments, including Romania, Hungary, and Slovakia, recently sought to weaken the rules, CATF responded with a detailed analysis that helped protect the integrity of the legislation. For a region heavily impacted by climate change and central to Europe's energy system, tackling methane is not only an environmental imperative but also a direct investment in healthier communities, stronger economies, and a more sustainable future.

Meet the team leading our methane work in Europe:

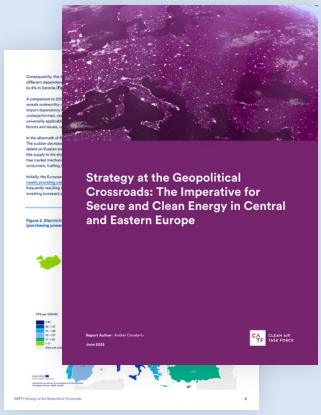
Théo Humann-Guilleminot,
Senior Campaign Manager

Brandon Locke,
Senior Europe Policy Manager

Our latest resources

Developing thought leadership pieces is a key part of our work across the region. In collaboration with our technical experts, we produce analyses, briefs and reports that support policymakers in advancing the decarbonisation transition, we share knowledge widely through webinars and organise events ranging from closed-door roundtables to technical courses tailored for diverse audiences.

Our top 3 picks for you to read



1. Strategy at the Geopolitical Crossroads: The Imperative for Secure and Clean Energy in Central and Eastern Europe (June 2025)

Russia's war in Ukraine has made the CEE region key to Europe's energy security and clean energy transition, exposing vulnerabilities but also creating opportunities for modernisation and influence. This report, written by international energy and climate change expert Andrei Covatariu, discusses how, to strengthen resilience and competitiveness, the region must pursue a shared vision of clean energy infrastructure, industrial capacity, and regional integration, backed by public support. Done well, CEE can turn current risks into strategic assets and reinforce both its independence and the EU's geopolitical strength.

This report was featured in the *National Centre for Emission Balancing and Management's* July 2025 government publication and on the portal ZielonaGospodarka.pl. You can also read this complementary op-ed Central and Eastern Europe's energy transition shows resilience in the face of geopolitical threats published in The Parliament Magazine (August 2025).

CATF's co-organised roundtable at GLOBSEC 2025

We launched the report on the sidelines of GLOBSEC, where we co-hosted, together with EMBER, the high-level roundtable "From threat to opportunity: Redefining energy security in Central and Eastern Europe" with stakeholders from government, utilities, technology companies, business associations, and others to discuss Europe's energy future. The discussion underscored that with the right strategy, Europe can not only drive the clean energy transition as a climate necessity but also strengthen its long-term security and economic resilience.

2. Why betting on geothermal could be a game-changer for CEE region? A CATF op-ed published in CEE Energy News (February 2025)

Geothermal energy— a low-carbon, domestic, reliable, and scalable energy source—can power industries, heat communities, and drive economic growth. For CEE, embracing geothermal innovation is more than an option—it's an opportunity to lead Europe into a secure, sustainable energy era.

In May, alongside the Global Geothermal Energy Summit in Warsaw, CATF convened developers, researchers, and policymakers for the closed-door roundtable "Exploring the challenges, needs, and opportunities for next-generation geothermal in Europe" to discuss next-generation geothermal technologies. Participants identified common challenges around permitting, funding, communication, and collaboration, while expressing a strong commitment to work together. The discussion reflected a shared sense of urgency to connect, coordinate, and take action.

Global Geothermal Energy Summit in Warsaw

Interested in learning more about geothermal energy? Check out this CATF factsheet: Investing in innovation: Unlocking the full potential of geothermal energy in Central and Eastern Europe (July 2025). CATF's geothermal work has been featured in BiznesAlert and Zielona Interia.

