

Center for
**Climate
Integrity**

The Fraud of “Clean” Natural Gas

How Big Oil and Gas Created
the Myth that Natural Gas
is a Climate Solution

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This report is available at
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officials with the knowledge and tools
they need to hold oil and gas corporations
accountable for the massive costs of
climate change.

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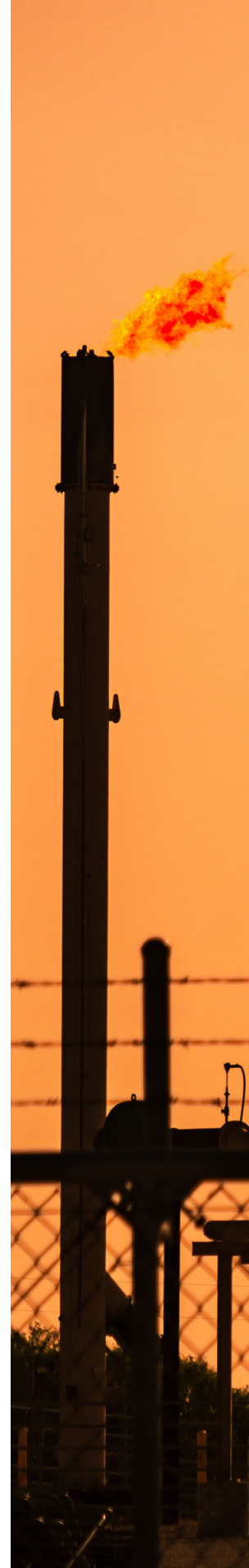


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Executive Summary

For decades, major oil and gas companies have perpetuated the fraud that natural gas is clean and a climate solution, despite knowing that it is a significant source of air pollution and a major contributor to climate change.

This is the unearthed story of how the industry succeeded at this deception.

The gas industry knew as early as 1907 that natural gas was a source of **respiratory problems** when burned indoors, and by the 1950s it knew that gas caused problems in outdoor air. Beginning in the 1960s, the oil and gas industry learned of another threat — emerging science showed that natural gas was a potentially significant **contributor to methane** in the atmosphere. As companies and their representatives closely monitored scientific developments on methane, the chemical name for natural gas, they also learned that it was a **potent greenhouse gas** and damaging for the climate.

The gas industry ignored these warnings. Knowing that the expansion of natural gas would create air pollution and increase atmospheric levels of both methane and carbon dioxide, it worked to undermine these concerns, position gas as the clean and climate-friendly alternative to coal, and realize an ambition that would transform natural gas from a marginal fuel to a driving force of the energy sector.

Gas companies crafted **the first strategic campaign in the 1970s to sell natural gas as a clean fuel**, sponsoring and promoting their own research and advertising programs that would support this claim through the American Gas Association (AGA) and its public relations and advertising firms. Over time, the campaign grew in ambition and scope. Major oil and gas producers joined forces with AGA, becoming members of its flagship research organization and funding

What is Methane?

Natural gas is mainly methane, an invisible gas with outsized consequences for climate change and human health. Methane escapes into the atmosphere through unintentional releases from pipelines and equipment, abandoned wells, and intentional practices like venting and flaring. When methane is released into the atmosphere, it traps roughly 80 times more heat than CO₂ over a 20-year period.ⁱ Burning natural gas contributes to rising atmospheric CO₂ levels, and the sector is now the primary reason energy-related CO₂ levels continue to grow.ⁱⁱ Combustion of natural gas also produces an array of other pollutants — including nitrogen oxides,ⁱⁱⁱ carbon monoxide,^{iv} ground-level ozone,^v and benzene^{vi} — that can cause a wide range of heart, lung, and brain diseases.^{vii}

See sources on page 6.



Photo: iStock

new efforts to position natural gas as both a clean energy and climate solution.

In the late 1980s, the gas industry and major oil companies started to brand gas as a “bridge fuel” — a clean-burning transition fuel to a renewable energy future. In reality, they planned a long-term future for natural gas, while simultaneously undermining renewables, obstructing the destination to which gas’ “bridge” was supposed to lead. Over the next 20 years, the industry effectively solidified the **bridge fuel myth** by co-opting the science and oversight originally intended to keep carbon and methane emissions in check.

Working together in a growing coalition that included the oil majors and ultimately several major environmental groups, the industry managed to temper concerns about methane using strategies crafted by the same firms that for decades undermined the scientific consensus about the harms of tobacco. AGA and allied groups aggressively challenged the science around methane through industry-funded studies and the creation of the objective-sounding Gas Research Institute. But their approach was multi-dimensional. While muddying the waters on the industry’s methane problem, the gas industry was careful not to deny the issue of climate change outright, instead focusing attention on carbon dioxide. It paired this with **relentlessly promoting the concept of gas as clean — certainly cleaner than coal or oil — and positioning gas as a bridge fuel and climate solution.** In the process, the gas industry solidified partnerships with EPA with the explicit goal of fending off regulations in favor of voluntary emissions management, while also recruiting environmental organizations that would lend legitimacy to their arguments.

The strategy was a roaring success. Key to this success was a joint 1996 industry/EPA study on methane emissions from the natural gas system. Newly uncovered documents reveal that EPA waived its technical review of the study, which the study’s project manager noted the agency did not have “the expertise” to conduct, in effect ceding control of the analysis to the oil and gas industry. The published study was based on a highly selective assessment of methane emissions, and

concluded that emissions were so low that concerns about natural gas’ contribution to climate change were unjustified. The gas industry knew the study didn’t represent the full scope of methane emissions from the natural gas system, but used it to neutralize public concerns about methane, cement gas’ reputation as a climate-friendly “bridge fuel,” and pave the way for the industry’s massive expansion in the 2000s.

This image of gas as clean is a fraud at least 50 years in the making. It can be found readily in the industry’s communications for the past five decades, including advertising to consumers and political lobbying. The fraud of clean natural gas has been essential to the industry’s success in the marketplace, and the idea that gas is climate-friendly has been at the heart of the rapid expansion of gas infrastructure over the last two decades, including the explosion in fracking, the build-out of interstate pipelines and gas export terminals, and the absurd codification of gas as renewable energy in several states, locking the U.S. into decades of additional fossil fuel use and climate-damaging emissions.

Much of this investigation focuses on historical events, when methane emissions emerged as a clear threat, and the legacy of the industry’s success. This report is based on newly discovered documents, public records requests, internal industry communications, confidential reports, scientific papers, and interviews with climate scientists, industry consultants, and representatives from environmental groups. While numerous reports and investigations have demonstrated the way in which the oil and gas industry responded to the carbon problem with delay and denial, this is the first to trace the history of the gas industry’s response to its methane problem and to place it in the context of decades of deception.

SECTION I: 1968-1974

Invention of the “Clean” Gas Myth

Gas utilities and pipeline companies responded to internal polling and scientific studies on the health harms of gas with a campaign to convince the public that natural gas is a clean form of energy.

SECTION II: 1972-1981

A Strategic Research Response

While the public relations campaign appeared to be working, gas utilities and pipeline companies recognized a political need for research that would support their claims that expanding gas drilling was environmentally beneficial. They responded by creating a new entity that would make their research appear more objective: the Gas Research Institute. Meanwhile, a pivotal NASA study demonstrated that methane emissions presented a climate risk.

SECTION III: 1980-1989

The Gas Industry Deflects Criticism

Gas utilities and pipeline companies, joined by major oil and gas producers, sold a new vision of gas as a climate solution. To accomplish this goal the industry needed to deflect growing concerns over methane as a potent greenhouse gas, which threatened to become a serious obstacle to the industry’s ambitions of market expansion.

SECTION IV: 1990-2000

Institutionalization of a Myth

The gas industry solidified gas as a clean climate solution by biasing a major assessment of methane emissions from natural gas operations, downplaying the oil and gas industry’s contributions to global warming, and legitimizing self-regulation.

- i United Nations Environment Programme, “Facts about Methane,” <https://www.unep.org/explore-topics/energy/facts-about-methane>.
- ii International Energy Agency, *Global Energy Review* (2025), <https://iea.blob.core.windows.net/assets/5b169aa1-bc88-4c96-b828-aaa50406ba80/GlobalEnergyReview2025.pdf>.
- iii Siru Yang et al., “Associations of Long-Term Exposure to Nitrogen Oxides with All-Cause and Cause-Specific Mortality,” *Nature Communications* 16 (February 18, 2025), <https://doi.org/10.1038/s41467-025-56963-y>.
- iv Ishani Kar-Purkayastha et al., *British Journal of General Practice* (August 2012), <https://doi.org/10.3399/bjgp12X653480>.
- v Climate and Clean Air Coalition and United Nations Environment Programme, *Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions* (2021), https://www.ccacoalition.org/sites/default/files/resources/2021_Global-Methane_Assessment_full_0.pdf, 51.
- vi Sebastian T. Rowland et al., “Downstream Natural Gas Composition across the U.S. and Canada: Implications for Indoor Methane Leaks and Hazardous Air Pollutant Exposures,” *Environmental Research Letters* (2024), <https://doi.org/10.1088/1748-9326/ad416c>. Climate and Clean Air Coalition and United Nations Environment Programme, *Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions* (2021), https://www.ccacoalition.org/sites/default/files/resources/2021_Global-Methane_Assessment_full_0.pdf, 51.
- vii Climate and Clean Air Coalition and United Nations Environment Programme, *Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions* (2021), https://www.ccacoalition.org/sites/default/files/resources/2021_Global-Methane_Assessment_full_0.pdf, 51.

SECTION I: 1968-1974

The Invention of the “Clean” Gas Myth

In the early 1970s, gas utilities and pipeline companies recognized they had a problem: internal polling showed the public saw natural gas as polluting, and new research on emissions from the gas industry threatened to make the problem worse. Previously undisclosed records show that the gas industry launched a campaign to protect its most important market: gas in the home. Following the advice of its public relations and advertising consultants, the industry embraced a new messaging strategy promoting natural gas as “clean energy.” Recognizing it needed data to buttress its clean claims, the industry launched a program aimed at delivering “useful” research.

1.1

Gas Under Pressure: A Dirty Image Threatens the Gas Industry’s Markets

At the start of the 1970s — the “environmental decade” — the natural gas industry was facing threats on multiple fronts. During the 1960s, the industry had been notified that pollution from oil and gas industry operations was contributing to the presence of both carbon dioxide and methane (CH₄) in the atmosphere. A 1968 review of atmospheric pollutants, commissioned by industry trade association the American Petroleum Institute (API), contains a discussion of methane, the primary component of natural gas, previously overlooked by historians of this period. Conducted by the Stanford Research Institute (SRI), a private lab, the review informed API, whose membership included the major U.S. oil and gas producers, that, although natural sources were responsible for the largest share of methane detected in the atmosphere, some of this methane could be linked to oil fields.¹

¹ E. Robinson and R. C. Robbins, *Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants* (Stanford Research Institute, February 1968), Louise M. Darling Biomedical Library, University of California, Los Angeles, <https://legacy.www.documentcloud.org/documents/26186570-1968-sri-report-for-api/#document/p102/a2674266>, 102.



PHOTO: US Department of Energy/Flickr

I. THE INVENTION OF THE CLEAN GAS MYTH

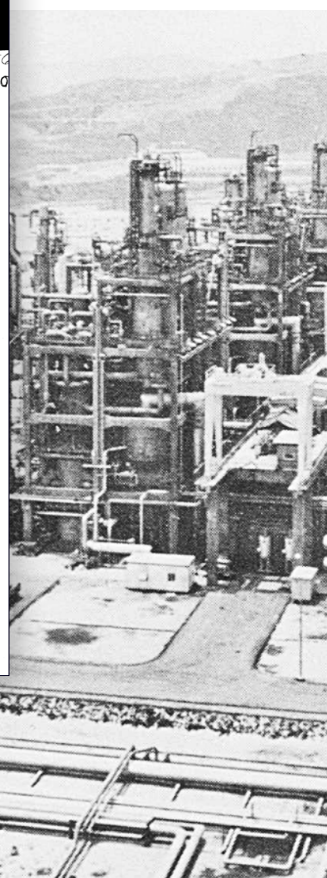
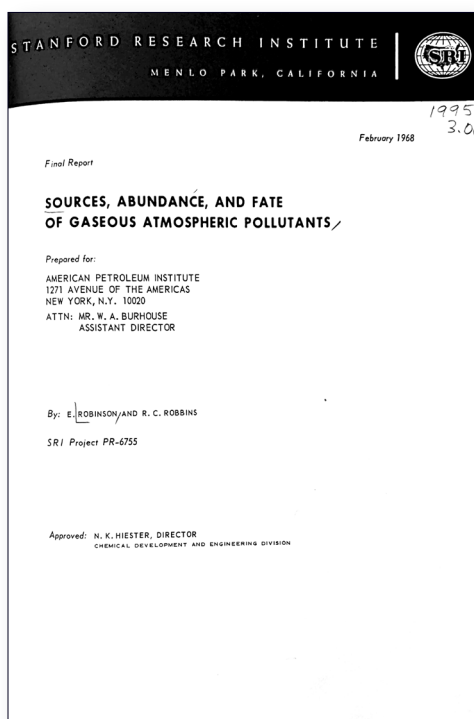
According to SRI, research had also attributed methane pollution to “[gas] distribution system leakage.”² SRI estimated that methane likely had a relatively short atmospheric residence time of “several years” but noted that other researchers believed it might be longer. They told API that “[t]he atmospheric CH₄ cycle obviously is an area where much more work needs to be done”³ and warned that while natural atmospheric sinks could be effective at removing pollutants, they could be “overburdened by excessive emissions.”⁴

Internal company documents reveal that Shell and other oil companies were in fact already aware of extensive, world-wide methane pollution caused by their operations.⁵ “Natural gas is liberated in embarrassingly large quantities at oil fields,” wrote the head of a high-level Shell study group in 1966, adding that it was not always possible to dispose of this methane by burning it in “huge flares” or by pumping it back underground to maintain oil field pressure.⁶

The gas industry was also becoming aware of new research demonstrating the human health harms associated with the use of natural gas.⁷

Risks of this kind had been well established for some time; as early as 1907, gas executives had discussed how “incomplete combustion” of gas produced carbon monoxide, “one of the most deadly poisons that can be taken into the human body.”⁸

The American Petroleum Institute commissioned the report, *Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants*, from the Stanford Research Institute in 1968. ([Louise M. Darling Biomedical Library](#), University of California)



A liquefied natural gas plant in 1974.
([American Gas Association Monthly](#))

- 2 Robinson and Robbins, *Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants* <https://legacy.www.documentcloud.org/documents/26186570-1968-sri-report-for-api/#document/p102/a2674267,102>.
- 3 Robinson and Robbins, *Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants* <https://legacy.www.documentcloud.org/documents/26186570-1968-sri-report-for-api/#document/p109/a2674276,109>.
- 4 Robinson and Robbins, *Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants*, <https://legacy.www.documentcloud.org/documents/26186570-1968-sri-report-for-api/#document/p7/a2674278,7>.
- 5 Victor Rothschild, “Confidential memo to John ‘Kappa’ Cornforth,” (December 5, 1966) Box 34, Archive collection of Professor James Lovelock, Science Museum Library and Archives (Science Museum London), courtesy of DeSmog, <https://legacy.www.documentcloud.org/documents/27885492-lord-rothschild-confidential-memo-to-methane-study-group-5121966>.
- 6 Shell Methane Study Group, “Discussion on Possible Uses of Methane” (November 1, 1966), Archive collection of Professor James Lovelock, Box 34, Science Museum Library and Archives (Science Museum London), courtesy of DeSmog, <https://www.documentcloud.org/documents/27693885-discussion-on-possible-uses-of-methane-shell-centre-october-25th-1966/?mode=document#document/p7/a2805087,7>.
- 7 Robert W. Welch et al., “Putting Gas Range Emissions in Perspective,” *American Gas Association Monthly* (February 1982), University of California San Francisco Industry Documents Library, <https://www.documentcloud.org/documents/23598342-putting-gas-range-emissions-in-perspective/?mode=document#document/p1/a2203671,1>.

- 8 *Proceedings of the Natural Gas Association of America, Second Annual Meeting* (1907) (Natural Gas Association of America, 1909) <https://legacy.www.documentcloud.org/documents/23991851-proceedings-natural-gas-association-of-america/#document/p209/a2674462,209>.

I. THE INVENTION OF THE CLEAN GAS MYTH

But new research elaborated on further risks connected to residential use of natural gas. A physician presenting at the National Conference on Air Pollution in 1962, for example, described indoor gas appliances as “major sources” of contaminants, noting that “indoor air contamination is such a frequent cause of chronic illness in susceptible persons that it must be evaluated and preferably controlled.”⁹

A 1970 study by the federal National Air Pollution Control Administration brought attention to emissions from gas combustion when it showed a link between exposure to nitrogen dioxide (NO₂) and respiratory issues in children living in Chattanooga, Tennessee.¹⁰ Although the study only considered outdoor pollutants, it led to formalized research on indoor sources of air pollution, such as a 1973 preliminary study conducted by the newly-founded U.S. Environmental Protection Agency (EPA) that found “significantly more acute lower respiratory illness” in homes with gas stoves.¹¹

Gas utilities and pipeline companies noted this health research with particular concern because it threatened to exacerbate what was already the industry’s most immediate issue: competition from residential electrification.¹² During the housing boom of the early 1970s, new homes were increasingly designed with electric rather than gas power in mind. Whereas heating systems, for example, had typically been powered by natural gas for the first half of the twentieth century, electricity began steadily catching up to natural gas’ share of the heating market between the 1950s and 1970s.¹³ The gas industry’s recognition of this competition from electrification inspired it to build a counter-narrative centered on the purported benefits of natural gas, launching a “Total Industry Marketing Effort” aimed at stimulating industrial, commercial, and household sales.¹⁴

Study Links Respiratory Illness To Use of Gas Stoves in Homes

By GLADWIN HILL

DURHAM, N. C. — Studies as age, socio-economic status made by the Environmental Protection Agency have yielded “preliminary” indications that people who live in homes with gas stoves are more susceptible to respiratory ailments than people who use other cooking devices. The apparent reason, according to scientists at the E.P.A.’s National Environmental Research Center here, is that gas stoves produce nitrogen dioxide — a major air pollutant — in transitory concentrations up to 20 times the Federal air quality standard as an annual average. The studies involved eight months’ close observation of the health of the members of 87 families with gas stoves in Riverhead, L.I., and 59 comparable Riverhead families without gas stoves. Detailed measurements of gas-stove performance characteristics under typical conditions were made in a home built in the post-war era, in which the incidence of “acute lower respiratory illness” in mothers was 30 per cent greater than among mothers in families with other types of stoves. With fathers and school children, presumably less exposed than mothers to stove fumes, the illness incidence was 10 per cent higher in gas-stove families. The findings do not imply much trouble for individuals, because the national average incidence of all respiratory ailments is only 1.2 per person per year. “But increases of as much as 30 per cent in lower respiratory ailments among millions of people added to the data from a continuing E.P.A. study of air quality effects on 250,000 persons across the country. The report made no recommendation about gas-stove use. The Federal air quality standard for nitrogen dioxide is 0.08 parts per million per year. The findings were an extension of a nationwide study of the influence of outside factors on air pollution. The Riverhead observations were conducted from October, 1970, through May, 1971. Families were selected every two weeks about their health records. Riverhead was chosen because its general air pollution level was low, lessening the center’s division of effects by the influence of outside factors. The reason a gas flame produces nitrogen dioxide where electric heating unit, for example, does not, is that gas combustion consumes oxygen from the air, leaving residual nitrogen, a constituent of air. A gas flame at its core may be as hot as 2,000 degrees Fahrenheit. This is hot enough to combine nitrogen and oxygen with free oxygen. Measurements in the test kitchen during typical meal preparation indicated nitrogen dioxide levels at the distance of a housewife’s head ranging from 2 parts per million—four times the Federal health standard—when only the oven was used for 30 minutes, to 20 parts per million when the oven and three surface burners were used for 75 minutes, with a hood-type exhaust fan. A series of simultaneous measurements indicated that six feet from the stove, fume concentrations were only one-fourth the level at the stove. The study did not touch on gas heaters. But engineers suggested informally that because of the generally rigorous venting requirements of such units and because of their relative remoteness from people groups was considered to be in a household, any nitrogen dioxide production would factors in the comparison, such as negligible.

