

THE APPALACHIAN REGION WAS RESPONSIBLE FOR 2.7 MILLION TONS OF METHANE EMISSIONS IN 2021.\*

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CONSOL ENERGY'S BAILEY MINE IN PENNSYLVANIA'S SOUTHWEST CORNER EMITTED MORE THAN 90,000 TONS OF METHANE GAS IN 2021.\*\*

90K

\* Kayrros, international geo-analytics firm  
\*\* Environmental Protection Agency  
\*\*\* Environmental Defense Fund

# AIR SUPPORT

**The Heinz Endowments and a group of organizational partners invited foundation representatives from across the country to Pittsburgh for a three-day gathering in April to discuss environmental challenges such as the impacts of fossil fuel extraction and strategies for addressing them. By Elwin Green**

OVER THE FIRST 20 YEARS IN THE ATMOSPHERE, METHANE GAS IS 80 TIMES MORE HARMFUL TO THE CLIMATE THAN CARBON DIOXIDE.\*\*\*

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**T**he Appalachian Basin is a geological formation that encloses the Appalachian Mountains and extends northeast from central Alabama to upper New York state. It is home to the Marcellus Shale, which includes West Virginia, eastern Ohio, and most of Pennsylvania and in two decades has become a leading source of the nation's natural gas.

The U.S. Energy Information Administration observed in its 2021 "Today in Energy" report that if the Appalachian Basin were its own country, it would be the world's third-largest producer, behind Russia and the rest of the United States.

But being one of the largest producers of natural gas in the U.S. brings multiple unintended consequences. For instance, Appalachia is a major emitter of methane, a greenhouse gas that contributes to the warming of the Earth's atmosphere. In 2021, the region was responsible for 2.7 million tons of fossil fuel methane emissions, according to the international geo-analytics firm Kayrros, whose data is referenced by the U.S. Department of Energy.

In response to the risks and dangers of increasing natural gas production in the region, The Heinz Endowments partnered with several other regional and national organizations to host a funder convening on "Fossil Fuel Challenges and Opportunities in the Ohio River Valley and Appalachia."

Elwin Green is a Pittsburgh-based freelance writer. His last story for h ran in Issue 2, 2022, and explained the second phase of Pittsburgh's Cultural Treasures, an initiative jointly funded by the Endowments and The Ford Foundation that provides support for Black-led cultural organizations in Western Pennsylvania.

The gathering, held April 18–20 at the Phipps Conservatory and Botanical Gardens in Pittsburgh's Oakland neighborhood, drew representatives from several foundations along with community leaders and residents who have been actively involved with environmental issues.

“One of the most incredible parts of the day was hearing about neighbors as they told their stories of how they have been impacted,” said Endowments President Chris DeCardy. “To see this on the ground is important, to hear the stories of those being impacted, to see what is happening right beside their homes, was super effective.”

Featured presentations covered a range of topics with community and environmental leaders steering most of the discussions about impacts on communities and environmental systems and ways to develop successful strategies to address the challenges.

“What we hope to accomplish is to raise awareness in the field of philanthropy and also to bring in more resources to support the groups doing the work in the region to reduce these threats,” said Philip Johnson, the Endowments’ senior program director for Environment & Health, speaking before the event.

Later he added, “Over the past 15 years, our region has worked with several foundation partners locally, regionally and nationally. With climate philanthropy increasing substantially in recent years, we wanted to reinforce these partnerships and build on them. The problem’s scale is global; Heinz can’t do this work alone.”

Among the topics covered during the convening were community, health and environmental justice impacts, and the region’s status as a “climate bomb.” Methane emissions are one of the reasons for the “climate bomb” designation.

While carbon dioxide, or CO<sub>2</sub>, receives most of the attention in discussions about greenhouse gases, methane is worse, said Andrew McElwaine, vice president for Sustainability at the Endowments. Both gases can linger in the atmosphere, trapping the Earth’s heat in a greenhouse effect, but over the first 20 years in the atmosphere, methane



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president and executive director,  
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is 80 times more harmful to the climate than CO<sub>2</sub>, according to the Environmental Defense Fund.

And not all of Appalachia's emissions arise from natural gas production. A large share comes from coal mining. In fact, Consol Energy's Bailey Mine, near the Pennsylvania–West Virginia border in Pennsylvania's southwest corner, emitted more than 90,000 tons of methane in 2021, according to Environmental Protection Agency data.