Meet **Jenna Hill**, our Superhot Rock Geothermal Innovation Manager

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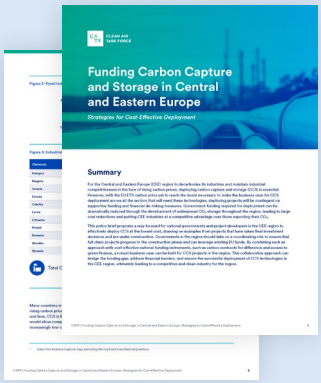

3. Funding Carbon Capture and Storage in Central and Eastern Europe: Strategies for Cost-Effective Deployment (September 2025)

Decarbonising industry in Central and Eastern Europe will require large-scale deployment of carbon capture and storage (CCS) to remain competitive under rising carbon prices. While current EU ETS prices are not yet sufficient to drive investment, governments can bridge the gap by coordinating full-chain CCS projects, expanding CO_2 storage, and leveraging EU and national funding tools such as carbon contracts for difference and green finance. This collaborative approach can cut costs, de-risk investment, and ensure a competitive, low-carbon industrial future for the region.

You missed our report launch? No problem, you can watch the recording here.

In case you want to know more about our other events

- On the sidelines of H₂Poland, CATF hosted a discussion "Designing decarbonisation pathways for heavy industry in Central and Eastern Europe" on the challenges and opportunities of industrial decarbonisation in Poland and Central and Eastern Europe, emphasizing the need for multiple solutions such as clean hydrogen, carbon capture and storage, and electrification.
- Under the official patronage of the Polish Presidency of the Council of the European Union, CATF and Business and Science Poland convened a high-level roundtable in Brussels, "Revitalising Industry in the EU: Insights from Poland and the CEE Region." Stakeholders discussed how a broader and more inclusive energy transition is essential not only for cutting emissions but also for safeguarding Europe's industrial competitiveness, resilience, and energy security.

In case you want to keep reading:

- Joint Letter: Creating a Clean Industry in Central and Eastern Europe – Recommendations for EU and National Governments (January 2025)
- Report: What the Public Consultation reveals about Poland's Updated National Energy and Climate Plan (January 2025)
- Blog: BECCS: New development opportunities for the Polish biomass industry (February 2025)
- Zielona Gospodarka.pl (January 2025): Polish Presidency of the EU Council: A Chance for Energy and Climate Leadership

In case you want to keep listening:

- Poland: Keeping Tabs on the Region's Industrial Powerhouse (January 2025)
- From Crisis to Resilience: Addressing Energy Affordability, Decarbonisation, and Competitiveness in Romania (March 2025)
- Driving Forward: Czechia and Slovakia's Transportation Gambit (April 2025)
- Śląska Opinia: Does Poland really have a plan for energy transition? (September 2025)

CATF in the Media

- **Business Insider Poland** (August 2025): Small Nuclear for Industry and Beyond: What SMRs Can Bring
- **Carbon Pulse** (August 2025): FEATURE: Drive for greener data centres spurs interest in CCS-fitted gas power plants
- **Business Insider Poland** (July 2025): The (Incomplete) Ministry of Energy. "Stirring Doesn't Make Tea Any Sweeter"
- **ChronmyKlimat.pl** (May 2025): How to Implement the EU Methane Regulation? Conference of the Instrat Foundation and Clean Air Task Force in Brussels
- **NetTg.pl** (May 2025): "In Brussels, They Discussed the Methane Regulation. PGG Representative: We Will Reduce Methane Emissions by 33 %"
- **Oxford Institute Energy Studies** (March 2025): Challenges and Opportunities Posed by the EU's 42 Percent Renewable Hydrogen Target by 2030
- **Energetyka24** (March 2025): Baltic Nuclear Energy Forum: Gdańsk at the Center of the European Debate on the Future of Nuclear Power
- **MagazynBiomasa** (January 2025): What's Happening in the CCUS Market in Europe and Poland?
- **BiznesAlert.pl** (January 2025): https://biznesalert.pl/polska-prezydencja-rosja-unia-europejska-paliwo/
- **BiznesAlert.pl** (January 2025): https://biznesalert.pl/polska-rada-unia-europejska-polityka-gospodarka/

Looking ahead

The energy transition in Central and Eastern Europe is not just about shifting from coal to clean energy sources; it is about reshaping economies, strengthening energy security, and fostering resilience in the face of global challenges while maintaining social cohesion and public support. By accelerating clean transition, Central and Eastern Europe has the opportunity not only to meet its climate commitments but also to position itself as a driver of clean energy growth and innovation in Europe's future energy landscape.