The New York Times
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- 9 National Conference on Air Pollution Proceedings (U.S. Department of Health, Education, and Welfare, December 10-12 1962), Washington D.C., <https://www.documentcloud.org/documents/23826352-national-conference-on-air-pollution-proceedings-december-2961/#document/p2/a2260632>, 2; National Conference on Air Pollution Proceedings, <https://www.documentcloud.org/documents/23826352-national-conference-on-air-pollution-proceedings-december-2961/#document/p2/a2260631>, 2.
- 10 Carl M. Shy et al., The Chattanooga School Children Study: Effects of Community Exposure to Nitrogen Dioxide, *Journal of the Air Pollution Control Association* (1970), <https://www.documentcloud.org/documents/23606344-the-chattanooga-school-children-study-effects-of-community-exposure-to-nitrogen-dioxide/?mode=document#document/p2/a2249865>, 2.
- 11 “Air Pollution Abstracts, Issues 5-8,” (U.S. Environmental Protection Agency, May 1975), <https://www.documentcloud.org/documents/23684646-air-pollution-abstracts-vol-6-issues-5-8/#document/p1/a2209215>.

- 12 “Account Summary for American Gas Association,” August 1st 1970, J. Walter Thompson Review Board Records, Box 4, David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://legacy.www.documentcloud.org/documents/25511673-aga-minutes-1971-pt-1_box-4_jwt-review-board-records-consult-library-for-copyright-information#document/p5/a2623079, 5.
- 13 “Heating fuel choice shows electricity and natural gas roughly equal in newer homes,” Today In Energy, U.S. Energy Information Administration, August 24, 2012, <https://www.eia.gov/todayinenergy/detail.php?id=7690>.
- 14 W. Morton Jacobs, “The President’s Page,” *American Gas Association Monthly*, (March 1969), U.S. Library of Congress, <https://legacy.www.documentcloud.org/documents/23812229-aga-monthly-196901#document/p3/a2255994>, 3; “1971 Residential Advertising Plans & Recommendations for American Gas Association,” J. Walter Thompson Review Board Records, Box 4, David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://legacy.www.documentcloud.org/documents/25511673-aga-minutes-1971-pt-1_box-4_jwt-review-board-records-consult-library-for-copyright-information#document/p30/a2623119, 30.

1.2

Advertising and Public Relations Firms Recommend a “Clean” Approach

It was in this context that gas utilities and pipeline companies, operating through the trade group the American Gas Association (AGA), turned to the public relations industry — the myth-makers of corporate America — for solutions.

In the first half of the 1970s, AGA worked with top advertising and public relations firms J. Walter Thompson, Hill & Knowlton, and Burson-Marsteller to redefine the public image of the gas industry, creating a concept that would prove to be long-lasting and highly effective. Records from J. Walter Thompson’s advertising campaigns for AGA reveal the internal polling and strategy that guided the industry’s efforts to brand natural gas as “clean.”

Decades before it formed the basis of a radical expansion of natural gas infrastructure in the 2000s, “clean gas” was conceived with narrower goals in mind. In 1971, with residential electrification threatening what AGA president Jack Tankersley described as the “heart of any gas company’s business,”¹⁵ the industry was determined to respond. As J. Walter Thompson’s strategic recommendations to AGA clearly explained, “gas utilities must maintain their residential market,” which provided half of its revenue while only consuming one-third of total gas produced.¹⁶



An advertisement in April 1973 featuring the “Gas: clean energy for today and tomorrow” public relations campaign. ([American Gas Association Monthly](#))

15 “1971 Residential Advertising Plans & Recommendations for American Gas Association,” J. Walter Thompson Review Board Records, Box 4, David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://legacy.www.documentcloud.org/documents/25511674-aga-minutes-1971-pt-2_box-4_jwt-review-board-records-consult-library-for-copyright-information#document/p55/a2623248, 55.

16 “1971 Residential Advertising Plans & Recommendations for American Gas Association,” J. Walter Thompson Review Board Records, Box 4, David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://legacy.www.documentcloud.org/documents/25511673-aga-minutes-1971-pt-1_box-4_jwt-review-board-records-consult-library-for-copyright-information#document/p21/a2822412, 21.

Those margins made protecting the profitable residential market a top priority for the industry, but negative public perceptions of gas threatened to undermine that goal.

I. THE INVENTION OF THE CLEAN GAS MYTH

An internal 1970 public opinion survey conducted by the Interstate Natural Gas Association of America (INGAA), a trade organization representing gas pipeline companies found that **69 percent of respondents viewed electric energy as the “Fuel of [the] Future,” compared to just 15 percent for natural gas.**¹⁷ Although respondents overwhelmingly saw gas as better than oil on several key issues, it trailed electric power by a significant margin on air pollution, safety, and, in particular, cleanliness. “Rich or poor, young or old, in survey after survey, men and women everywhere see gas as more of a pollutant than electricity,” a J. Walter Thompson advertising strategy document for AGA summarized.¹⁸

This was a problem since other polling noted that concern for environmental issues was near universal.¹⁹ Moreover, the perception of gas as polluting was especially pronounced among younger people — the industry’s “prime customers of the future.”²⁰ All of this led J. Walter Thompson’s advertising executives to conclude that **“the gas industry has a long way to go to convince people that gas is on the side of a clean ecology.”**²¹

“Rich or poor, young or old, in survey after survey, men and women everywhere see gas as more of a pollutant than electricity.”

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- 17 “1971 Residential Advertising Plans & Recommendations for American Gas Association,” J. Walter Thompson Review Board Records, Box 4, David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://legacy.www.documentcloud.org/documents/25511674-aga-minutes-1971-pt-2_box-4_jwt-review-board-records-consult-library-for-copyright-information/#document/p10/a2677559, 10.
- 18 “1973 Advertising Plans and Recommendations for American Gas Association,” J. Walter Thompson Review Board Records, Box 4, David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://www.documentcloud.org/documents/25511677-aga-minutes-1973_box-4_jwt-review-board-records-consult-library-for-copyright-information/#document/p35/a2623828, 35.
- 19 “1972 Residential Advertising Plans & Recommendations for American Gas Association,” J. Walter Thompson Review Board Records, Box 4, David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://www.documentcloud.org/documents/25511676-aga-minutes-1972-pt-2_box-4_jwt-review-board-records-consult-library-for-copyright-information/#document/p15/a2623647, 15.
- 20 “1972 Residential Advertising Plans & Recommendations for American Gas Association,” J. Walter Thompson Review Board Records, Box 4, David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://legacy.www.documentcloud.org/documents/25511676-aga-minutes-1972-pt-2_box-4_jwt-review-board-records-consult-library-for-copyright-information/#document/p40/a2623692, 40.
- 21 “1972 Residential Advertising Plans & Recommendations for American Gas Association,” J. Walter Thompson Review Board Records, Box 4, David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://legacy.www.documentcloud.org/documents/25511676-aga-minutes-1972-pt-2_box-4_jwt-review-board-records-consult-library-for-copyright-information/#document/p40/a2623690, 40.



PHOTO: DOCUMERICA

1.3

Gas Consultants Recognize a “Lack of Clear, Simple Substantiating Facts”

A significant obstacle, as the gas industry and their public relations advisors saw it, was the industry's failure to effectively communicate the positive aspects of its product compared to its competitors. A 1971 J. Walter Thompson advertising plan for AGA reported the success of the electric power industry in positioning itself as the clean, environmentally-conscious option despite its reliance on highly-polluting coal. “Although gas is, of course, less of a pollutant (virtually no pollutant at all),” the document explained, “the INGAA study shows the public perceives electricity as the clean air fuel.”²² The plan attributed this perception to “the greater amount of electric advertising over the years which has stressed ‘cleanliness’ — and the growing number of electric ads recently on ecology.”²³

To compete, J. Walter Thompson recommended that gas develop its own clean campaign for advertising gas to consumers: “with the growing importance of environmental considerations in all purchase decisions, the need for gas to identify itself as a ‘clean’ energy and to communicate its ecology story is strongly indicated.”²⁴ Confidential internal communication documents from the early 1970s show how the gas utilities and their hired strategists pointed to what J. Walter Thompson's executives described as “a strong, powerful and truthful”

story of their client's product.²⁵ When compared to coal, the ad-men recognized “that [the] environmental benefits of gas represent a real plus that should be exploited to [the] extent possible.”²⁶ To change the image of gas, J. Walter Thompson advised AGA that it needed to engage in “consumerism advertising” because the industry had “a strong and positive story to tell. This is not true of every company or industry, but it is for gas.”²⁷ The advertising experts even wondered if they could “bill Gas as ‘the cleanest energy there is.’”²⁸

Despite these bold statements, the industry's advisors at J. Walter Thompson identified a problem: a distinct lack of evidence to support that “truthful” story.

“The agency's attempt to create advertising positioning the environmental qualities of gas in a strong and positive way,” J. Walter Thompson acknowledged in a 1972 internal review, “has been mitigated to an extent by ... the lack of clear, simple substantiating facts on the pollution aspects of natural gas.”²⁹

22 “1971 Residential Advertising Plans & Recommendations for American Gas Association,” J. Walter Thompson Review Board Records, Box 4, David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://legacy.www.documentcloud.org/documents/25511673-aga-minutes-1971-pt-1_box-4_jwt-review-board-records-consult-library-for-copyright-information#document/p38/a2623126, 38. Original emphasis.

23 “1971 Residential Advertising Plans & Recommendations for American Gas Association,” J. Walter Thompson Review Board Records, Box 4, David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://legacy.www.documentcloud.org/documents/25511673-aga-minutes-1971-pt-1_box-4_jwt-review-board-records-consult-library-for-copyright-information#document/p38/a2623126, 38.

24 “1971 Residential Advertising Plans & Recommendations for American Gas Association,” J. Walter Thompson Review Board Records, Box 4, David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://legacy.www.documentcloud.org/documents/25511673-aga-minutes-1971-pt-1_box-4_jwt-review-board-records-consult-library-for-copyright-information#document/p38/a2623127, 38. Original emphasis.

25 “1971 Residential Advertising Plans & Recommendations for American Gas Association,” J. Walter Thompson Review Board Records, Box 4, David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://legacy.www.documentcloud.org/documents/25511673-aga-minutes-1971-pt-1_box-4_jwt-review-board-records-consult-library-for-copyright-information#document/p32/a2623121, 32.

26 “Report on American Gas Association account,” February 23, 1972, J. Walter Thompson Review Board Records, Box 4, David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://legacy.www.documentcloud.org/documents/25511675-aga-minutes-1972-pt-1_box-4_jwt-review-board-records-consult-library-for-copyright-information/#document/p160/a2623627, 160.

27 “1971 Residential Advertising Plans & Recommendations for American Gas Association,” J. Walter Thompson Review Board Records, Box 4, David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://legacy.www.documentcloud.org/documents/25511673-aga-minutes-1971-pt-1_box-4_jwt-review-board-records-consult-library-for-copyright-information#document/p50/a2677573, 50.

28 “Report on American Gas Association account,” February 23, 1972, J. Walter Thompson Review Board Records, Box 4; David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://www.documentcloud.org/documents/25511676-aga-minutes-1972-pt-2_box-4_jwt-review-board-records-consult-library-for-copyright-information/?mode=document#document/p4/a2677574, 4.

29 “1972 Advertising Plans & Recommendations for American Gas Association,” J. Walter Thompson Review Board Records, Box 4, David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://legacy.www.documentcloud.org/documents/25511675-aga-minutes-1972-pt-1_box-4_jwt-review-board-records-consult-library-for-copyright-information/#document/p19/a2623517, 19.

“ [Natural gas] could well mean the solution to the opponent dilemma which exists between a clean environment and an adequate supply of energy. ”

While natural gas is held to be a clean fuel and virtually non-pollutant, it is not recognized as such by the public.

The agency's attempt to create advertising positioning the environmental qualities of gas in a strong and positive way has been mitigated to an extent by two factors:

- 1) the lack of clear, simple substantiating facts on the pollution aspects of natural gas; and

An internal memo from the advertising firm J. Walter Thompson discussing the obstacles to AGA's "clean" natural gas campaign. (Rubenstein Library, [Duke University](#))

In public, however, representatives of the gas industry were adamant that the facts were on their side. The electric industry relied heavily on coal, a highly polluting fuel responsible for killer smogs during the 1960s,³⁰ and the gas industry, which produced few sulfur emissions compared to coal, began to position its product as the answer to the nation's environmental and energy needs. A 1972 draft paper produced by AGA for the National Industrial Pollution Control Council (NIPCC), an industry advisory council reporting to the U.S. Department of Commerce, provides details of one of the industry's earliest attempts to publicly frame gas as "A Solution" to environmental problems despite an inside awareness of its own pollution problems.³¹ According to the paper, expanding the availability of gas constituted an environmental win almost by default and "could well mean the solution to the opponent dilemma which exists between a clean environment and an adequate supply of

energy."³² While the original draft referenced "nitrogen oxides" as a by-product of burning gas, the published version of the report omitted any mention of gas' NO_x or NO₂ problem, stating only that "the major limitation of natural gas as an energy source is its availability, not its environmental impact."³³

Behind the scenes, gas utility executives were also aware of the limitations of gas' purported environmental benefits. NIPCC minutes show CEOs from Pacific Gas & Electric and other gas utilities noting the industry's vulnerability to bad publicity over pollution concerns and recommending "that the gas industry take a look at the NO_x problem."³⁴

30 Jim Dwyer, 'Remembering a City Where the Smog Could Kill,' February 28, 2017, *The New York Times*, <https://www.nytimes.com/2017/02/28/nyregion/new-york-city-smog.html>; John F. Kennedy, "Special Message to the Congress on Improving the Nation's Health," speech, February 7, 1963, *The American Presidency Project*, <https://www.presidency.ucsb.edu/documents/special-message-the-congress-improving-the-nations-health>.

31 "Energy and the Environment ... A Crisis" "Natural Gas ... A Solution," American Gas Association Draft Report for the Utilities SubCouncil of the National Industrial Pollution Control Council, Walter A. Hamilton's Subject Files, 1967-1973, Records of the Department of Commerce (RG 40), United States National Archives and Records Administration, https://www.documentcloud.org/documents/23690657-197216_energy_and_the_environment_a_crisis_aga_draft_report_plus_cover_letter_to_nipcc_exec_director/#document/p1/a2216237, 1.

32 "Energy and the Environment ... A Crisis" "Natural Gas ... A Solution," (1972), https://www.documentcloud.org/documents/23690657-197216_energy_and_the_environment_a_crisis_aga_draft_report_plus_cover_letter_to_nipcc_exec_director/?mode=document#document/p29/a2814884, 29.

33 "The Natural Gas Industry and the Environment," (National Industrial Pollution Control Council, August 1972), accessed via Hathi Trust, https://legacy.www.documentcloud.org/documents/23690660-the_natural_gas_industry_and_the_environment_final_nipcc_report/#document/p7/a2773380, 7.

34 "Minutes, Meeting of the NIPCC Utilities Sub-Council," (National Industrial Pollution Control Council, September 28, 1970) Records of the Department of Commerce RG 40; United States National Archives and Records Administration, https://www.documentcloud.org/documents/23690658-1970928_minutes_of_nipcc_utilities_sub-council/?mode=document#document/p4/a2215438, 4.

1.4

Public Relations Advisors Propose a Strategy to Control the Narrative

In 1972, AGA and INGAA called on public relations firm Hill & Knowlton to advise the industry on how to deal with growing public concerns over pollution. Like the executives at J. Walter Thompson, Hill & Knowlton identified a lack of sufficient information about the gas industry's "relationship to the environment,"³⁵ but the firm also offered a proactive alternative for addressing this information gap, counseling industry executives on the value of developing a collective response to its critics through a research program that would enable the industry to shape public narratives around gas. In a 1972 presentation at a joint AGA-INGAA public relations summit, Hill & Knowlton CEO Richard W. Darrow pointed to the research that linked gas appliances with health harms as emblematic of the problem the industry faced. "We have seen lesser criticisms, first appearing in relatively obscure publications, grow to the point where industry must spend endless hours in researching the facts and making these facts known to both the scientific community and the general public," he lamented.³⁶

The industry needed "useful" data to respond to the public's concerns, according to Darrow: "Do we know enough about pollution within the home? And can we say something useful about this problem that will be of help to the consumer, either in quieting his fears or in actually reducing any amount of grease and dirt connected with the use of gas appliances?"³⁷ Darrow proposed a research program as a way to credibly



Hill & Knowlton CEO Richard Darrow, a long-time PR consultant to the oil, gas, and tobacco industries. (PhiGam Archives)

relieve even valid environmental concerns and stay in control of the public narrative. "There are, of course, some environmental problems related to the production, distribution and use of natural gas," Darrow told the assembled gas executives. "These, too, should be recognized and the story of what the industry is doing to solve these problems should be told in detail."³⁸

Darrow impressed upon his audience the value of the gas industry developing its own evidence to support any claims that it made. "Continuing research, continuing action, continuing planning on the issues that affect your business must be part of your daily activities," he urged.³⁹ But his talk — tellingly entitled "How to Communicate in a Crisis" — also emphasized the urgency with which the industry needed to act. An effective public relations campaign, Darrow advised,

35 Richard W. Darrow, "How To Communicate In A Crisis," *Critical Issues in Public Relations* (Hill & Knowlton, 1975), <https://legacy.www.documentcloud.org/documents/23795870-how-to-communicate-in-a-crisis/#document/p7/a2381560>, 6.

36 Darrow, "How To Communicate In A Crisis," <https://legacy.www.documentcloud.org/documents/23795870-how-to-communicate-in-a-crisis/#document/p7/a2249849>, 7.

37 Darrow, "How To Communicate In A Crisis," <https://www.documentcloud.org/documents/23795870-how-to-communicate-in-a-crisis/?mode=document#document/p7/a2249850>, 7.

38 Darrow, "How To Communicate In A Crisis", <https://www.documentcloud.org/documents/23795870-how-to-communicate-in-a-crisis/?mode=document#document/p7/a2249851>, 7.

39 Darrow, "How To Communicate In A Crisis," <https://legacy.www.documentcloud.org/documents/23795870-how-to-communicate-in-a-crisis/#document/p2/a2249844>, 2.

I. THE INVENTION OF THE CLEAN GAS MYTH

should “explain as fully as possible what the situation is, how we are part of the problem, what we are doing about it, what it will cost us, what it will cost the public and what problems are presently beyond solution.”⁴⁰ He emphasized, “we should do this before the critics take the floor and demand it.”⁴¹ Darrow noted that a successful campaign would require a proactive approach, since critics tended to “come back again and again with new facts or alleged facts, with new allies and with new proposals for regulation and restrictions.”⁴² Waiting too long could have significant implications such as increased pollution controls.⁴³

Darrow, the Hill & Knowlton CEO who had spent many years working with the oil, gas, and tobacco industries,⁴⁴ advised his audience of gas executives that they must be willing “to mount the adequate, consistent, long-range public relations programs necessary to cope.”⁴⁵

Such a campaign was absolutely necessary, he warned: “In today’s climate there is no place for the American businessman to hide.” The long-term investment was worth it, according to Darrow, because it would enable the gas industry “to become involved in the ferment and hopefully to play a significant role in shaping the decisions that will affect the future course of the nation—and, not so incidentally, the ability of business to keep on making fair profits.”⁴⁶

“In today’s climate there is no place for the American businessman to hide.”

A year later, Darrow’s colleague, Hill & Knowlton executive vice president Carl Thompson, echoed a similar message about controlling the narrative to AGA and its members. “If you don’t help inform them ... they’ll get all of their information from your critics,” Thompson explained.⁴⁷ Overall, Darrow advised the gas industry to position itself as a good partner to the environment. “The gas industry perhaps has not talked widely and extensively enough about its relationship to the environment,” he observed. “Your activities in the environmental field are a plus that can help build credibility with the public.”⁴⁸

In line with this advice, a major portion of AGA’s ensuing research plan was explicitly conceived to identify environmental benefits of gas, which the industry would then be able to publicize. “Gas has been labeled the environmental fuel; for many consuming sectors, it is the only environmentally acceptable energy option,” a 1974 AGA document explained. “Hence, the desire to maintain, preserve and improve the quality of the environment is a fundamental and integral component of the research plan.”⁴⁹

Meanwhile, AGA began funding its own studies into the health impacts of gas stove emissions as part of a long-term program that would eventually allow the industry to obtain its own facts to deflect indoor pollution concerns and maintain its “clean gas” myth.⁵⁰

40 Darrow, “How To Communicate In A Crisis,” <https://www.documentcloud.org/documents/23795870-how-to-communicate-in-a-crisis/?mode=document#document/p9/a2249860>, 9.