That was the year that the United Nations Framework Convention on Climate Change adopted the Global Methane Pledge, which has the goal of cutting human-caused methane emissions at least 30 percent from their 2020 levels by 2030. That reduction is one of the benchmarks of the overall UNFCCC goal of keeping global warming at or below 1.5 degrees Celsius.

According to Kayrros, the world is moving in the wrong direction, with methane emissions from Marcellus and Utica shale sections of the Appalachian Basin leading the way. In a report based on data from the first quarter of 2022, Kayrros noted that those emissions declined in 2020 due to the overall pandemic-related slowdown in economic activity, but rebounded in 2021 and were on pace to surpass pre-pandemic levels in 2022.

**A**t the same time, Appalachia is growing as a producer of natural gas liquids, including ethane, propane and butane. While propane and butane are used primarily as fuels, ethane is used almost exclusively as the primary material for making plastics, which can then take up to 500 years to decompose. Making plastics requires that ethane be separated out from natural gas, or fractionated.

A report from the Ohio River Valley Institute, a regional think tank, cites the U.S. Energy Information Administration in stating that between 2010 and 2016, natural gas processing capacity — which includes fractionation — in Kentucky, Ohio, Pennsylvania and West Virginia increased by over 800 percent,

growing from 1.1 billion cubic feet per day to 10 billion cubic feet per day.

The first day of the April convening was largely devoted to exploring the climate and health impacts of the region's outsized fossil fuel production. The second day focused more on hearing from organizations such as the Ohio River Valley Institute and Reimagine Appalachia, a coalition of organizations and individuals in the four states of the Ohio River Valley: Kentucky, Ohio, Pennsylvania and West Virginia.

While the gathering was not designed or intended to produce a specific plan of action, Reimagine Appalachia had a head start on devising one with a document simply called "The Blueprint," outlining "a New Deal that works for us." The document centers on five priorities: restoring damaged lands and waters, modernizing the electric grid, growing green manufacturing, building a sustainable transportation system, and reviving the Civilian Conservation Corps.

Mr. McElwaine sees further hope in the creation of government incentives to encourage the adoption of renewable energy, in accordance with President Joe Biden's declared goals of 100 percent clean electricity by 2035 and a fully decarbonized economy by 2050.

The Infrastructure Investment and Jobs Act of 2021, for instance, provides \$73 billion for the nation's power infrastructure to include adapting the electricity grid for renewable energy. At the same time, the Inflation Reduction Act offers tax credits to households that buy energy-efficient appliances, have solar panels installed on their homes, or purchase electric vehicles.

After the convening, Mr. McElwaine deemed the effort to raise awareness and increase support a success.

"The chief thing was to test the hypothesis that there was the prospect of moving the region in a better direction," he said, "and to outline the opportunities to do so."

To that end, attendees agreed to keep talking, with direct follow-up likely to lead to further convenings.

One of the attendees was Mike Kane, the president and executive director of the Community Foundation for the Alleghenies. Based in Johnstown, the foundation works on

the issues and interests that donors want to address in Cambria, Somerset, Bradford and Indiana counties and, in some cases, beyond. Over the years it has provided significant regrants throughout the broader northern Appalachian region, primarily in support of environmental stewardship and restoration efforts. This has been achieved with the support of The Heinz Endowments as well as other interested philanthropies.

"What this did was reinforce to me how deeply people care about the regions where they live," Mr. Kane said. "And how concerned they are with the impacts that are happening because of petrochemical activity."

He added that his biggest takeaway was that "the work is even more than simply important, the work is critical."

"You walk away recognizing this isn't a short-term issue, this is a long-term issue," he said. "We're going to need people who care about the folks in those communities, people who care about the environment, people who care about the air quality. We're going to need to be present. This isn't going away anytime soon."

In his final exhortation to the attendees, Endowments President DeCardy agreed.

"We have experienced how the growth of fracking and expanding production of petrochemicals represents a major threat to climate, to our environment, and to the health and safety of communities. And the promised benefits of natural gas and oil extraction, in terms of jobs and the prosperity this would bring to our communities, are simply not there," he said.

"The drivers of economic change are linked to sustainability factors that will dominate in the years ahead. I have worked in this area for over three decades and I remain optimistic — we can meet our climate goals if we work and act together.

"Don't shy away from what is necessary ... Across the board I believe in the opportunity that is in front of us. You all have come together at this moment to try to seize that opportunity, and I think there's absolutely every opportunity for us to succeed together. I am really excited to see where this goes next." **h**