Clean Air Task Force will continue engaging with all key stakeholders in the region to work on better-informed, durable, and inclusive climate policies. In the coming months we will be sharing more thought leadership pieces, events and conversations on how CEE can continue scaling up key decarbonisation levers in its toolbox while making sure that both fast-evolving geopolitical dynamics and public support act as enablers rather than destabilizers for a just and clean transition.

Thank you for reading our first edition of CATF's CEE Pulse. We look forward to keeping in touch.

Contact

Reach out to collaborate with us or sign up here to receive this bi-annual update and much more: https://www.catf.us/europe/cee/

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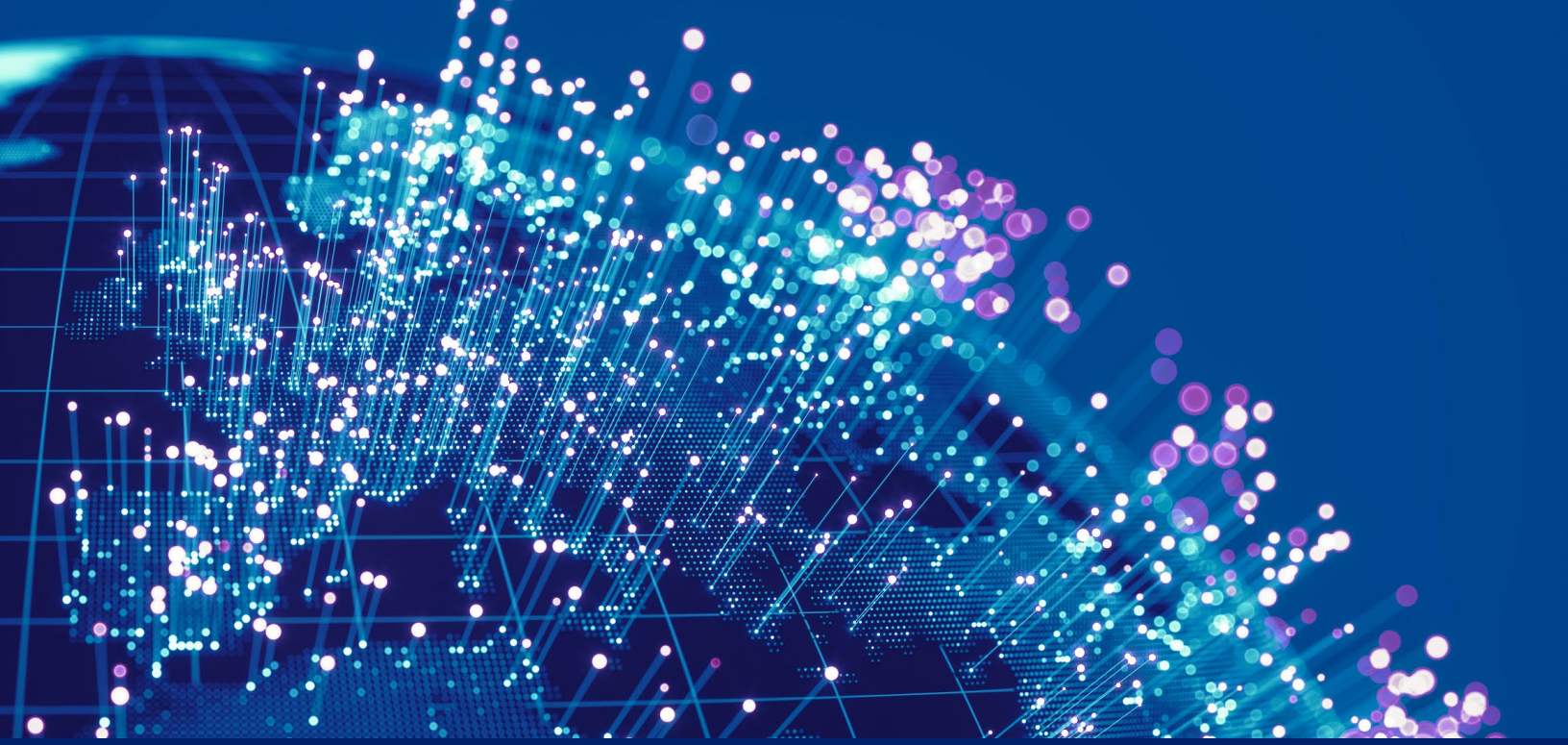

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