41 Darrow, “How To Communicate In A Crisis,” <https://www.documentcloud.org/documents/23795870-how-to-communicate-in-a-crisis/?mode=document#document/p9/a2249860>, 9.

42 Darrow, “How To Communicate In A Crisis,” <https://www.documentcloud.org/documents/23795870-how-to-communicate-in-a-crisis/#document/p2/a2249843>, 2.

43 Darrow, “How To Communicate In A Crisis,” <https://legacy.www.documentcloud.org/documents/23795870-how-to-communicate-in-a-crisis/#document/p10/a2677591>, 10.

44 Darrow, “How To Communicate In A Crisis,” <https://www.documentcloud.org/documents/23795870-how-to-communicate-in-a-crisis/?mode=document#document/p4/a2249845>, 4.

45 Darrow, “How To Communicate In A Crisis,” <https://www.documentcloud.org/documents/23795870-how-to-communicate-in-a-crisis/#document/p2/a2249843>, 2.

46 Darrow, “How To Communicate In A Crisis,” <https://www.documentcloud.org/documents/23795870-how-to-communicate-in-a-crisis/?mode=document#document/p3/a2351880>, 3.

47 “Public Relations Workshop,” *American Gas Association Monthly* (June 1973), U.S. Library of Congress, <https://www.documentcloud.org/documents/23698585-aga-197306-gas-utility-industry-projections-to-1990/#document/p12/a2217052>, 11.

48 Darrow, “How To Communicate In A Crisis,” <https://legacy.www.documentcloud.org/documents/23795870-how-to-communicate-in-a-crisis/#document/p7/a2381560>, 7.

49 “A Long Range Industry Research Plan,” *American Gas Association Monthly* (February 1974), U.S. Library of Congress, <https://legacy.www.documentcloud.org/documents/23697781-aga-monthly-197402/#document/p5/a2667978>, 5.

50 Rebecca John, “Burning Questions: A history of the gas industry’s campaign to manufacture controversy over the health risks of gas stove emissions,” (Climate Investigations Center, 2023), https://climateinvestigations.org/wp-content/uploads/2023/10/Burning-Questions_Climate-Investigations-Center.pdf.

1.5

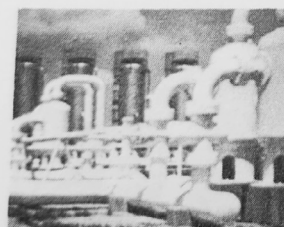
The Gas Industry Launches its “Clean Energy” Campaign

The gas industry pursued a public relations strategy intended to counteract concerns about its product — even in the absence of the “substantiating facts” needed to support its core claims.⁵¹

Notably, the industry adopted almost exactly the same public messaging strategy that their competitors, the electric power utilities, had used to such great effect. J. Walter Thompson's 1972 advertising plan for the AGA announced the industry's communications theme: “GAS, CLEAN ENERGY FOR TODAY AND TOMORROW.”⁵²

This framing was a direct response to the polling about consumers' perceptions of gas, including the impression that it was an environmental pollutant, that it made the home dirty, and that electric power instead was the energy of the future. The J. Walter Thompson plan explained that the clean gas communications strategy would emphasize that gas “burns with no smoke and virtually no emissions,” that it “is clean energy,” that it “does not ruin the air we breathe,” and that it “can help us have a cleaner world.”⁵³ Delighted with the advertising plan, AGA's Marketing Executive Committee embraced the strategy, and in 1972, the myth of “clean gas” was born.⁵⁴

- 51 “1972 Advertising Plans & Recommendations for American Gas Association,” https://legacy.www.documentcloud.org/documents/25511675-aga-minutes-1972-pt-1_box-4_jwt-review-board-records-consult-library-for-copyright-information/#document/p19/a2623517, 19.
- 52 “1972 Advertising Plans & Recommendations for American Gas Association,” https://www.documentcloud.org/documents/25511675-aga-minutes-1972-pt-1_box-4_jwt-review-board-records-consult-library-for-copyright-information/?mode=document#document/p12/a2623503, 12.
- 53 “1972 Advertising Plans & Recommendations for American Gas Association,” https://www.documents/25511675-aga-minutes-1972-pt-1_box-4_jwt-review-board-records-consult-library-for-copyright-information/?mode=document#document/p20/a2623522, 20.
- 54 “1972 Advertising Plans & Recommendations for American Gas Association,” https://legacy.www.documentcloud.org/documents/25511675-aga-minutes-1972-pt-1_box-4_jwt-review-board-records-consult-library-for-copyright-information/#document/p12/a2623503, 12; “Client Presentation Follow Up Report, American Gas Association account,” J. Walter Thompson Review Board Records, Box 4, David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://legacy.www.documentcloud.org/documents/25511675-aga-minutes-1972-pt-1_box-4_jwt-review-board-records-consult-library-for-copyright-information#document/p163/a2623629, 163.



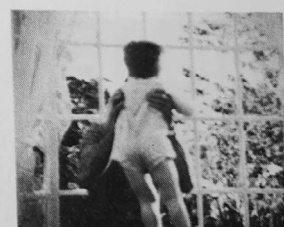
13. And turn them into clean gas energy. Gas is the clean way to heat your home,



14. Dry your clothes and bake your pies.



15. That's why we have to keep working for plenty of gas supplies.



16. It's going to take money, it's going to take time.



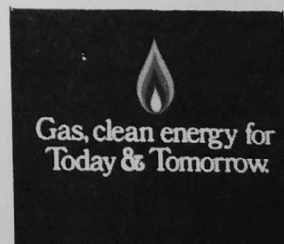
17. Meanwhile we'll keep coming through if your home has gas.



18. You can rest assured



19. we'll keep the gas coming to you.



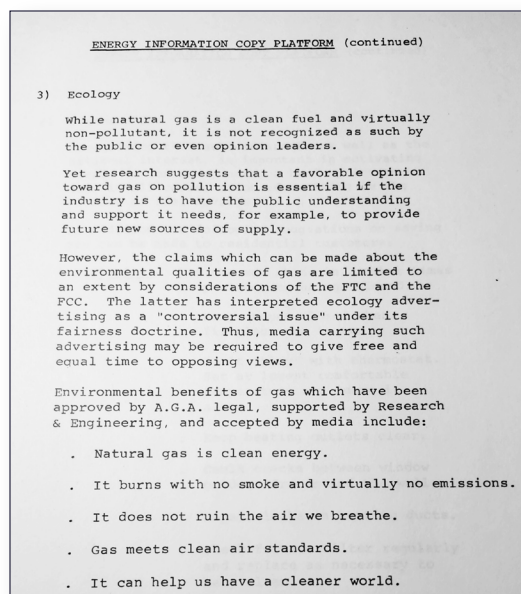
20. (MUSIC)

A story board J. Walter Thompson created for AGA, advertising gas as “clean energy” on television. (Rubenstein Library, Duke University)

“Your home, the air you breathe, the world are cleaner for gas.”

AGA recognized that changing the public's view of gas, especially on environmental issues, represented a long-term initiative. The J. Walter Thompson plan for AGA complemented Hill & Knowlton's advice, emphasizing that it would “take time and continuity to create awareness or to achieve a change in attitudes toward the gas industry on these subjects. Such advertisements must sell intangibles or ideas which can be more difficult even than creating product preference.”⁵⁵ With that goal in mind, much of the gas industry's advertising from this period emphasized the general concept of clean gas rather than focusing on any specific benefits that it offered consumers. A typical AGA advertisement, included in a 1971 planning document, called gas “a clean energy that doesn't dirty the air” and framed it as part of a broader solution in “the fight against pollution.”⁵⁶

AGA ads produced by J. Walter Thompson in 1972 repeated this mantra of gas as “clean energy,”⁵⁷ extolling the benefits of a “clean gas heat world”⁵⁸ and promising, “Your home, the air you breathe, the world are cleaner for gas.”⁵⁹



Central messaging approved by AGA for its “clean” natural gas campaign, run by J. Walter Thompson. (Rubenstein Library, Duke University)

The industry closely monitored the effectiveness of this advertising and the impact it had on the public's perception of gas.⁶⁰ A 1973 document explained that the “‘Gas, Clean Energy for Today and Tomorrow’ theme” had been “shown by research to communicate [a] strong positive image for gas and [the] gas industry.”⁶¹ By 1974, AGA was already seeing the positive effects of its “clean” campaign. According to updated polling, “[t]he public's poor image of gas on pollution improved significantly in the past year — the gain occurring almost entirely among people exposed to A.G.A.'s messages.”⁶²

55 “1972 Residential Advertising Plans & Recommendations for American Gas Association,” https://www.documentcloud.org/documents/25511676-aga-minutes-1972-pt-2_box-4_jwt-review-board-records-consult-library-for-copyright-information/?mode=document#document/p15/a2623655, 15.

56 “1971 Residential Advertising Plans & Recommendations for American Gas Association,” J. Walter Thompson Review Board Records, Box 4, David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://legacy.www.documentcloud.org/documents/25511674-aga-minutes-1971-pt-2_box-4_jwt-review-board-records-consult-library-for-copyright-information#document/p20/a2623192, 20.

57 “1972 Advertising Plans & Recommendations for American Gas Association,” https://legacy.www.documentcloud.org/documents/25511675-aga-minutes-1972-pt-1_box-4_jwt-review-board-records-consult-library-for-copyright-information#document/p62/a2623562, 62.

58 “1972 Advertising Plans & Recommendations for American Gas Association,” https://www.documentcloud.org/documents/25511675-aga-minutes-1972-pt-1_box-4_jwt-review-board-records-consult-library-for-copyright-information/#document/p65/a2623571, 65.

59 “1972 Advertising Plans & Recommendations for American Gas Association,” https://legacy.www.documentcloud.org/documents/25511675-aga-minutes-1972-pt-1_box-4_jwt-review-board-records-consult-library-for-copyright-information#document/p59/a2623557, 59.

60 “1973 Confidential Account Summary for American Gas Association account,” Box 4, J. Walter Thompson Review Board Records, David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://www.documentcloud.org/documents/25511677-aga-minutes-1973_box-4_jwt-review-board-records-consult-library-for-copyright-information/?mode=document#document/p7/a2623805, 7.

61 “1973 Confidential Account Summary for American Gas Association account,” https://www.documentcloud.org/documents/25511677-aga-minutes-1973_box-4_jwt-review-board-records-consult-library-for-copyright-information/?mode=document#document/p7/a2623803, 7.

62 “1974 Advertising Plans & Recommendations for American Gas Association,” J. Walter Thompson Review Board Records, Box 4, David M. Rubenstein Rare Book & Manuscript Library, Duke University, https://legacy.www.documentcloud.org/documents/25511672-aga-minutes-1974_box-5_jwt-review-board-records-consult-library-for-copyright-information/#document/p17/a2623940, 17.

SECTION II: 1972-1981

A Strategic Response

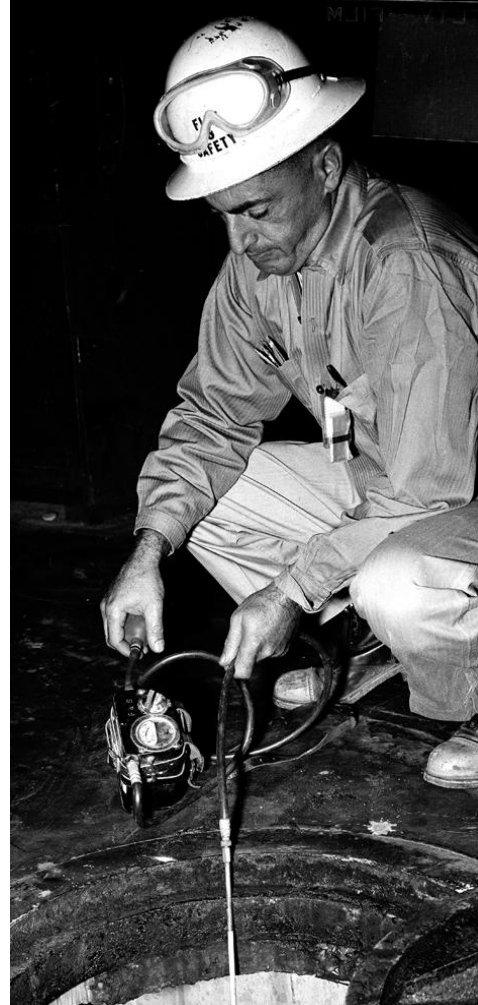
The gas industry’s campaign helped to improve public perceptions of natural gas even as it became increasingly clear that gas had significant environmental consequences. To maintain the image of gas and support expanding gas supplies, utilities and pipeline companies responded with industry-funded research, creating the Gas Research Institute (GRI) with an explicit goal of making this research appear objective. The gas industry used the GRI’s research to shape public narratives around gas. Awareness of methane emissions from gas operations became more significant after 1976, when a pivotal NASA study demonstrated that increasing methane emissions presented a climate risk. As scientific understanding of methane as a greenhouse gas advanced, a GRI-funded research project reported that oil and gas operations were responsible for excess, “off-the-record” methane emissions.

2.1

“Clean Energy” Becomes a Justification for Expansion

Although the gas industry’s new “clean energy” messaging appeared effective at combating negative environmental perceptions, AGA quickly recognized the campaign’s potential to address other issues of importance such as increasing gas supply. AGA attempted to combine these positions and frame expanding gas supply as a solution for both air pollution concerns and energy needs. For example, the 1972 AGA draft memo for NIPCC declared, “The environmental benefits of an adequate gas supply are outstanding. ... [I]t offers a very positive answer to the growing national concern about environment — the concern over pollution of our air, our water, our landscape.”⁶³

⁶³ “Energy and the Environment ... A Crisis, Natural Gas ... A Solution,” https://www.documentcloud.org/documents/23690657-197216_energy_and_the_environment_a_crisis_aga_draft_report_plus_cover_letter_to_nipcc_exec_director/?mode=document#document/p26/a2677566, 26.

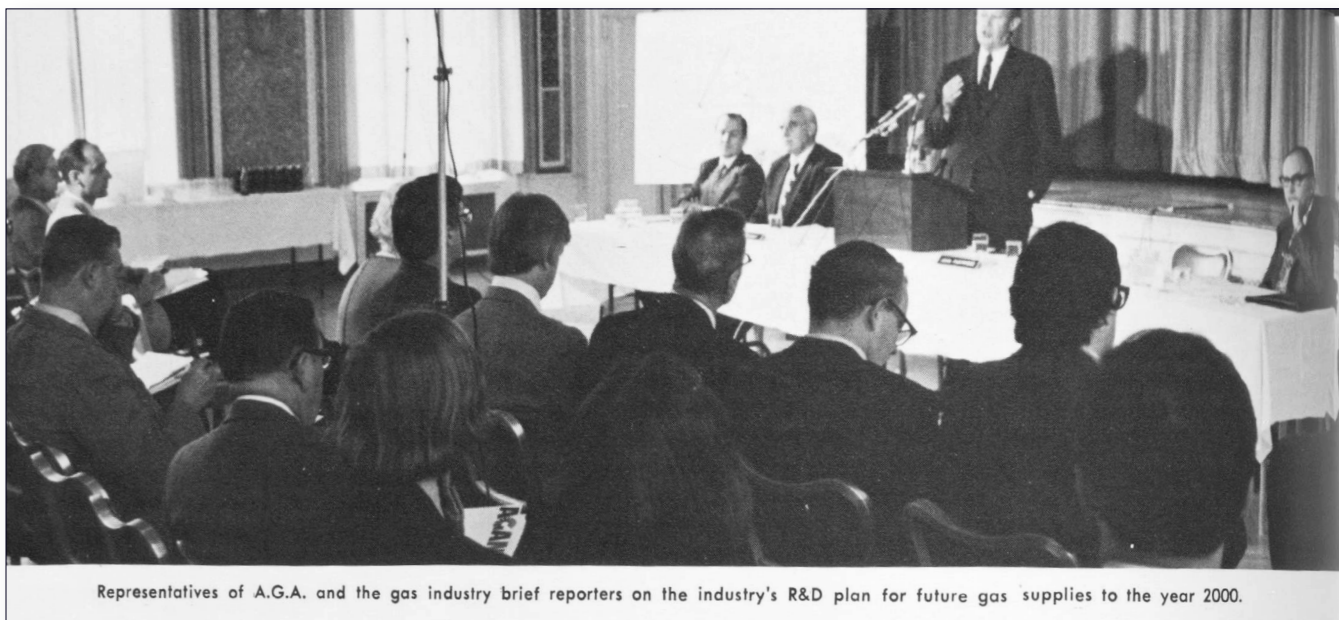


Safety director testing for dangerous gas mixtures. PHOTO: U.S. Department of Energy

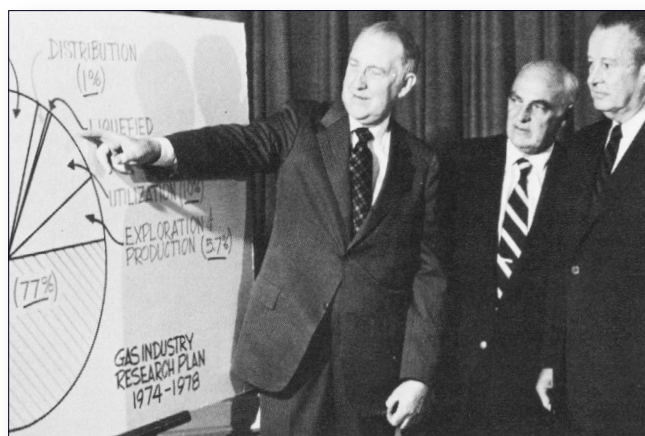


AGA’s “Gas Industry Research Plan” published in 1974 offered a vision of a vastly expanded gas industry. ([American Gas Association Monthly](#))

II. A STRATEGIC RESPONSE



This position — that expanding natural gas production was a solution to energy needs and environmental pollution — strengthened in the aftermath of the oil embargo of 1973 and influenced much of the gas industry's research and communications strategy over the following years. AGA's "Gas Industry Research Plan, 1974-2000" sought to communicate these priorities, explaining that the "purpose is first to ensure the greatest supply possible of natural gas ... and secondly to improve the efficiency and safety of our operations with due consideration for preserving and enhancing the environment."⁶⁴ It repeatedly emphasized the alignment between these two issues, promising that "new methods for making gas available will conserve environmental quality."⁶⁵ AGA touted gas as the "cleanest fuel available today" and implied that there was little room for improvement in its operations, since gas "makes use of a highly efficient and environmentally acceptable transmission and distribution system."⁶⁶



The press conference announcing the Gas Industry Research Plan in 1974.
([American Gas Association Monthly](#))

“The environmental benefits of an adequate gas supply are outstanding. ... [I]t offers a very positive answer to the growing national concern about environment — the concern over pollution of our air, our water, our landscape.”

64 *Gas Industry Research Plan 1974-2000* (American Gas Association, January 1974), University of Maryland Library, <https://legacy.www.documentcloud.org/documents/26174903-aga-gas-industry-research-plan-1974-2000/#document/p15/a2674759>, 15.

65 *Gas Industry Research Plan 1974-2000*, <https://legacy.www.documentcloud.org/documents/26174903-aga-gas-industry-research-plan-1974-2000/#document/p90/a2822413>, 90.

66 *Gas Industry Research Plan 1974-2000*, <https://legacy.www.documentcloud.org/documents/26174903-aga-gas-industry-research-plan-1974-2000/#document/p5/a2807797>, 5.

2.2

“Objective and Reliable”: The Gas Industry Seeks Credibility With a Research Organization

United by a shared interest in maintaining gas’ clean image and expanding gas supplies, gas utilities and pipeline operators created the Gas Research Institute (GRI) in 1976, using AGA’s research plan as a guide. Launched through the industry’s trade organizations, AGA and INGAA, GRI was meant to serve as a “focal point” for planning and managing cooperative gas industry research.⁶⁷ GRI would not carry out its own research but would instead finance and manage “a greatly expanded R&D program” on behalf of its gas industry members.⁶⁸

GRI embodied the blending of practical business research with the industry’s aims to promote gas as clean. As a GRI publication later explained, the intent was for it to “function as an active part of the marketing arm of the gas industry.”⁶⁹ A few years prior, public relations firm Burson-Marsteller had explained to AGA and INGAA that “credibility is best won through third-party endorsement,”⁷⁰ and GRI was formed to accomplish just that. The organization took over the majority of AGA’s research program, but created the appearance of distance from the industry.



The 1976 establishment of the Gas Research Institute fulfilled natural gas industry ambitions for an independent-seeming research body. ([American Gas Association Monthly](#))

Research would now be funded via the GRI as a “non-profit research organization”⁷¹ sometimes in collaboration with the federal government at prestigious universities,⁷² national laboratories, and well-respected external consultancies,⁷³ **intentionally building the reputation of GRI “not as a lobbying group but as an objective and reliable information source.”**⁷⁴ AGA communications placed particular emphasis on GRI’s external Advisory Council. While this heavily-publicized advisory council included individuals drawn from academic institutions and prominent environmental groups,⁷⁵ GRI was, in practice, closely governed by gas companies — all 24 members of its board of directors came from the industry.⁷⁶

67 William M. Burnett, “Getting the Job Done,” *Gas Research Institute Digest* (Summer 1992), Thomas Boulevard Library, University of Pittsburgh, <https://www.documentcloud.org/documents/24630528-grid-summer-1992/?mode=document#document/p15/a2563782>, 15.

68 W.J. Bowen, “Gas Research Institute Formed By Natural Gas Industry,” *American Gas Association Monthly* (November 1976), (American Gas Association) Library of Congress, <https://legacy.www.documentcloud.org/documents/23728253-197611-aga-monthly/#document/p1/a2234099>, 1.

69 Burnett, “Getting the Job Done,” <https://www.documentcloud.org/documents/24630528-grid-summer-1992/?mode=document#document/p14/a2563781>, 14-15.

70 Elias Buchwald, “Gas Industry Public Relations Priorities,” *American Gas Association Monthly* (October 1973), U.S. Library of Congress, <https://legacy.www.documentcloud.org/documents/23696955-aga-monthly-197310/#document/p5/a2667764>, 5.

71 Bowen, “Gas Research Institute Formed by Natural Gas Industry,” <https://legacy.www.documentcloud.org/documents/23728253-197611-aga-monthly/#document/p1/a2234098>, 1.

72 “Technical Reports,” *Gas Research Institute Digest* (Summer 1992), Thomas Boulevard Library, University of Pittsburgh, <https://www.documentcloud.org/documents/24630528-grid-summer-1992/?mode=document#document/p39/a2814395>, 39.

73 “Technical Reports,” <https://www.documentcloud.org/documents/24630528-grid-summer-1992/?mode=document#document/p39/a2814395>, 39.

74 Burnett, “Getting the Job Done,” <https://www.documentcloud.org/documents/24630528-grid-summer-1992/?mode=document#document/p14/a2563778>, 14.

75 Bowen, “Gas Research Institute Formed by Natural Gas Industry,” <https://www.documentcloud.org/documents/23728253-197611-aga-monthly/?mode=document#document/p2/a2667748>, 2.

76 “Gas Research Institute Elects Officers and Directors,” *American Gas Association Monthly* (June 1977), U.S. Library of Congress, <https://www.documentcloud.org/documents/23728418-197706-aga-monthly/?mode=document#document/p1/a2671279>, 1.

2.3

GRI: A Vehicle for Promoting Gas Supply and Deflecting Pollution Scrutiny

A primary function of GRI was figuring out how to make more gas available. One of its key stated objectives was to “provide an essentially unending ability to supply gaseous fuels to members of the consuming public in the future” through investment in technological development.⁷⁷ Like AGA, GRI relied upon the industry’s “clean energy” messaging. Because “[g]aseous fuels provide the cleanest form of primary energy,” GRI’s founding documents elaborated, “the concentrated effort of the GRI program to add to our supply of gaseous fuels will help us meet our national environmental goals.”⁷⁸

A significant part of the organization’s budget — projected at a staggering \$2.3 billion for its first five years of operation⁷⁹ — would be devoted to “tapping presently unavailable natural gas resources,” according to GRI’s first five-year plan.⁸⁰ GRI concentrated its research dollars, the majority of which came from ratepayer levies with additional funding from government and private contracts,⁸¹ on “the discovery and production of natural

gas that we feel have had inadequate emphasis in the past.”⁸² **Among these areas of research, originally outlined in 1974, was hydraulic fracturing,⁸³ a technology that would form the basis of the shale gas boom of the 2010s.**

A smaller but no less effective portion of GRI’s budget was directed toward research used to defend gas’ clean image and prevent further regulation of pollutants caused by gas use.⁸⁴ The benefits of establishing a separate research “institute” to fight regulation had been highlighted in the 1950s when Hill & Knowlton had advised gas producers that, by developing “statistical and other factual data,” such an organization would help to facilitate the industry’s public relations goals⁸⁵ — goals that included informing Americans about “the inherent evils of federal regulation.”⁸⁶ Twenty years later, Hill & Knowlton’s vision of a gas-specific research program would come to fruition in the form of GRI with the gas utilities and pipeline operators at the helm.

In the early 1970s, the gas research machine had turned toward indoor air pollution, an issue which continued to be a thorn in the side of gas utilities.⁸⁷

77 “Gas Research Institute and its Initial Five-Year R&D Program Plan,” (Gas Research Institute, October 1976), Box 361, National Audubon Society Records, New York Public Library, Manuscripts and Archives Division, <https://legacy.www.documentcloud.org/documents/25992083-audubon-b361-igt-gri-76/#document/p38/a2677537>, 38.

78 “Gas Research Institute and its Initial Five-Year R&D Program Plan,” <https://legacy.www.documentcloud.org/documents/25992083-audubon-b361-igt-gri-76/#document/p34/a2663514>, 34.

79 *Gas Industry Research Plan 1974-2000*, <https://legacy.www.documentcloud.org/documents/26174903-aga-gas-industry-research-plan-1974-2000/#document/p11/a2814435>, 11.

80 “Gas Research Institute and its Initial Five-Year R&D Program Plan,” <https://legacy.www.documentcloud.org/documents/25992083-audubon-b361-igt-gri-76/#document/p37/a2677534>, 37.

81 James M. Evans, “Overview of Gas Research Institute Environmental Research Programs,” (Gas Research Institute, May 1991), <https://www.documentcloud.org/documents/23592306-overview-of-gas-research-institute-environmental-research-programs-by-j-m-evans-gas-research-institute-chicago-illinois-1991/#document/p3/a2207156>, 3; Bowen, “Gas Research Institute Formed by Natural Gas Industry,” <https://legacy.www.documentcloud.org/documents/23728253-197611-aga-monthly/#document/p1/a2234097>, 1.

82 *Gas Industry Research Plan 1974-2000*, <https://legacy.www.documentcloud.org/documents/26174903-aga-gas-industry-research-plan-1974-2000/#document/p16/a2677536>, 16.

83 *Gas Industry Research Plan 1974-2000*, <https://legacy.www.documentcloud.org/documents/26174903-aga-gas-industry-research-plan-1974-2000/#document/p23/a2773432>, 23.

84 Raymond A. Haik and Joanne E. Hinderaker, “The Impact of Indoor Air Quality on the Gas Industry,” *Energy Law Journal Vol 5:2* (1984), <https://www.documentcloud.org/documents/23592313-the-impact-of-indoor-air-quality-on-the-gas-industry-haik-and-hinderaker-energy-law-journal-vol-5-no2-1984/#document/p4/a2216865>, 4; Rebecca John, “Burning Questions: A History of the Gas Industry’s Campaign to Manufacture Controversy over the Health Risks of Gas Stove Emissions,” https://climateinvestigations.org/wp-content/uploads/2023/10/Burning-Questions_Climate-Investigations-Center.pdf.

85 “A Long-Range Program for Natural Gas Producers,” (Hill & Knowlton, July 1956), Box 103 Folder 4, John W. Hill Papers at the Wisconsin Historical Society, Division of Library, Archives and Museum Collection, <https://legacy.www.documentcloud.org/documents/23838856-jwh-ngorc1955-56box103fldr4pt3/#document/p17/a2348340>, 17.

86 “Recommendation for Continuing Information Program For Natural Gas Producers,” (Hill & Knowlton, May 1956), Box 103 Folder 4, John W. Hill Papers at the Wisconsin Historical Society, Division of Library, Archives and Museum Collection, <https://www.documentcloud.org/documents/23838853-jwh-ngorc1955-56box103fldr4pt1/?mode=document#document/p20/a2348237>, 20.

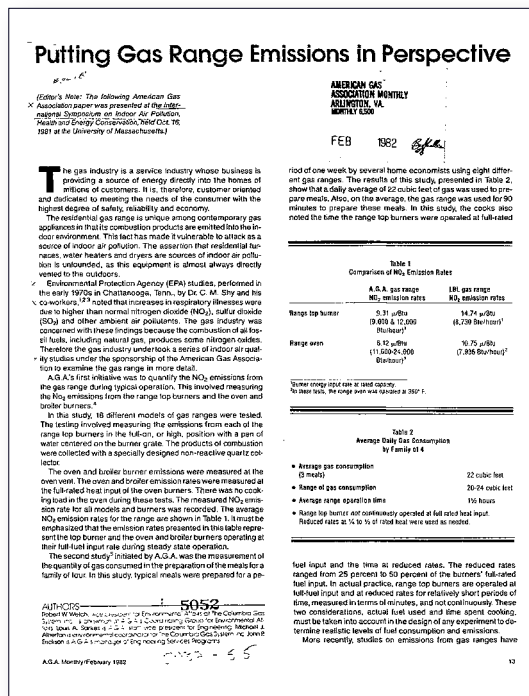
87 Welch et al., “Putting Gas Range Emissions in Perspective,” <https://www.documentcloud.org/documents/23598342-putting-gas-range-emissions-in-perspective/?mode=document#document/p1/a2203671>, 1.

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As advised by Hill & Knowlton, AGA used this research to quiet consumer fears over gas appliances, presenting the AGA-sponsored findings via speakers billed as independent scientists at air pollution meetings, health conferences, and industry summits.⁸⁸ **The success of this tactic ensured that it would be repeated in subsequent decades, forming a pattern in which industry used its self-sponsored research to undermine or discredit independent studies illustrating the harmful effects of gas emissions.**

In 1980, around the time a U.S. General Accounting Office (GAO)⁸⁹ report recommended that EPA should be authorized to deal with indoor air pollutants including NO₂ from gas appliances,⁹⁰ GRI funded two separate critiques of the scientific evidence linking emissions from indoor gas use with health harms. These GRI-funded reviews emphasized areas of uncertainty and cast doubt on the emerging consensus around gas emissions and respiratory problems,⁹¹ enabling the industry to claim publicly in the early 1980s that emissions from gas appliances did “not cause any undesirable effects.”⁹²

With the creation of GRI, the gas industry could now draw on both AGA- and GRI-funded research to claim



“Putting Gas Range Emissions In Perspective” was an AGA attempt in 1982 to contradict science linking gas stoves to respiratory illnesses. (Industry Documents Library, University of California San Francisco)

that there was “no significant difference in reported respiratory illness between members of households with gas and those cooking with electricity.”⁹³ Moreover, GRI's apparent distance from the industry through its advisory council of academics, scientists, and environmental groups, combined with its “not-for-profit” status, allowed the industry to openly advance the credibility of these research efforts by presenting them as in “the public interest.”⁹⁴

By disrupting the emerging scientific consensus over the health impacts of gas stove emissions, the gas industry was able to stymie calls for the regulation of indoor air pollutants and protect the carefully-crafted “clean gas” image central to its expansion plans. This image, however, would soon come under renewed threat from a different quarter: climate.

88 Welch et al., “Putting Gas Range Emissions in Perspective,” <https://legacy.www.documentcloud.org/documents/23598342-putting-gas-range-emissions-in-perspective/#document/p3/a2203691>, 3; Rebecca John, “Burning Questions: A History of the Gas Industry’s Campaign to Manufacture Controversy over the Health Risks of Gas Stove Emissions,” https://climateinvestigations.org/wp-content/uploads/2023/10/Burning-Questions_Climate-Investigations-Center.pdf.

89 The U.S. General Accounting Office was renamed the U.S. Government Accountability Office in 2004.

90 U.S. General Accounting Office (GAO), *Indoor Air Pollution: An Emerging Health Problem*, CED-80-111, (September 1980), <https://www.documentcloud.org/documents/23718784-indoor-air-pollution-an-emerging-health-problem-1980-comptroller-general-report-gao/>.

91 Arthur D. Little, Inc., “Potential Health Effects of Residential Energy Conservation Measures,” (Gas Research Institute, September 1981), Air Infiltration and Ventilation Centre, https://www.documentcloud.org/documents/23592304-airbase_1012/; Brissenden, McFarland, Wagoner, & Fuccella, Inc., “Confidential Executive Summary on H. Daniel Roth, Candidate for the Position of Executive Director The Center for Indoor Air Research,” (September 1987), University of California San Francisco Library Industry Documents Library, <https://www.documentcloud.org/documents/23685784-confidential-exec-summary-h-daniel-roth-executive-director-center-for-indoor-air-research/#document/p7/a2210110>, 7.

92 Donald O. Johnson and F. Richard Kurzynske, “Indoor Air Quality,” *Gas Research Institute Digest Vol.5* (1982), <https://www.documentcloud.org/documents/23593674-gri-indoor-air-quality-1982/#document/p4/a2201888>, 4.

93 Welch et al., “Putting Gas Range Emissions in Perspective,” <https://legacy.www.documentcloud.org/documents/23598342-putting-gas-range-emissions-in-perspective/#document/p3/a2203690>, 3.

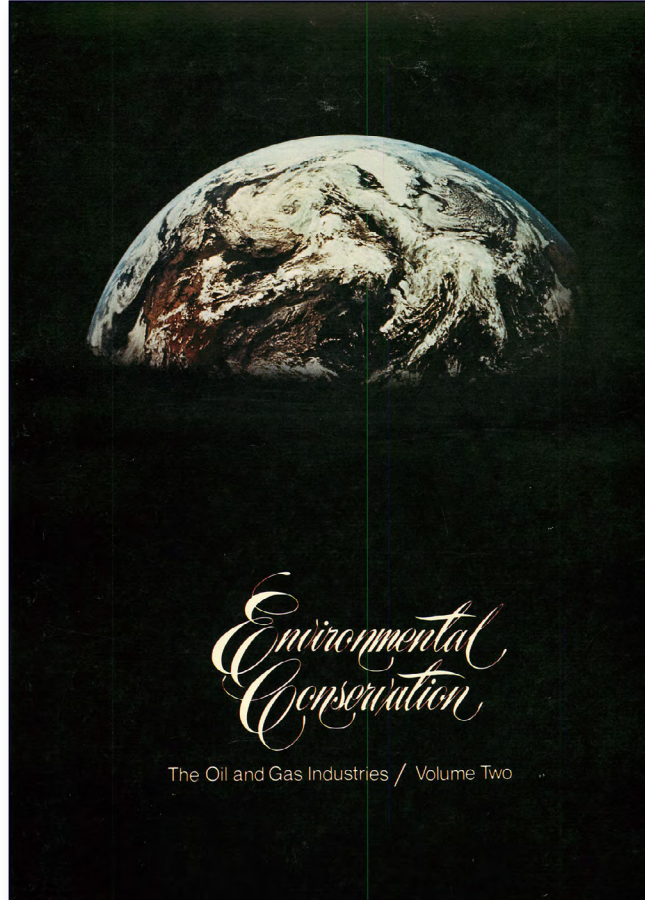
94 Bowen, “Gas Research Institute Formed By Natural Gas Industry,” <https://legacy.www.documentcloud.org/documents/23728253-197611-aga-monthly/#document/p2/a2667748>, 2.

2.4

Bad News, Ignored: The Gas Industry is Confronted with Methane's Climate Risk

Public concerns about climate change caused by the burning of fossil fuels had grown over the late 1960s and early 1970s with a focus on CO₂.⁹⁵ Following a major oil spill in 1969, the Interior Department had asked the National Petroleum Council (NPC), an influential oil industry advisory council to the federal government, to complete a thorough survey of environmental problems related to the industry's activities.⁹⁶ NPC was asked to place "all pertinent facts" before the government officials responsible for "policy decisions involving pollution control regulations which may affect oil and gas operations."⁹⁷ The committee tasked with writing and editing the report included representatives of major oil and gas companies and the presidents of AGA and API.⁹⁸

Completed in 1972, the final volume of the NPC's report dismissed the climate threat from burning fossil fuels in a cursory discussion which misleadingly concluded that the reasons for increasing CO₂ levels were "not well understood."⁹⁹



The National Petroleum Council in 1972 acknowledged "escaping gases" from operations. (National Petroleum Council)

Notably, while the report's authors claimed they had "studied carefully" the "global source and fate of atmospheric trace gases," they did not disclose what API had learned in 1968: that emissions from oil and gas operations were partially responsible for the presence of methane detected in the Earth's atmosphere.¹⁰⁰

The NPC report did, however, reveal the industry's awareness of ground-level methane pollution — it acknowledged that "escaping gases" were a source of "gaseous hydrocarbons,"¹⁰¹ which included methane.¹⁰²

95 *Man's Impact on the Environment: Assessment and Recommendations for Action* (The MIT Press, 1970), Internet Archive, <https://archive.org/details/mansimpactonglob0000stud/page/n13/mode/2up>.

96 *Environmental Conservation: The Oil and Gas Industries, Volume 2* (National Petroleum Council, February 1972), <https://www.documentcloud.org/documents/23565538-1972-npc-environmental-conservation-oil-and-gas-industries-vol-ii/#document/p405/a2788314>, 405.

97 *Environmental Conservation: The Oil and Gas Industries, Volume 1* (National Petroleum Council, June 1971), <https://www.documentcloud.org/documents/26788830-1971-environmental-conservation-oil-and-gas-industries-vol-i/#document/p6/a2788340>, 6.

98 *Environmental Conservation, Volume 1*, <https://www.documentcloud.org/documents/26788830-1971-environmental-conservation-oil-and-gas-industries-vol-i/#document/p95/a2788288>, 95.

99 *Environmental Conservation, Volume 2*, <https://www.documentcloud.org/documents/23565538-1972-npc-environmental-conservation-oil-and-gas-industries-vol-ii/#document/p34/a2788299>, 35; Carroll Muffett and Steven Feit, "Smoke and Fumes: The Legal and Evidentiary Basis for Holding Big Oil Accountable for the Climate Crisis" (Center for International Environmental Law, November 2017), <https://www.ciel.org/wp-content/uploads/2017/11/Smoke-Fumes-FINAL.pdf>.

100 *Environmental Conservation, Volume 2*, <https://www.documentcloud.org/documents/23565538-1972-npc-environmental-conservation-oil-and-gas-industries-vol-ii/#document/p34/a2788297>, 34.

101 *Environmental Conservation, Volume 2*, <https://www.documentcloud.org/documents/23565538-1972-npc-environmental-conservation-oil-and-gas-industries-vol-ii/#document/p33/a2788333>, 33.

102 *Environmental Conservation, Volume 2*, <https://www.documentcloud.org/documents/23565538-1972-npc-environmental-conservation-oil-and-gas-industries-vol-ii/#document/p35/a2788335>, 35.

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By 1972, peer-reviewed literature had not yet demonstrated the climate risk posed by methane emissions from fossil fuels, though federally-funded research in the 1960s had already established methane's "significant" ability to absorb infrared radiation.¹⁰³

“Within a few years, further groundbreaking developments in climate science would make it much more difficult for the gas industry to ignore its methane problem.”

In 1976, just as the gas industry was launching GRI, a NASA team led by scientist Wei-Chyung Wang made a pivotal calculation, postulating that increases in atmospheric methane, released through the production and combustion of fossil fuels, posed a significant climate risk. **Wang and his coauthors used models to estimate the potential climatic impact of future increases of atmospheric methane and other heat-trapping trace gases, calculating that these increases were likely to cause significant warming alongside CO₂.**¹⁰⁴

Wang's paper responded to earlier research that had overlooked the potential climatic impact of trace gases like methane, explaining that the study's "primary objective" was "to point out that several trace atmospheric gases may have a significant effect on atmospheric

temperatures."¹⁰⁵ Whereas the warming effects of these trace gases had frequently "been either overlooked or underestimated" up to that point, the authors believed "on the contrary," that trace gases like methane "should be accurately monitored to get a firm handle on the global trends of abundance, as is being done for CO₂."¹⁰⁶

Further, the study concluded that the impacts could well be tied to human activity, explaining how the atmospheric concentration of methane (along with nitrous oxide, ammonia, and other trace gases) "may undergo substantial changes because of man's activities."¹⁰⁷

The oil and gas industry maintained a close proximity to this evolving research, tracking key studies that soon demonstrated rising atmospheric methane concentrations, the potential climatic impact of this increase, and the fossil fuel industry's contribution.¹⁰⁸ Notably, three studies from 1981 confirmed earlier findings on the importance of methane as a potential contributor to climate change. The first, a study funded in part by the Chemical Manufacturers Association (CMA), found that atmospheric methane levels were rising at the "substantial rate" of approximately 2 percent per

103 During the 1960s, work sponsored by the Air Force Cambridge Research Laboratories (AFCRL) helped define the heat-trapping behaviour of atmospheric gases (including methane), providing essential data for scientific understanding of climate change. Darrell E. Burch and Dudley Williams, "Total Absorptance of Carbon Monoxide and Methane in the Infrared," *Journal of Applied Optics* (September 1, 1962), <https://opg.optica.org/ao/abstract.cfm?uri=ao-1-5-587>; Darrell E. Burch et al., "Infrared Absorption by Carbon Dioxide, Water Vapor, and Minor Atmospheric Constituents" (Air Force Cambridge Research Laboratories, June 1, 1962), <https://www.documentcloud.org/documents/26159463-burch-et-al-infrared-absorption-by-carbon-dioxide-water-vapor-and-minor-atmospheric-constituents-1962/#document/p18/a2795352>, 18.

104 Email correspondence with author (Summer 2025).

105 W. C. Wang et al., "Greenhouse Effects due to Man-Made Perturbations of Trace Gases: Anthropogenic gases may alter our climate by plugging an atmospheric window for escaping thermal radiation," *Science* 194 (November 12, 1976), British Library, <https://www.documentcloud.org/documents/25458753-wang-et-al-greenhouse-effects-due-to-man-made-perurbations-of-trace-gases-1976/#document/p4/a2798213>, 4.

106 Wang et al., "Greenhouse Effects due to Man-Made Perturbations of Trace Gases," <https://www.documentcloud.org/documents/25458753-wang-et-al-greenhouse-effects-due-to-man-made-perurbations-of-trace-gases-1976/#document/p4/a2618285>, 4.

107 Wang et al., "Greenhouse Effects due to Man-Made Perturbations of Trace Gases," <https://www.documentcloud.org/documents/25458753-wang-et-al-greenhouse-effects-due-to-man-made-perurbations-of-trace-gases-1976/?mode=document#document/p5/a2618295>, 5.

108 "CO₂ Greenhouse Effect: A Technical Review" (Exxon Research and Engineering, April 1, 1982), Climate Files, courtesy of Inside Climate News <https://www.documentcloud.org/documents/2805576-1982-Exxon-Memo-to-Management-About-CO2/?mode=document#document/p46/a2662625>, 46; Alan Oppenheim and William L. Donn, "Climate Models and CO₂ Warming: A Selective Review and Summary" (Lamont-Doherty Geological Observatory/American Petroleum Institute, March 1982), Climate Files, <https://www.documentcloud.org/documents/2805626-1982-API-Climate-Models-and-CO2-Warming-a/#document/p10/a2814251>, 10.

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year.^{109,110} Although the authors primarily emphasized the impact of rice paddies and animal agriculture, they acknowledged that “emissions from more direct anthropogenic activities,” including the production and use of fossil fuels, “may also account for some of the observed increase.”¹¹¹ Of particular interest was the paper’s conclusion that atmospheric methane concentrations could double within 40 to 50 years¹¹² — the point at which, Wang et al. had concluded, “[t]hese systematic effects on the earth’s radiation budget would have substantial climatic significance.”¹¹³

A second 1981 study, from James Hansen and his NASA co-authors, added a note of urgency to these calculations. Based on the finding of a 2 percent increase in methane emissions per year, the authors concluded that methane and other trace gases “will significantly enhance future greenhouse warming if recent growth

rates are maintained.”¹¹⁴ A year later, this study was cited in an internal Exxon memo about the greenhouse effect.¹¹⁵

Finally, new research published by the NASA team in 1981 confirmed that methane and other trace gases had a comparable impact on global warming to that of CO₂. It showed that, when combined, methane and other trace gases had anywhere between 50 and 100 percent of CO₂’s impact over the previous 10 years.¹¹⁶ This study was also cited the following year in a review of climate research commissioned by the oil industry trade group API, conducted by the Lamont-Doherty Geological Observatory at Columbia University. Based on the study’s findings, the review advised API, “all increases in greenhouse gases plus aerosols should be considered in the total anthropogenic effect.”¹¹⁷

During the same period that the industry learned of methane’s potent climate impact, it also obtained greater insight into oil and gas operations as a source of methane and carbon dioxide from the venting and flaring of gas. In 1979, GRI funded a study to “identify the flared and vented gas sources at major field facilities ... and at gas processing plants” in the United States and quantify “the amount of gas lost” with a view to recommending ways of both reducing these losses and finding economic uses for some of the wasted gas.¹¹⁸ The authors noted a lack of existing data and set out to provide a more detailed view.

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- 109 R. A. Rasmussen and M. A. K. Khalil, “Increase in the Concentration of Atmospheric Methane,” *Atmospheric Environment* 15 (1981), <https://www.documentcloud.org/documents/26158386-increase-in-the-concentration-of-atmospheric-methane-ra-rasmussen-ma-khalil-1981-atmospheric-environment/?mode=document#document/p1/a2672471>, 1.
- 110 Senior executives from Phillips Petroleum (ConocoPhillips) and the chemical divisions of Amoco (BP), Chevron, Conoco (ConocoPhillips), Exxon (ExxonMobil), Gulf Oil (Chevron), Mobil (ExxonMobil), and Shell were Board or Executive Committee members of the Chemical Manufacturers Association (CMA), which had part-funded Rasmussen & Khalil’s research. Standard Oil of Indiana (BP), ExxonMobil, and Texaco (Chevron) were also members of CMA. “Chemical Manufacturers Association 1980-81 Directory,” Toxic Docs, Columbia University and the City University of New York, <https://www.documentcloud.org/documents/26158411-cma-directory-1980-1981/?mode=document#document/p7/a2774142>, 7; Meeting Minutes of the Chemical Manufacturers Association Executive Committee (January 1991), Toxic Docs, Columbia University and the City University of New York, <https://www.documentcloud.org/documents/25970971-cma-exec-comm-meeting-jan-14-1991/?mode=document>; Meeting Minutes of the Chemical Manufacturers Association Executive Committee (September 1979), Toxic Docs, Columbia University and the City University of New York, <https://www.documentcloud.org/documents/26158426-cma-exec-committee-meeting-september-1979/?mode=document#document/p83/a2672485>, 83.
- 111 Rasmussen and Khalil, “Increase in the Concentration of Atmospheric Methane,” <https://www.documentcloud.org/documents/26158386-increase-in-the-concentration-of-atmospheric-methane-ra-rasmussen-ma-khalil-1981-atmospheric-environment/#document/p2/a2672473>, 2.
- 112 Rasmussen and Khalil, “Increase in the Concentration of Atmospheric Methane,” <https://www.documentcloud.org/documents/26158386-increase-in-the-concentration-of-atmospheric-methane-ra-rasmussen-ma-khalil-1981-atmospheric-environment/>, 3.
- 113 Wang et al., “Greenhouse Effects due to Man-Made Perturbations of Trace Gases,” <https://www.documentcloud.org/documents/25458753-wang-et-al-greenhouse-effects-due-to-man-made-perturbations-of-trace-gases-1976/?mode=document#document/p5/a2618301>, 5.

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- 114 J. Hansen et al., “Climate Impact of Increasing Atmospheric Carbon Dioxide,” *Science* 213 (August 28, 1981), <https://www.documentcloud.org/documents/26159451-hansen-et-al-1981-climate-impact-of-increasing-atmospheric-carbon-dioxide-science-213-957-66/?mode=document#document/p5/a2672702>, 5.
- 115 “CO₂ Greenhouse Effect: A Technical Review,” <https://www.documentcloud.org/documents/2805576-1982-Exxon-Memo-to-Management-About-CO2/#document/p40/a2672696>.
- 116 A. Lacis, et al. “The Greenhouse Effect of Trace Gases,” *Geophysical Research Letters* Vol. 8, No. 10, (October 1981), <https://legacy.www.documentcloud.org/documents/26106288-lacis-et-al-the-greenhouse-effect-of-trace-gases-1981/#document/p1/a2672061>, 1.
- 117 Oppenheim and Donn, “Climate Models and CO₂ Warming,” *Climate Files*, courtesy of Inside Climate News, <https://www.documentcloud.org/documents/2805626-1982-API-Climate-Models-and-CO2-Warming-a/?mode=document#document/p10/a2814251>, 10.
- 118 Donald M. Gammell, John H. Williams, and Sheldon Krueger, “Flared Gas Conservation” (Robert Brown Associates/Gas Research Institute, July 1979), <https://www.documentcloud.org/documents/25906228-flared-gas-conservation-gri-july-1979/?mode=document#document/p3/a2655695>, 3.

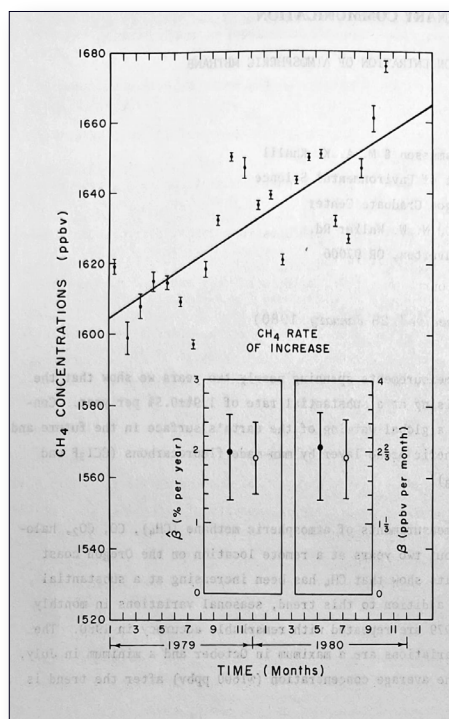
II. A STRATEGIC RESPONSE

The paper, submitted to GRI, found a “significant quantity” of gas being legally flared or vented nationally but disclosed that “off-the-record” and “unverifiable field estimates” indicated that the “unreported amounts may be much more.”¹¹⁹

The study stated that “a significant quantity (estimated at 200 million cubic feet/day nationally) of gas is being flared or vented even under strict ‘no flare’ regulations,”¹²⁰ but informed GRI that the actual amounts could be as much as two to four times higher than these reported numbers.¹²¹

As conveyed by the authors, the venting of methane was regarded as a routine feature of operations rather than an irregular or unplanned occurrence.

Over the next decade, the industry would respond to a growing scientific consensus that methane from its operations posed a serious climate risk by borrowing heavily from the lessons learned during its battles over indoor air pollution. By funding its own research designed to disrupt this consensus and aggressively communicating these findings to the public, the industry would deflect attention from their role in the problem.



“Increase in the Concentration of Atmospheric Methane,” (1981), was one of a series of studies between 1976-1985 that focused attention on the greenhouse gas. (Atmospheric Environment)

REPORT DOCUMENTATION PAGE		REPORT NO.	1
PAGE		OSI-78/100.2	1
1. Title and Subtitle		PB 80 218829	
2. Author		3. Report Date	
Flared Gas Conservation		July 1978	
4. Performing Organization Name and Address		5. Performing Organization Report No.	
Robert R. Williams, W. W. Krueger, and 700 E. Carson Plaza Dr. Suite 212 Glenview, IL 60045			
6. Performing Organization Name and Address		7. Author	
Gas Research Institute 10 W. 34th St. Chicago, IL 60616		Robert R. Williams, W. W. Krueger, and 700 E. Carson Plaza Dr. Suite 212 Glenview, IL 60045	
8. Abstract (Limit: 200 words)		9. Summary	
The purpose of this study was to determine the amount of gas lost and categorized by type could be reduced, and 4) identify economically applied.		Data base research disclosed that nationally there are at least 700 gas-processing plants, thousands of oil and gas wells, and about 370 oil refineries, most with facilities that have flaring potentials. Seventy-two percent of the gas produced in the states of Louisiana, Texas, Kansas, Oklahoma, New Mexico, Wyoming, California and Colorado (Table 1), and about thirty-eight percent of this is in Louisiana and Texas. Consequently, thirty-two oil producing operations were contacted in these two states. Twenty major oil refiners throughout the country were contacted.	
10. Document Analysis & Description		11. Summary	
a. Summary/Abstract (Limit: 200 words)		Data base research included a review of other reports data to refine any duplication in effort between government and industry funded programs. The data bank of the National Technical Information Service, the National Information Center at Oak Ridge and the KILA Engineering Library were searched for information related to flared or vented gas. No significant research work was found relative to the amount or application potential of flared gas. Raw data varied widely in completeness with each state. Field contacts began by conducting technical discussions with several gas processing plant operators, regulatory agencies (Texas Railroad Commission, Texas Air Control Board, Public Utilities Commissions and Department of Conservation in Louisiana) and gas and oil field producers. About 140 million cubic feet/day of natural gas (methane) was found to be legally vented or flared in Texas and Louisiana. "Off-the-record" and unverifiable field estimates say that the unreported amounts may be much more; however, efforts to quantify these amounts were unsuccessful. Since Texas and Louisiana represent roughly two-thirds of the total nation's gas production, a total of 200 million C/d/day is estimated to be flared or vented in this country.	
12. Document Analysis & Description		13. Summary	
a. Summary/Abstract (Limit: 200 words)		Monthly gas disposition reports for Texas showed one oil producer flaring over 3 million cubic feet/month of gas in one particular field. Reasons for this and other oil field flares, which is predominantly casinghead gas, fall into four main categories:	

119 Gammell, Williams, and Krueger, “Flared Gas Conservation,” <https://www.documentcloud.org/documents/25906228-flared-gas-conservation-gri-july-1979/?mode=document#document/p10/a2655709>, 10.

120 Gammell, Williams, and Krueger, “Flared Gas Conservation,” <https://www.documentcloud.org/documents/25906228-flared-gas-conservation-gri-july-1979/?mode=document#document/p43/a2655714>, 43.

121 Gammell, Williams, and Krueger, “Flared Gas Conservation,” <https://www.documentcloud.org/documents/25906228-flared-gas-conservation-gri-july-1979/#document/p19/a2672865>, 19.

A 1979 Gas Research Institute-commissioned study titled, “Flared Gas Conservation” disclosed “off-the-record” and “unverifiable field estimates” from oil and gas operations. (U.S. Department of Commerce, Gas Research Institute)

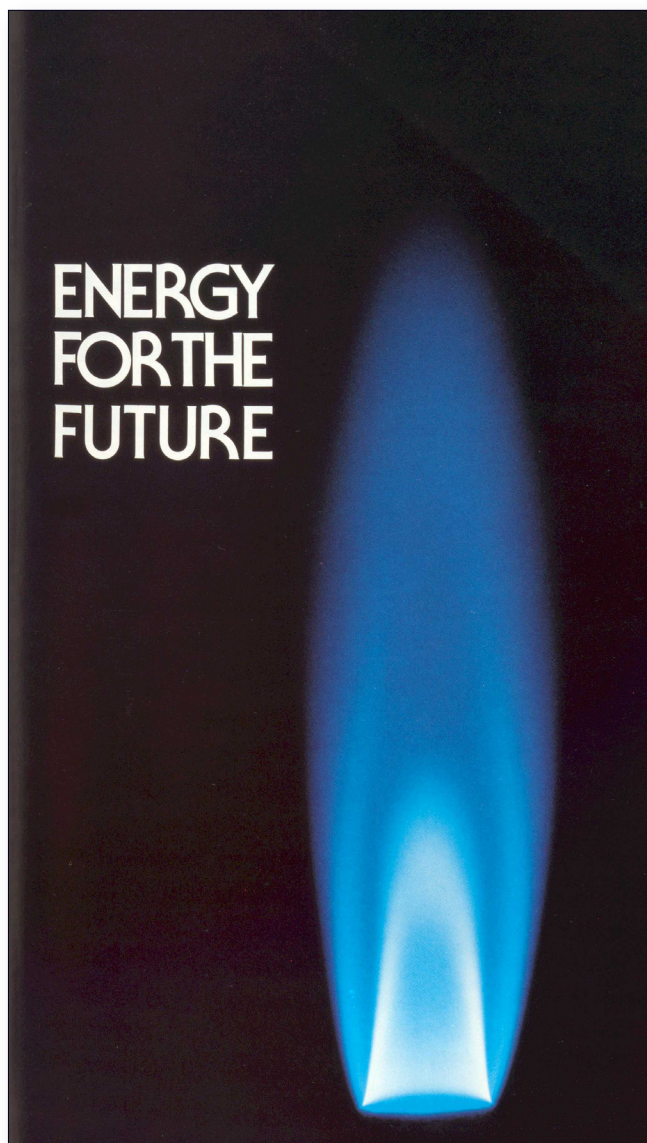
2.5

Bad News, Denied: GRI Continues to Promote Environmental Benefits of Gas

Despite NASA's 1976 discovery that methane emissions were likely to present a significant climate risk and the GRI study revealing high levels of vented methane from oil and gas production, **GRI's 1980 research plan doubled down on the environmental benefits of gas, claiming "[n]atural gas is, environmentally, the most desirable primary energy form because there are far fewer impacts associated with its production and use than with oil or coal."**¹²²

The plan argued that the industry's research program served the public because it provided greater energy security and "lesser environmental impact of gas relative to alternative fuels."¹²³ According to GRI, these qualities were inherent to natural gas: "The chemical nature of the very stable, yet hydrogen-rich, methane molecule is responsible for the uniquely desirable properties of natural gas and its substitutes and supplements — no toxicity; cleanest combustion and highest energy content of any hydrocarbon fuel."¹²⁴

GRI and AGA unequivocally positioned gas as a fuel of the future, arguing that the recent energy crises, combined with "the shortcomings of alternative energy sources,"¹²⁵ proved that "the role of gas in any future energy scenario has become more critical."¹²⁶



A natural gas industry advertisement in 1978.
([American Gas Association Monthly](#))

122 "GRI 1981-1985 Five Year Research & Development Plan," Box 96, Louis H. Roddis Papers 1823-1990, David M. Rubenstein Rare Book & Manuscript Library, Duke University, <https://www.documentcloud.org/documents/25511474-gri-1981-1985-5yr-plan-and-1981-rd-program-part-1-box-96-roddis-papers/?mode=document#document/p16/a2623146>, 16.

123 "GRI 1981-1985 Five Year Research & Development Plan," <https://www.documentcloud.org/documents/25511474-gri-1981-1985-5yr-plan-and-1981-rd-program-part-1-box-96-roddis-papers/?mode=document#document/p13/a2622416t>, 13.

124 "GRI 1981-1985 Five Year Research & Development Plan," <https://www.documentcloud.org/documents/25511474-gri-1981-1985-5yr-plan-and-1981-rd-program-part-1-box-96-roddis-papers/?mode=document#document/p13/a2623064>, 13.

125 "GRI 1981-1985 Five Year Research & Development Plan," <https://www.documentcloud.org/documents/25511474-gri-1981-1985-5yr-plan-and-1981-rd-program-part-1-box-96-roddis-papers/?mode=document#document/p8/a2623057>, 8.

126 "GRI 1981-1985 Five Year Research & Development Plan," <https://www.documentcloud.org/documents/25511474-gri-1981-1985-5yr-plan-and-1981-rd-program-part-1-box-96-roddis-papers/?mode=document#document/p9/a2623058>, 9.

SECTION III: 1980-1989

The Gas Industry Finds Allies

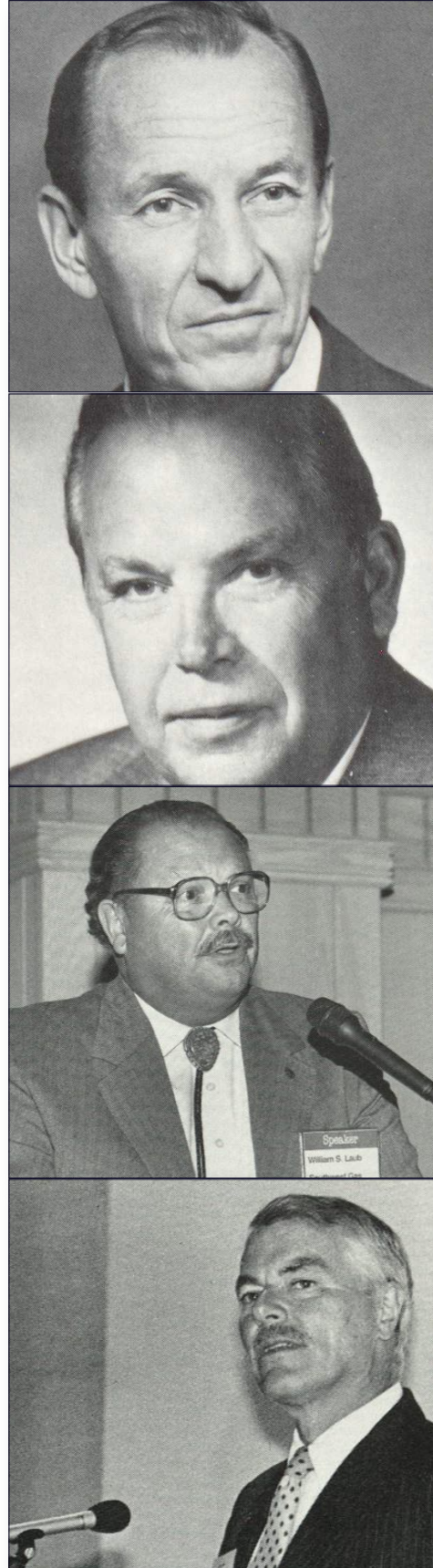
As the risks of climate change gained national attention, the growing consensus that methane was a potent greenhouse gas threatened to become a serious obstacle to the industry’s ambitions of market expansion. To sidestep that hurdle, the industry deflected attention away from methane and aimed it aggressively toward gas’ CO₂ advantage over coal, directing outreach and misinformation at federal regulatory agencies and environmental groups. Big Oil joined together with the gas utility and pipeline companies by the end of the decade to cultivate these groups as allies and sell the vision of gas as not just an ideal source of “clean energy” but also a climate solution. As these forces united in 1988, they introduced the public to the idea of gas as a “bridge fuel,” new evidence shows. The industry was increasingly aware of potentially significant levels of methane emissions from the nation’s gas operations, and realized that reliable data on emissions rates would be extremely challenging to produce.

3.1

The Gas Industry Identifies Opportunities for Expansion

By the early 1980s, the years-long effort to expand gas production was coming to fruition. Gas was now “ready to help the nation meet its energy, economic and environmental goals,” AGA president George H. Lawrence argued at the trade organization’s 1985 annual meeting.¹²⁷ Lawrence announced that the industry was moving “into a very competitive era ... with an aggressive marketing program, technological

¹²⁷ “Sharpening the Competitive Edge,” *American Gas Association Monthly* (November-December 1985), U.S. Library of Congress, <https://legacy.www.documentcloud.org/documents/26044073-aga-monthly-novemberdecember-1985/#document/p10/a2674978>, 10.



From top to bottom: George H. Lawrence, President, AGA; O.C. Davis, Chairman and C.E.O., People's Energy Corp; William M. Laub, Sr., Chairman, AGA, and C.E.O., Southwest Gas Corp; John Kean, President, International Gas Union. (American Gas Association)

III. THE GAS INDUSTRY FINDS ALLIES

advances, communication initiatives, and the continuing attainment of legislative goals that diminish federal intrusions,” according to a report in AGA’s industry magazine, *AGA Monthly*.¹²⁸

To take advantage of this opportunity, the industry recognized it needed others to take up the cause as well. The establishment of GRI had been a key step in creating distance between the clean gas myth and the industry that had created it. Throughout the 1980s, the gas industry sought to build on this success and further increase the credibility of its clean gas messaging by finding allies that would adopt gas advocacy as their own issue. Doing so meant selling many skeptical parties — federal agencies, environmental groups, and electric utilities — on the environmental benefits of gas.

Overturning legislative restrictions on price controls and gas use was of particular importance to the industry during this period. Facing a supply shortage in the late 1970s, Congress had limited the use of natural gas and oil for electricity production.¹²⁹ Within a few years, however, the supply situation had shifted, and the gas industry began working with the Reagan Administration’s Department of Energy (DOE) and other federal agencies to overturn those restrictions.¹³⁰ Two-time EPA administrator William D. Ruckelshaus was among the government officials that supported deregulation of gas. *AGA Monthly* reported in 1985 that Ruckelshaus had called for policies that would make “the use of natural gas ... as free as possible” as a way to reduce environmental pollution.¹³¹

Increasing confidence in the availability of natural gas emboldened the industry to go even further in promoting its environmental advantages over both coal and nuclear energy. In 1983, the GRI leadership told regulators that natural gas could meet future electric power needs with “minimal environmental impacts” and lesser “uncertainty” compared to coal and nuclear energy.¹³² The outlook for coal was restricted by the “acid rain issue,” argued GRI, while nuclear power was beleaguered by “reactor safety and waste disposal issues.” Staking out this advance position for gas as a “clean combustion” fuel¹³³ meant the industry would be well-placed to portray gas as a climate-friendly energy source a few years later — despite growing evidence of gas’ methane problem.

When global warming became a national concern in the late 1980s, the gas industry would leverage its “clean” image, based on gas’ relative advantages over coal and nuclear energy, to create the impression that gas had virtually no environmental and climate consequences at all.

As reported by *AGA Monthly* in 1989, AGA’s director of policy analysis, Nelson Hay, told a conference of national journalists in Washington D.C. that gas had environmental advantages not only in the areas of “acid rain [and] urban air quality” but also “the greenhouse effect.”¹³⁴ If the industry could successfully frame gas as superior to coal on climate change as well as issues like acid rain and urban air quality, it had the potential to profit enormously from increasing the use of natural gas for electricity production — a process referred to as “fuel switching.”

128 “Sharpening the Competitive Edge,” <https://legacy.www.documentcloud.org/documents/26044073-aga-monthly-novemberdecember-1985/#document/p10/a2822417>, 10.

129 Powerplant and Industrial Fuel Use Act of 1978, Pub. L. No. 95-620, 92 Stat. 3289 (1978), <https://www.govinfo.gov/app/details/STATUTE-92/STATUTE-92-Pg3289>.

130 Robert D. Hershey Jr., “Energy Depart. Acts to Reduce Fuel-Use Rules,” *New York Times*, June 10, 1981, <https://timesmachine.nytimes.com/timesmachine/1981/06/10/151982.html?pageNumber=99>.

131 “Select Use of Gas Is Pollution Solution,” *American Gas Association Monthly* (September 1985), U.S. Library of Congress, <https://www.documentcloud.org/documents/26044071-aga-monthly-september-1985/#document/p1/a2677876>, 1.

132 “Meeting Future Electric Power Needs With Natural Gas,” (Gas Research Institute/Hagler Bailly Company, May 1983), Misc Box 15, Louis H. Roddis Papers 1823-1990, David M. Rubenstein Rare Book & Manuscript Library, Duke University, <https://legacy.www.documentcloud.org/documents/25511473-misc-box-15-rod-dis-papers#document/p54/a2622424>, 54-81.

133 “Meeting Future Electric Power Needs With Natural Gas,” <https://legacy.www.documentcloud.org/documents/25511473-misc-box-15-rod-dis-papers#document/p57/a2815204>, 57.

134 “Gas Advantages Shown To D.C. Journalists,” *American Gas* (August 1989), U.S. Library of Congress, <https://www.documentcloud.org/documents/26044257-aga-monthly-august-1989/#document/p28/a2813505>, 28.

3.2

Gas Operations are Identified as a Climate Risk

Ongoing developments in climate science and external investigations into gas infrastructure as a source of atmospheric methane¹³⁵ complicated the industry's plan to present gas as a solution to the greenhouse effect. In 1983, the National Oceanic and Atmospheric Administration (NOAA) began measuring levels of atmospheric methane.¹³⁶ That same year, a National Research Council report recommended "sustained monitoring" of the "non-CO₂ greenhouse gases" along with "careful new projections of future emissions."¹³⁷ A year later, researchers funded by the Edison Electric Institute (EEI) sought to predict the future impacts of greenhouse gases on government policy and industrial decisions.¹³⁸ Their paper identified various sources of methane, including "vent[ing] from mining, oil wells, gas extraction, farming and land use changes."¹³⁹ Presenting at an air pollution conference, the paper's authors urged continuing atmospheric research and called for "fresh ideas" about measures to prevent or control the effects of climate change.¹⁴⁰

- 135 U.S. Environmental Protection Agency, *Methane Emissions and Opportunities for Control: Workshop Results of Intergovernmental Panel on Climate Change*, EPA/400/9-90/007 (September 1990), <https://legacy.www.documentcloud.org/documents/25912948-methane-emissions-and-opportunities-for-control-epa-workshop-december-1989/#document/p93/a2661307>, 93.
- 136 NOAA Global Monitoring Lab, "GGGRN Data - CH₄," U.S. National Oceanic and Atmospheric Administration Global Monitoring Laboratory, <https://gml.noaa.gov/ccgg/data/getdata.php?gas=ch4>.
- 137 National Academy of Sciences, Engineering, and Medicine, "Changing Climate: Report of the Carbon Dioxide Assessment Committee," (Washington, DC, The National Academies Press, 1983), <https://nap.nationalacademies.org/read/18714/chapter/3?term=sustained#74>, 74.
- 138 J. F. Coates, Inc., "Carbon Dioxide: Potential Emerging Global Hazard," (Edison Electric Institute, January 1984), <http://legacy.www.documentcloud.org/documents/24426934-1984-carbon-dioxide-potential-emerging-global>.
- 139 Jennifer Jarrett and Joseph F. Coates, "The Greenhouse Effect: Its Implications for Industrial and Government Policy," (Air Pollution Control Association, June 1985) <https://www.documentcloud.org/documents/3884157-1985-Air-Pollution-Control-Association-session/#document/p24>, 24.
- 140 Jennifer Jarrett and Joseph F. Coates, "The Greenhouse Effect: Its Implications for Industrial and Government Policy," <https://www.documentcloud.org/documents/3884157-1985-Air-Pollution-Control-Association-session/?mode=document#document/p26>, 26.



Pacific Gas & Electric plant, 1972. PHOTO: DOCUMERICA

Rare Gases May Speed The Warming of the Earth

By JAMES GLEICK

TINY quantities of more than 30 rare gases threaten to warm the earth's atmosphere even more rapidly over the next 50 years than carbon dioxide will, according to a study by a team of atmospheric scientists.

Their findings reinforce a growing conviction among scientists that the trace gases, many of them industrial byproducts, are playing a leading role in the "greenhouse effect," the warming of the earth as less and less heat is able to escape the atmosphere.

The new report, the first to analyze all these gases systematically, predicts that the trace gases will more than double the warming effect of carbon dioxide in the decades to come.

"We're saying that you now have to think of a change that's two or three times bigger than we thought due to CO₂ alone," said Ralph J. Cicerone, director of atmospheric studies at the National Center for Atmospheric Research, where much of the research was done.

Recent government studies of the greenhouse effect have concluded that the earth

will see profound climate changes beginning in the next two decades. The warming of the atmosphere is expected to raise the level of the oceans as the icecaps melt, and changes in weather patterns are expected to mean disruptions in agriculture that will cost billions of dollars.

Unlike carbon dioxide, a product of combustion that has been rising steadily since the industrial revolution in the 19th century, most of the trace gases are newcomers to the atmosphere. Most were not even measured there before the 1960's, and even now most are rarer than one part per billion.

But the trace gases have now proven surprisingly effective at trapping heat that would otherwise radiate into space. A single molecule of some chlorofluorocarbons, for example, absorbs as much heat as 10,000 molecules of carbon dioxide, according to the study.

Because the trace gases are so much rarer than carbon dioxide, they are growing much faster proportionately.

John S. Hoffmann, director of strategic studies for the Federal Environmental Protection Agency, said he considered the report "ex-

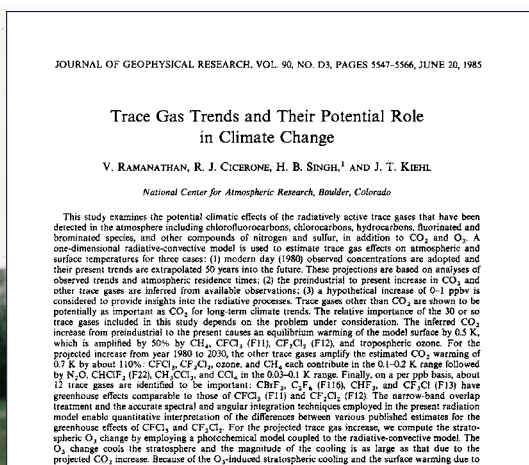
Continued on Page C2

Coverage of a 1985 study on the importance of non-CO₂ gases in global warming. (New York Times)

More seriously for the industry, a landmark 1985 study published in the *Journal of Geophysical Research* focused additional attention on gas operations as a source of increasing atmospheric methane concentrations.¹⁴¹ **The study, conducted by NASA scientist Veerabhadran Ramanathan and colleagues from the National Center for Atmospheric Research (NCAR) and the Stanford Research Institute (SRI), estimated that increasing levels of trace gases, including methane, might become responsible for up to 40 percent of future planetary warming.** Relying on newly-observed measurements, the study concluded the effects of these gases are as important as CO₂ "in determining the climate change of the

- 141 V. Ramanathan, RJ Cicerone et al., "Trace Gas Trends and Their Potential Role in Climate Change," *Journal of Geophysical Research Vol. 90* (National Center for Atmospheric Research, June 1985), <https://legacy.www.documentcloud.org/documents/26101063-ramanathan-et-al-trace-gas-trends-and-their-potential-role-in-climate-change-1985/#document/p7/a2671999>, 7.

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LEFT: NASA and NCAR scientist, Veerabhadran Ramanathan, led a 1985 study demonstrating the climate risks posed by methane emissions from oil and gas operations as well as other sources. ([The Asahi Glass Foundation](#))

RIGHT: Ramanathan et al., "Trace Gas Trends and Their Potential Role in Climate Change," *Journal of Geophysical Research* (1985)

future or the past 100 years."¹⁴² The authors cited oil and gas "exploration and gas transmission" as growing sources of atmospheric methane.¹⁴³ The study inspired coverage in the popular media, including *The New York Times*. The April 1985 *Times* story, "Rare gases may speed the warming of the Earth," brought the forming consensus on methane and trace gases to a general audience.¹⁴⁴

Further media attention highlighted the problem of gas leaks from transmission and utility infrastructure across the country. Methane, which is lighter than air, can escape from valves, pipes, compressors, and residential meters — essentially any of the equipment across the hundreds of miles that gas often travels — and through routine maintenance and system resets.¹⁴⁵

Methane escaping from pipelines was a point of major concern in places like Westlake, Louisiana, where the town's mayor explained in 1986 that "after large rainstorms puddles would bubble from gas leaking out of underground pipes."¹⁴⁶ The gas utilities recognized that this was an infrastructure issue, recording gas leakage between the point of sale and delivery as "unaccounted-for-gas." As the president of Equitable Gas Co. in Pennsylvania explained in 1986, a "major source of unaccounted-for gas is gas loss due to leakage."¹⁴⁷ Moreover, since the unaccounted-for-gas registered as lost profits for the gas companies, these costs were frequently passed on to consumers, bringing greater political attention to the issue.¹⁴⁸

142 V. Ramanathan, RJ Cicerone et al., "Trace Gas Trends and Their Potential Role in Climate Change," <https://www.documentcloud.org/documents/26101063-ramanathan-et-al-trace-gas-trends-and-their-potential-role-in-climate-change-1985/?mode=document#document/p17/a2672058>, 17.

143 V. Ramanathan, RJ Cicerone et al., "Trace Gas Trends and Their Potential Role in Climate Change," <https://legacy.www.documentcloud.org/documents/26101063-ramanathan-et-al-trace-gas-trends-and-their-potential-role-in-climate-change-1985/#document/p7/a2671999>, 7.

144 James Gleick, "Rare Gases May Speed The Warming of the Earth," *New York Times* (April 30, 1985) <https://timesmachine.nytimes.com/timesmachine/1985/04/30/203821.html?pageNumber=52>.

145 U.S. General Accounting Office (GAO), *Pipeline Safety: Information on Gas Distribution System Operators Reporting Unaccounted for Gas*, RCED-86-87BR, (February 1986), <https://www.gao.gov/assets/rced-86-87br.pdf>, 9-11.

146 Mark Memmot, "Sharp supports clamps on gas lost in pipelines," *Palladium-Item* (March 19, 1986), *Newspapers.com*, <https://www.documentcloud.org/documents/26174572-palladium-item-1986-03-19-5/>.

147 Cynthia Peichowiak, "Equitable chief responds to critics," *The Pittsburgh Press* (September 2, 1986), *Newspapers.com*, <https://www.documentcloud.org/documents/26174574-the-pittsburgh-press-1986-09-02-page-32/>.

148 See, e.g.: "Rake Hike Requested To Offset Investments," *Sequoiah County Times* (April 18, 1982), *Newspapers.com*, <https://www.documentcloud.org/documents/26174585-sequoyah-county-times-1982-04-18-2/?mode=document>; Dan Biers, "Times too tough for gas rate hike dozens tell PSC," *Evansville Courier and Press* (November 11, 1982), *Newspapers.com*, <https://www.documentcloud.org/documents/26174588-evansville-courier-and-press-1982-11-11-13/?mode=document#document/p1/a2673004>; "Legals: Public Notice Of Proposed Change In Schedule," *Herald and Review* (June 24, 1985), *Newspapers.com* <https://www.documentcloud.org/documents/26174579-herald-and-review-1985-06-24-page-17-2/?mode=document>; "MichCon customers refund gets state's Ok," *The Ann Arbor News* (June 27, 1986), *Newspapers.com*, <https://www.documentcloud.org/documents/26174573-the-ann-arbor-news-1986-06-27-30/?mode=document>.

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The gas industry had long known about high rates of “unaccounted-for-gas” — a technical term used by utilities to denote gas lost through leakages and theft, as well as accounting book errors and defective metering. Pacific Gas & Electric had recorded percentages of unaccounted-for-gas since at least 1876¹⁴⁹ and newspaper reports reveal that the problem persisted, with escaping gas reportedly estimated to be between 10 and 15 percent of annual turnovers by utilities officials in 1940.¹⁵⁰

Congressional hearings illustrated the breadth of the problems with gas distribution systems.¹⁵¹ U.S. Department of Transportation (DOT) inspectors catalogued numerous violations related to lost gas in 1986, highlighting a widespread lack of testing and record-keeping paired with substandard infrastructure, even in highly populated areas.¹⁵² This revealed problems such as “[b]uried steel piping [that] did not meet the required level of protection,”¹⁵³ instances where checks had not been completed in years,¹⁵⁴ and several examples of places where “[n]o records of each test, survey, or inspection were ever made.”¹⁵⁵

The problem was even worse in rural areas, where leaks were not considered to be a threat to human safety. DOT reported that many pipelines had not been replaced since before 1940 and that many of the oldest

joints, some dating back to 1900, were persistently leaking small amounts of gas.¹⁵⁶ As a representative of the National Association of Regulatory Utilities Commissioners told a congressional hearing on pipeline safety in 1986, “the number of violations of Federal safety standards discovered remains substantial with regard to natural gas pipelines.”¹⁵⁷

The federal government’s interest in the issue ultimately led to a 1986 study on unaccounted-for-gas published by the General Accounting Office (GAO), which found startlingly high levels of unaccounted-for-gas in some natural gas distribution systems. Of the nearly 1,500 distribution systems surveyed, roughly 6 percent of operators reported unaccounted-for-gas rates of 15 percent or higher.¹⁵⁸ Although these extreme rates affected a relatively small number of distributors, the report made clear that it was not an isolated problem.¹⁵⁹ This had real-world consequences, the GAO documented: In 1984, utilities recorded 109 safety incidents attributed to human error, corrosion, defects, and faulty connections, which together caused 21 deaths, 139 injuries, and 40 instances of property damage.¹⁶⁰ As the science of methane’s impact on global warming continued to develop, these figures would prove to be a point of significant concern for the gas industry and its effort to promote gas.

149 “Journal of Proceedings Board of Supervisors,” *The Recorder* (March 28, 1912), <https://www.documentcloud.org/documents/26335832-the-recorder-1912-03-28-7/?mode=document#document/p1/a2774448>.

150 James Burke, “Disaster Can Seep From Under Streets,” *Richmond Times Dispatch* (August 11, 1940), <https://www.documentcloud.org/documents/26335843-richmond-times-dispatch-1940-08-11-51/#document/p1/a2774447>.

151 U.S. Congress, House, Committee on Energy and Commerce, *Pipeline Safety—Part 2*, 99th Cong., 2d sess., (March 1986), <https://hdl.handle.net/2027/uc1.31210016341156>.

152 U.S. Congress, House, Committee on Energy and Commerce, *Pipeline Safety—Part 2*, (March 1986), <https://hdl.handle.net/2027/uc1.31210016341156>, 131-139.

153 U.S. Congress, House, Committee on Energy and Commerce, *Pipeline Safety—Part 2*, (March 1986), <https://hdl.handle.net/2027/uc1.31210016341156>, 136.

154 U.S. Congress, House, Committee on Energy and Commerce, *Pipeline Safety—Part 2*, (March 1986), <https://hdl.handle.net/2027/uc1.31210016341156>, 131, 133.

155 U.S. Congress, House, Committee on Energy and Commerce, *Pipeline Safety—Part 2*, (March 1986), <https://hdl.handle.net/2027/uc1.31210016341156>, 139.

156 U.S. Congress, House, Committee on Energy and Commerce, *Pipeline Safety—Part 2*, (March 1986), <https://hdl.handle.net/2027/uc1.31210016341156>, 224.

157 U.S. Congress, House, Committee on Energy and Commerce, *Pipeline Safety—Part 2*, (March 1986), <https://hdl.handle.net/2027/uc1.31210016341156>, 240.

158 U.S. General Accounting Office (GAO), *Pipeline Safety: Information on Gas Distribution System Operators Reporting Unaccounted for Gas*, February 1986, <https://www.gao.gov/assets/rced-86-87br.pdf>, 13. Also accessible at <https://www.documentcloud.org/documents/25259132-pipeline-safety-gao-report-february-1986/#document/p13/a2663920>, 13.

159 U.S. General Accounting Office (GAO), *Pipeline Safety: Information on Gas Distribution System Operators Reporting Unaccounted for Gas*, <https://www.gao.gov/assets/rced-86-87br.pdf>, 13. Also accessible at <https://www.documentcloud.org/documents/25259132-pipeline-safety-gao-report-february-1986/#document/p13/a2663920>, 13.

160 U.S. General Accounting Office (GAO), *Pipeline Safety: Information on Gas Distribution System Operators Reporting Unaccounted for Gas*, <https://www.gao.gov/assets/rced-86-87br.pdf>, 17. Also accessible at <https://www.documentcloud.org/documents/25259132-pipeline-safety-gao-report-february-1986/#document/p16/a2814629>, 16.

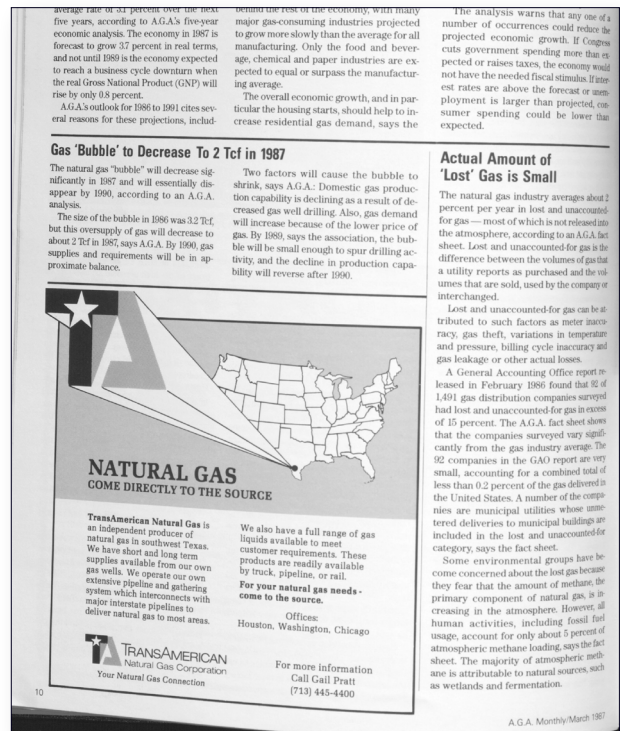
3.3

The Gas Industry Deflects Attention Away from Its Methane Problem

The gas industry frequently sought to cast doubt on any information that undermined the clean gas myth or framed gas as a climate problem. AGA responded to the GAO study by claiming that the actual amount of leakage was small and that the study was not representative of the industry at large.¹⁶¹ AGA also used its response to the GAO report as an opportunity to dismiss concerns over the climate harms of the industry's wider gas emissions, or "lost" gas, including emissions caused by activities such as production and drilling as well as intentional operational methane releases, which were not included in GAO's unaccounted-for gas totals. **The "actual amount of 'lost' gas is small," insisted AGA Monthly in March 1987, rebutting concerns expressed by "some environmental groups" over leakage.**

Responding to concerns over methane's significance as a greenhouse gas, AGA similarly sought to minimize gas' role by downplaying it. For example, in a 1987 fact sheet, AGA emphasized that all human activities, including fossil fuel usage, accounted "for only about 5 percent of atmospheric methane loading" with the majority "attributable to natural sources such as wetlands and fermentation."¹⁶² Elsewhere, AGA continued to promote gas while ignoring methane's climate risk.

A series of AGA press releases and newsletters from this period omitted any mention of methane but instead promoted gas' environmental benefits due to its lower emissions of both CO₂ and pollutants responsible for



A 1987 AGA Monthly article, "Actual Amount of 'Lost' Gas is Small," used AGA research to claim that the industry's methane emissions were minimal. ([American Gas Association Monthly](#))

ground level ozone and acid rain.¹⁶³ "Natural gas use can reduce the amount of 'greenhouse' gases in our atmosphere," claimed an AGA Position Statement in 1988.¹⁶⁴

¹⁶¹ "Actual Amount of Lost Gas Is Small," *American Gas Association Monthly* (March 1987), U.S. Library of Congress, <https://legacywww.documentcloud.org/documents/26044136-aga-monthly-march-1987/#document/p8/a2675427>, 8.

¹⁶² "Actual Amount of Lost Gas Is Small," <https://legacywww.documentcloud.org/documents/26044136-aga-monthly-march-1987/#document/p8/a2674806>, 8.

¹⁶³ "Ozone and Carbon Monoxide: The Role Of Natural Gas In Attaining Clean Air Act Compliance," (*American Gas Association*, April 8, 1987), Sierra Club National Legislative Records (1960-), Container 161, Folder 38, Bancroft Library, University of California Berkeley https://legacywww.documentcloud.org/documents/25378115-american-gas-association-1988-bancroft-library-sierra-club-records-carton-161_folder-38/#document/p94/a2614642, 94; A.G.A. Board Approves Position Statement On Acid Rain Legislation," (*American Gas Association*, December 12, 1988), Sierra Club National Legislative Records (1960-), Container 162, Folder 9, Bancroft Library, University of California Berkeley, https://legacywww.documentcloud.org/documents/25378113-american-gas-association-bancroft-library-sierra-club-records-carton-162_folder-9/#document/p1/a2614847, 1.

¹⁶⁴ "A.G.A. Board Approves Position Statement On Acid Rain Legislation," (*American Gas Association*, December 12, 1988), Sierra Club National Legislative Records (1960-), Container 162, Folder 9, Bancroft Library, University of California Berkeley, https://www.documentcloud.org/documents/25378113-american-gas-association-bancroft-library-sierra-club-records-carton-162_folder-9/?mode=document#document/p7/a2614852, 7.

Fossil fuel groups would soon launch a coordinated campaign to challenge the scientific consensus linking the production and consumption of fossil fuels with climate change.¹⁶⁵ But in

spite of their shared interest in defending fossil fuel use, gas-specific interests like AGA waged this playbook according to their own agenda, calling the climate issue “controversial” and “subject to dispute” without denying it outright.¹⁶⁶ While making plenty of misleading claims and engaging in climate obfuscation that downplayed the urgency of the situation, the gas utilities and pipeline operators simultaneously worked to position their product as a climate solution. To do this, the industry sought to build reputational credibility through recruitment of outside parties, including government agencies and environmental groups, using these relationships to redirect attention away from any climate impacts associated with gas.

A cornerstone of this strategy was to focus climate attention on CO₂, away from methane. This was executed through a policy of strategic engagement with the science of global warming that allowed the industry to create the appearance of good-faith participation in neutral scientific inquiry. This image reinforced the industry’s well-established public relations priorities of positioning gas as “the clean” alternative to coal and oil. In particular, it helped gas companies highlight the reduced carbon dioxide emissions associated with combustion of gas compared to coal and oil while shifting attention away from the methane problem.

This strategy had been telegraphed in GRI’s second five-year plan, published in 1980. The research plan explained that “GRI’s efforts on the issue of global levels of CO₂” were “closely coordinated” with DOE,

NOAA, and the National Science Foundation (NSF).¹⁶⁷ But despite evidence that methane was a significant greenhouse gas, the plan excluded the gas industry’s most significant contribution to climate change by focusing attention solely on “the global carbon dioxide problem.”¹⁶⁸ GRI’s research was directed at evaluating the impact of the industry’s operations and the combustion of gas, but only in terms of its contribution to atmospheric levels of CO₂, where gas had a clear advantage over coal and oil.¹⁶⁹

The five-year plan celebrated GRI’s early progress in cultivating the federal government as an ally in its investigations of environmental issues, including climate change, noting that the organization had “established a good working relationship with DOE.” According to the plan, GRI staff met regularly with members of various DOE offices,¹⁷⁰ making “certain that scenarios being developed under the DOE program for world energy demand for the next 50 years include industrial technical input and review.”¹⁷¹ The research plan also provided insight into the nature of the collaborations with government agencies, explaining how GRI-supported research would be narrowly focused on the connection between fossil fuels and carbon dioxide emissions, rather than broader greenhouse gases: “GRI’s specific project area involves identifying the fraction of the energy demand to be met by fossil fuels (natural gas in particular) and estimating the contribution of CO₂ from each source.”¹⁷²

165 Benjamin Andrew Franta, “Big Carbon’s Strategic Response To Global Warming, 1950-2020,” (PhD dissertation, Stanford University, 2022) <https://stacks.stanford.edu/file/druid:hq437ph9153/Franta%20-%20Big%20Carbon%20strategic%20response%20to%20global%20warming%201950-2020%20-%202022-08-25-augmented.pdf>.

166 “Natural Gas and Climate Change: The Greenhouse Effect,” (American Gas Association, June 14, 1989), The World Bank Group Archives, Records of the Energy Sector, <https://www.documentcloud.org/documents/25506336-worldbankgrouparchivesfolder1262989/#document/p134/a2675348>, 134.

167 “1981-1985 Five-Year Research & Development Plan and 1981 Research & Development Program” (Gas Research Institute, 1980), Box 96, Louis H. Roddis Papers, David M. Rubenstein Rare Book & Manuscript Library, Duke University, <https://www.documentcloud.org/documents/25511474-gri-1981-1985-5yr-plan-and-1981-rd-program-part-1-box-96-rod-dis-papers/?mode=document#document/p88/a2623370>, 88, 90.

168 “1981-1985 Five-Year Research & Development Plan,” <https://www.documentcloud.org/documents/25511474-gri-1981-1985-5yr-plan-and-1981-rd-program-part-1-box-96-rod-dis-papers/?mode=document#document/p88/a2623361>, 88.

169 “1981-1985 Five-Year Research & Development Plan,” <https://legacy.www.documentcloud.org/documents/25511474-gri-1981-1985-5yr-plan-and-1981-rd-program-part-1-box-96-rod-dis-papers#document/p88/a2623362>, 88.

170 “1981-1985 Five-Year Research & Development Plan,” <https://www.documentcloud.org/documents/25511474-gri-1981-1985-5yr-plan-and-1981-rd-program-part-1-box-96-rod-dis-papers/?mode=document#document/p46/a2623293>, 46.

171 “1981-1985 Five-Year Research & Development Plan,” <https://www.documentcloud.org/documents/25511474-gri-1981-1985-5yr-plan-and-1981-rd-program-part-1-box-96-rod-dis-papers/?mode=document#document/p90/a2623375>, 90.

172 “1981-1985 Five-Year Research & Development Plan,” <https://www.documentcloud.org/documents/25511474-gri-1981-1985-5yr-plan-and-1981-rd-program-part-1-box-96-rod-dis-papers/?mode=document#document/p90/a2623375>, 90.

3.4

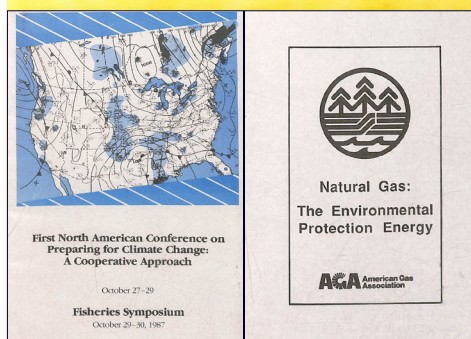
Methane's Role in Warming is Highlighted at Industry-Sponsored Events

A strategic way for gas utilities and pipeline companies to market gas as a climate solution and keep the focus on CO₂ was to position themselves as supporters of climate research via the industry's sponsorship of global warming conferences and symposiums — often in partnership with federal agencies. In 1983, for example, GRI was a co-sponsor of Oak Ridge National Laboratory's symposium on "The Global Carbon Cycle," along with federal agencies and the Electric Power Research Institute (EPRI).¹⁷³ **Similarly, AGA was a co-sponsor of the 1987 First North American Conference on "Preparing for Climate Change: A Cooperative Approach" along with federal agencies and the United Nations Environment Programme.¹⁷⁴ "Natural Gas: The Environmental Protection Energy" proclaimed a full-page AGA advertisement in the official conference brochure.¹⁷⁵**

Participation in these kinds of events was a double-edged sword for industry. On one hand, it was able to publicize its role and push the idea that gas was an environmentally-friendly fossil fuel while monitoring the state of climate science. On the other hand, by participating in the conferences, the industry was repeatedly confronted with evidence of the climate



Natural gas flare in western Perry County, Ohio, USA, November 1997. PHOTO: James St. John/Flickr



Concerns about methane emissions from natural gas operations were raised at the 1987 First North American Conference on Preparing for Climate Change sponsored by AGA. ([Stephen H. Schneider Papers](#), Stanford University)

harms associated with natural gas. Scientists from the federally-funded Oak Ridge National Laboratory, for example, warned at the 1983 GRI-sponsored symposium that the presence of trace gases such as methane in the atmosphere "could augment the predicted climatic response due to CO₂," an issue that could take on even more importance if current emissions trends held true over the course of several decades.¹⁷⁶ The authors went on to emphasize that "the carbon cycle is only one of several elemental cycles that must be understood to address climate-related issues."¹⁷⁷

173 John R. Trabalka and David E. Reichle, preface to *The Changing Carbon Cycle: A Global Analysis*, ed. J. R. Trabalka and D. E. Reichle (Springer-Verlag, 1986), <https://legacy.www.documentcloud.org/documents/25998834-changing-carbon-cycle-1/#document/p5/a2664840>, 5.

174 *Preparing For Climate Change, Proceedings of the First North American Conference on Preparing for Climate Change: A Cooperative Approach, October 27-29, 1987* (Government Institutes, Inc., 1988) <https://www.documentcloud.org/documents/24529929-preparing-for-climate-change-proceedings-of-the-first-north-american-conference-on-preparing-for-climate-change-1987/?mode=document>, 1.

175 Brochure for the "First North American Conference on Preparing for Climate Change: A Cooperative Approach" (The Climate Institute, 1987), Stephen H. Schneider Papers, Box 84, Folder 7, Stanford University Archives Special Collections, <https://www.documentcloud.org/documents/27890748-sc1053-b84-f7-climate-change-conference/#document/p9/a2807966>, 9.

176 John R. Trabalka et al., "Atmospheric CO₂ Projections with Globally Averaged Carbon Cycle Models," in *The Changing Carbon Cycle: A Global Analysis*, ed. J. R. Trabalka and D. E. Reichle (Springer-Verlag, 1986) <https://legacy.www.documentcloud.org/documents/25998834-changing-carbon-cycle-1/#document/p19/a2664846>, 19.

177 Trabalka et al., "Atmospheric CO₂ Projections," <https://legacy.www.documentcloud.org/documents/25998834-changing-carbon-cycle-1/#document/p19/a2664847>, 19.

III. THE GAS INDUSTRY FINDS ALLIES

Another paper that was published in the symposium's proceedings by Oak Ridge scientist Alfred M. Perry reviewed various climate scenarios and noted that models indicated continued warming *even without CO₂*. "The reason, of course, is that there must be a large contribution from something else; that is, the other greenhouse gases, and notably ... methane, nitrous oxide, and the chlorofluoromethanes."¹⁷⁸ Perry noted that his predictions held true even under a "no coal-no shale scenario": "In this case, only about one-fifth of the temperature rise is caused by increasing CO₂, and one begins to see why reducing the CO₂ emissions does not appear to be very effective. ... The major contributor is methane."¹⁷⁹ He emphasized the need to get "a much better understanding of the potential effect of the other greenhouse gases as well as that of CO₂. It may well be that restrictions on fossil fuel use would not be very effective in limiting future climate change unless simultaneous measures were taken to restrict emissions of other anthropogenic greenhouse gases."¹⁸⁰

A similar dynamic played out at the 1987 AGA-sponsored "Preparing for Climate Change" conference. In his introductory address, Alan Hecht, the director of NOAA's National Climate Program, told the audience that the risks of climate change from CO₂, chlorofluorocarbons, and methane "must be considered in future environmental, economic and social planning."¹⁸¹ He also rejected the gas industry's favorite talking point that anthropogenic methane was unimportant since most sources were natural, explaining that atmospheric concentrations of these gases were increasing.

“Some of these gases are naturally produced, but the greatest concentration of them results from man-made activities.”

"Some of these gases are naturally produced," Hecht explained, "but the greatest concentration of them results from man-made activities."¹⁸² NCAR scientist Stephen Schneider, one of the conference's keynote speakers, discussed methane as one of the gases that could "cause climatic change over the next two generations as large or larger than has been experienced by civilization."¹⁸³ James Hansen also noted the role of methane in climate change and the need for additional research in his presentation at the conference: "As greenhouse climate effects inevitably grow, so will the needs for quantitative evaluation of observed climate change and reliable prediction of the consequences of alternative trace gas emissions scenarios. This will require long-term global observations of the climate system accompanied by a vigorous research program."¹⁸⁴

One prescient critic at industry-sponsored climate events was Irving Mintzer of the World Resources Institute (WRI), who repeatedly highlighted the relationship between methane leaks and global warming. At the 1987 "Preparing for Climate Change" conference,

178 Alfred M. Perry, "Possible Changes in Future Use of Fossil Fuels to Limit Environmental Effects," in *The Changing Carbon Cycle: A Global Analysis*, ed. J. R. Trabalka and D. E. Reichle (Springer-Verlag, 1986), <https://legacy.www.documentcloud.org/documents/25998834-changing-carbon-cycle-1/#document/p33/a2664852>, 32-33.

179 Perry, "Possible Changes in Future Use of Fossil Fuels," <https://legacy.www.documentcloud.org/documents/25998834-changing-carbon-cycle-1/#document/p33/a2664853>, 33.

180 Perry, "Possible Changes in Future Use of Fossil Fuels," <https://legacy.www.documentcloud.org/documents/25998834-changing-carbon-cycle-1/#document/p35/a2664854>, 35.

181 Alan Hecht, "Planning for Climate Change," in *Preparing For Climate Change, Proceedings of the First North American Conference on Preparing for Climate Change: A Cooperative Approach, October 27-29, 1987* (Government Institutes, Inc., 1988), <https://www.documentcloud.org/documents/24529929-preparing-for-climate-change-proceedings-of-the-first-north-american-conference-on-preparing-for-climate-change-1987/?mode=document#document/p12/a2673122>, 12.

182 Hecht, "Planning for Climate Change," <https://www.documentcloud.org/documents/24529929-preparing-for-climate-change-proceedings-of-the-first-north-american-conference-on-preparing-for-climate-change-1987/?mode=document#document/p12/a2673120>, 12.

183 Stephen H. Schneider, "The Greenhouse Effect: What We Can or Should Do About It," in *Preparing For Climate Change, Proceedings of the First North American Conference on Preparing for Climate Change: A Cooperative Approach, October 27-29, 1987* (Government Institutes, Inc., 1988), <https://www.documentcloud.org/documents/24529929-preparing-for-climate-change-proceedings-of-the-first-north-american-conference-on-preparing-for-climate-change-1987/?mode=document#document/p36/a2673127>, 36.

184 J. Hansen et al., "Prediction of Near-Term Climate Evolution: What Can We Tell Decision-Makers Now?" in *Preparing For Climate Change, Proceedings of the First North American Conference on Preparing for Climate Change: A Cooperative Approach, October 27-29, 1987* (Government Institutes, Inc. 1988), <https://www.documentcloud.org/documents/24529929-preparing-for-climate-change-proceedings-of-the-first-north-american-conference-on-preparing-for-climate-change-1987/?mode=document#document/p66/a2673138>, 66.

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Mintzer acknowledged that increased use of natural gas as a “less CO₂-intensive” fuel could be one option for responding to concerns about climate change,¹⁸⁵ a detail that was reported in the January 1988 edition of *AGA Monthly*.¹⁸⁶

But the gas industry magazine was selective in its reporting, omitting the rest of Mintzer’s remarks, including his warning that methane emissions could undermine any climate advantages gas had over coal. “In the last several decades, the annual contribution to warming from carbon dioxide build-up has become approximately equal to the effects of other trace gases, in part because some of those gases absorb infrared radiation up to 10,000 times more efficiently per molecule than CO₂ does,” Mintzer had explained. “In the future, the onus for global warming will rest more heavily on gases other than CO₂.”¹⁸⁷ It was a situation, he concluded at the end of his speech, that could make it necessary to “impose controls on methane leakage from fossil fuel extraction and transportation activities.”¹⁸⁸ It was a stark warning for the industry.

At a 1988 conference, Mintzer again warned participants from the oil, gas, and utilities industries¹⁸⁹ that humanity was conducting “one giant experiment on a global scale by increasing the concentration of trace gases in the atmosphere without knowing the environmental consequences.”¹⁹⁰ **Expanding on these points in a paper published in 1990, Mintzer concluded that although shifting electricity production from coal to natural gas could reduce CO₂ emissions, “the benefits of fuel switching can be negated by a methane leakage rate as seemingly modest as 3-4%” since methane is a more powerful greenhouse gas.**¹⁹¹ During the early 1990s, the magnitude of methane’s potency as a greenhouse gas would be revised upward by the Intergovernmental Panel on Climate Change (IPCC) as scientific understanding of atmospheric dynamics increased.¹⁹² As Mintzer demonstrated, methane’s outsized greenhouse potency meant that even low rates of methane emissions from natural gas operations could pose serious climate risks.¹⁹³

185 Irving Mintzer, “Energy Policy And The Greenhouse Problem: A Challenge to Sustainable Development,” in *Preparing For Climate Change, Proceedings of the First North American Conference on Preparing for Climate Change: A Cooperative Approach, October 27-29, 1987*, (Government Institutes, Inc., 1988) <https://www.documentcloud.org/documents/24529929-preparing-for-climate-change-proceedings-of-the-first-north-american-conference-on-preparing-for-climate-change-1987/?mode=document#document/p247/a2663878>, 247.

186 “Climate Conference Co-Sponsored by A.G.A.,” *American Gas Association Monthly* (January 1988), U.S. Library of Congress, <https://www.documentcloud.org/documents/26044161-aga-monthly-january-1988/?mode=document#document/p13/a2673152>, 13.

187 Mintzer, “Energy Policy And The Greenhouse Problem,” <https://www.documentcloud.org/documents/24529929-preparing-for-climate-change-proceedings-of-the-first-north-american-conference-on-preparing-for-climate-change-1987/?mode=document#document/p238/a2673228>, 238.

188 Mintzer, “Energy Policy And The Greenhouse Problem,” <https://www.documentcloud.org/documents/24529929-preparing-for-climate-change-proceedings-of-the-first-north-american-conference-on-preparing-for-climate-change-1987/#document/p254/a2630599>, 254.

189 The conference was attended by representatives from BP, Mobil, Shell, Brooklyn Gas, Brooklyn Union Gas, EPRI and EEI, among others. “Strategic Planning Seminar On The Long-Term Implications of Climatic Change” (World Resources Institute/National Climate Program Office), Peter S. Thacher Papers Part 1, Box 107, Environmental Science and Public Policy Archives, Harvard College <https://www.documentcloud.org/documents/25992456-world-resources-institute-policy-responses-to-greenhouse-problem-box-107-folder-1027-peter-s-thacher-papers-harvard/?mode=document#document/p29/a2665198>, 29-38.

190 Irving Mintzer, “Energy Policy and Global Climate Change,” presented at Strategic Planning Seminar On The Long-Term Implications of Climatic Change (January 5, 1988), Peter S. Thacher Papers Part 1, Box 107, Environmental Science and Public Policy Archives, Harvard, College <https://www.documentcloud.org/documents/25992456-world-resources-institute-policy-responses-to-greenhouse-problem-box-107-folder-1027-peter-s-thacher-papers-harvard/?mode=document#document/p77/a2665193> 77.

191 Irving M. Mintzer, “Energy, Greenhouse Gases and Climate Change,” *Annual Review of Energy* 15 (1990), <https://legacy.www.documentcloud.org/documents/25901104-energy-greenhouse-gases-and-climate-change-irving-m-mintzer-1990/#document/p5/a2632109>, 5.

192 *Climate Change: The IPCC 1990 and 1992 Assessments* (Intergovernmental Panel on Climate Change, June 1992), <https://www.documentcloud.org/documents/25877555-ipcc-90-92-assessments-far-full-report/#document/p83/a2664043>, 24, 83.

193 Mintzer, “Energy, Greenhouse Gases and Climate Change,” <https://legacy.www.documentcloud.org/documents/25901104-energy-greenhouse-gases-and-climate-change-irving-m-mintzer-1990/#document/p3/a2632107> 3.

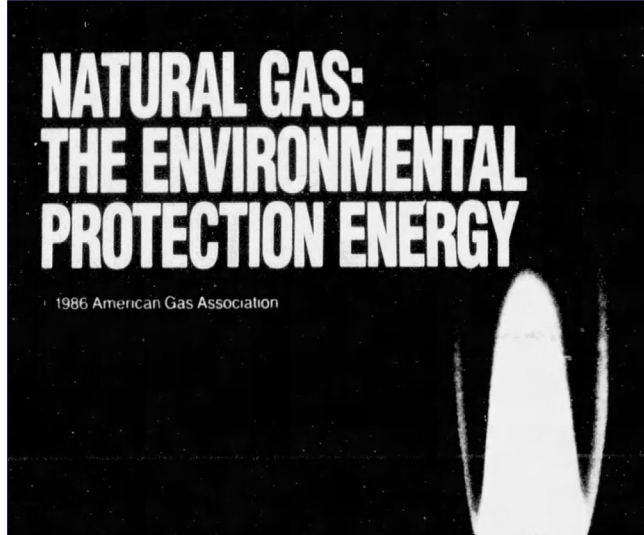
3.5

The Gas Industry Capitalizes on Acid Rain and Other Environmental Problems

These developments in climate science directly contradicted the effort to position natural gas as a form of “clean energy.” But they did little to deter an industry that recognized the potential value of widespread acceptance of the clean gas myth. In making its case, the natural gas industry seemed to claim that its product could be a solution for a wide array of environmental problems. **The April 1986 AGA Monthly “President’s Message” had proclaimed that gas was the “environmental protection energy.”**¹⁹⁴

“While too many industries in America shuffle their feet and stammer excuses when the topic of the environment comes up, the natural gas industry has always been able to say that its clean-burning fuel is one of the answers to our pollution problem, rather than one of its causes,” AGA president Lawrence had argued.¹⁹⁵ “The United States has it and we should use it—now.”¹⁹⁶ Meanwhile, an AGA-approved national advertising campaign reinforced this message that natural gas was “The Environmental Protection Energy” across the United States.¹⁹⁷

Natural gas companies used this environmental messaging to exploit what Lawrence called “the largest



AGA advertisement from 1986.
([American Gas Association](#))

potential growth market for the gas industry”: electricity production using natural gas.¹⁹⁸ Although this use of gas remained restricted until the repeal of the Fuel Use Act in May 1987, the gas industry had been actively positioning itself as a superior alternative to coal on environmental grounds throughout the decade. “New technologies, such as combined-cycle power plants, natural gas repowering and select use of gas with other fuels, make gas an economically and environmentally better alternative to coal-fired plants or nuclear power,” Lawrence explained in a January 1987 speech on the momentum towards deregulation.¹⁹⁹

In making its case that gas was environmentally superior to coal, the industry placed particular emphasis on acid rain, one of the top environmental concerns of the 1980s. As the industry pushed for deregulation of gas use, it recognized the potential benefits of environmental legislation to address sulfur dioxide emissions that led to acid rain. “Let’s face it, if costly controls to reduce acid rain are imposed, as now seems likely, gas will be the beneficiary,” explained GRI president Henry Linden in 1984.²⁰⁰

194 George H. Lawrence, “A Pollution Solution,” *American Gas Association Monthly* (April 1986), U.S. Library of Congress, <https://www.documentcloud.org/documents/26044084-aga-monthly-april-1986/?mode=document#document/p2/a2671593.2>.

195 Lawrence, “A Pollution Solution,” <https://www.documentcloud.org/documents/26044084-aga-monthly-april-1986/#document/p2/a2671584.2>.

196 Lawrence, “A Pollution Solution,” <https://www.documentcloud.org/documents/26044084-aga-monthly-april-1986/#document/p2/a2671593.2>.

197 See e.g., “Natural Gas: The Environmental Protection Energy,” advertisement, *The Observer* (October 2, 1986), [Newspapers.com](https://www.newspapers.com), <https://www.documentcloud.org/documents/26311758-the-observer-1986-10-02-6/>; “Natural Gas Can Help Meet America’s Environmental Challenges,” *The Times Herald* (April 17, 1990), [Newspapers.com](https://www.newspapers.com), <https://www.documentcloud.org/documents/26311760-the-times-herald-1990-04-17-25/?mode=document>; “Environmental Impact of Energy Sources Not Always Apparent: Natural Gas Fueling Major Portion of US Energy Needs,” *Statesville Record and Landmark* (April 21, 1991), [Newspapers.com](https://www.newspapers.com), <https://www.documentcloud.org/documents/26311761-statesville-record-and-landmark-1991-04-21-48/?mode=document>.

198 “American Gas Association 1987 Report to Members” (American Gas Association, 1987), Louis H. Roddis papers, 1823-1990, Box 103, David M. Rubenstein Rare Book & Manuscript Library, Duke University, <https://www.documentcloud.org/documents/25511667-aga-1987-report-to-members-box-103-rod-dis-papers/?mode=document#document/p13/a2822483.13>.

199 “Houston Bankers Updated on Natural Gas Industry,” *American Gas Association Monthly* (April 1987), U.S. Library of Congress, <https://legacy.www.documentcloud.org/documents/26044137-aga-monthly-april-1987/#document/p7/a2773531.7>.

200 Henry R. Linden, “The Outlook for Gas to the Year 2000,” *Oil & Gas Journal* (January 9, 1984), Louis H. Roddis papers, 1823-1990, Box 15, David M. Rubenstein Rare Book & Manuscript Library, Duke University, <https://www.documentcloud.org/documents/25511473-misc-box-15-rod-dis-papers/?mode=document#document/p27/a2622404.27>.

3.6

The Gas Industry Targets Environmental Organizations With Its Campaign

As the acid rain issue grew in social and political importance in the second half of the 1980s, AGA spent considerable time and resources courting key audiences to boost the message that gas was superior to coal — among them, environmental organizations.²⁰¹ In March 1985, AGA held a meeting with several national environmental groups “to discuss the broadened use of natural gas to reach U.S. environmental objectives.”²⁰² Following the meeting, AGA formed a task force — which included representatives from groups including the Audubon Society, Friends of the Earth, Natural Resources Defense Council, Resources for the Future, Sierra Club, and World Wildlife Fund — with the goal of “maintain[ing] the industry’s momentum with the environmental community.”²⁰³ **As concerns grew over the industry’s methane problem toward the end of the 1980s and early 1990s, AGA would continue to use its relationships with environmental groups to promote gas as “clean-burning.”**²⁰⁴

Beyond direct engagement with specific organizations, the gas industry also sought to connect with environmentalists through actions like AGA’s sponsorship of the PBS series “NATURE,” which, according to AGA, provided “an excellent opportunity” for “clean-burning



A natural gas installation burns its petrochemical waste, 1972. Credit: DOCUMERICA



AGA sponsored the PBS series “NATURE” so that natural gas would be associated with the preservation of the environment. (American Gas Association Monthly)

- 201 Texas Land Office’s Garry Mauro later wrote in his memoir that AGA’s partnership with the Sierra Club was the result of “months of courtship ... often resembling a ritualistic mating dance.” Garry Mauro, *Beaches, Bureaucrats and Big Oil: One Man’s Fight for Texas* (Look Away Books, 1997), Internet Archive <https://archive.org/details/beachesbureaucra00garr/page/130/mode/2up?q=courtship>, 130.
- 202 “Environmentalists, Industry Discuss Energy Concerns,” *American Gas Association Monthly* (May 1985), U.S. Library of Congress, <https://www.documentcloud.org/documents/26044069-aga-monthly-may-1985/?mode=document#document/p2/a2673996>, 2.
- 203 “Environmentalists, Industry Discuss Energy Concerns,” <https://www.documentcloud.org/documents/26044069-aga-monthly-may-1985/?mode=document#document/p2/a2674000>, 2.
- 204 Michael Baly III, “The Blue Flame Knows How To Think Green,” *American Gas* (June 1993), U.S. Library of Congress, <https://legacy.www.documentcloud.org/documents/26047852-aga-monthly-june-1993#document/p2/a2809932> 2.

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natural gas to be associated with the preservation of the environment.”²⁰⁵ To enhance these efforts AGA created a new quarterly publication, “designed specifically for this audience” of environmental groups, called *The Natural Resource*.²⁰⁶ Later, AGA would use *The Natural Resource* to misleadingly downplay methane’s significance as a greenhouse gas.

While downplaying methane’s role in global warming,²⁰⁷ the industry celebrated its success in selling a positive image of gas. **“Our voice is heard” was AGA’s top message in its 1987 report to its members. “The value of natural gas to help clean up the environment has gained important new advocates, including government officials at the highest levels and leading environmentalists,” the report explained.²⁰⁸ The trade organization credited its nationwide advertising, which kept “the gas industry’s messages before the public through advertising on network television and in leading magazines and newspapers.”²⁰⁹**

**“Our voice is heard.
The value of natural gas
to help clean up the
environment has gained
important new advocates,
including government
officials at the highest
levels and leading
environmentalists.”**

This improved public sentiment helped the industry in its mission to find allies among audiences that it had previously struggled to reach. “[O]ur work over the past several years has not only freed us from the federal statutory restraints on the use of gas, but also has intensified interest among the media, consumers, regulators, environmentalists, the financial community and the nation’s policy-makers in the many advantages of natural gas energy,” AGA summarized. “Our messages about the tremendous benefits that accrue from using natural gas are now their messages, too.”²¹⁰

It was a lesson the gas industry would apply over subsequent decades, effectively partnering with environmental groups to help facilitate its aims for expansion.

205 “NATURE Series To Begin Fourth Series On PBS,” *American Gas Association Monthly* (October 1985), U.S. Library of Congress, <https://www.documentcloud.org/documents/26044074-aga-monthly-october-1985/?mode=document#document/p1/a2773387>, 1.

206 “American Gas Association 1987 Report to Members,” <https://www.documentcloud.org/documents/25511667-aga-1987-report-to-members-box-103-roddis-papers/?mode=document#document/p12/a2622954>, 12.

207 “Climate Conference Co-Sponsored by A.G.A.,” <https://www.documentcloud.org/documents/26044161-aga-monthly-january-1988/?mode=document#document/p13/a2822484>, 13.

208 “American Gas Association 1987 Report to Members,” <https://legacy.www.documentcloud.org/documents/25511667-aga-1987-report-to-members-box-103-roddis-papers/#document/p4/a2674467>, 4.

209 “American Gas Association 1987 Report to Members,” <https://legacy.www.documentcloud.org/documents/25511667-aga-1987-report-to-members-box-103-roddis-papers/#document/p6/a2622829>, 6.

210 “American Gas Association 1987 Report to Members,” <https://legacy.www.documentcloud.org/documents/25511667-aga-1987-report-to-members-box-103-roddis-papers/#document/p4/a2822488>, 4. Original emphasis.

3.7

Powers Combined: Electric Utilities Embrace the Switch from Coal to Gas

With the eventual repeal of the Fuel Use Act in 1987, which lifted the Congressional prohibition on using natural gas for newly built power plants, the chance to replace coal with gas as the country's primary energy source was in sight.²¹¹ As *The New York Times* reported in September 1987, "Industry's goal now is to spur demand."²¹² And AGA believed it was in the right position to do exactly that. **"[G]reater public discussion about air pollution problems," among other factors, had been a boon to the gas industry, AGA's report to members explained that year. "These concerns have dovetailed with the gas industry's aggressive marketing campaign to stimulate wider acceptance of the newer uses of natural gas."**²¹³

To expand the market, the gas industry made overtures to the electric utilities, bringing the two groups — which had historically been competitors in residential heating and cooking markets — together to develop a mutually-beneficial strategy. This meant that AGA now marketed its "clean energy" narrative back to the industry from which it had originally sourced the idea. In 1987, AGA launched "an extensive communication campaign" to increase its share of the electricity production market.²¹⁴ In addition, the trade organization "held a special meeting for electric utility and gas industry executives to discuss the reliability of the gas supply and the



President Reagan signing the repeal of the Fuel Use Act, freeing up gas supplies, May 21, 1987. (Rubenstein Library, Duke University)

new applications of gas for producing electricity."²¹⁵ Benchmarking the campaign's success, AGA and EEI co-sponsored a conference on "efficient electricity generation with natural gas," bringing together executives, engineers, and representatives of environmental organizations, to discuss gas in the electric sector.²¹⁶

The inclusion of environmental organizations was an important part of the strategy of convincing the electric utilities that a switch to gas would be beneficial. As AGA chairman James T. Dolan, Jr. explained, "Not surprisingly, environmentalists are increasingly becoming our strongest allies. They recognize the role that natural gas-generated electric power ... will play in reducing air pollution."²¹⁷ By 1989, the gas industry was already seeing dividends in its efforts to win over the electric utilities. An *AGA Monthly* article, entitled "Electricity generation sees gas in its future," noted that "increased interest in the environment" was also "a large motivating factor as natural gas emerges as an attractive energy option."²¹⁸

211 "American Gas Association 1987 Report to Members," <https://www.documentcloud.org/documents/25511667-aga-1987-report-to-members-box-103-roddis-papers/#document/p13/a2622892>, 13.

212 Robert D. Hershey Jr, "Natural Gas: An Industry Bubbles Up After Deregulation," *New York Times* (September 13, 1987), <https://timesmachine.nytimes.com/timesmachine/1987/09/13/857887.html?pageNumber=237>.

213 "American Gas Association 1987 Report to Members," <https://www.documentcloud.org/documents/25511667-aga-1987-report-to-members-box-103-roddis-papers/?mode=document#document/p13/a2622892>, 13.

214 "American Gas Association 1987 Report to Members," <https://www.documentcloud.org/documents/25511667-aga-1987-report-to-members-box-103-roddis-papers/?mode=document#document/p13/a2622894> 13-14.

215 "American Gas Association 1987 Report to Members," <https://www.documentcloud.org/documents/25511667-aga-1987-report-to-members-box-103-roddis-papers/?mode=document#document/p13/a2622894>, 13-14.

216 "American Gas Association 1987 Report to Members," <https://www.documentcloud.org/documents/25511667-aga-1987-report-to-members-box-103-roddis-papers/?mode=document#document/p14/a2622957>, 14.

217 "Chairman, President Address Major Gas Industry Issues," *American Gas Association Monthly* (November/December 1988), U.S. Library of Congress, <https://www.documentcloud.org/documents/26044232-aga-monthly-novemberdecember-1988/#document/p6/a2815279>, 6.

218 "Electricity Generation Sees Gas In Its Future," *American Gas* (February 1989), U.S. Library of Congress, <https://legacywww.documentcloud.org/documents/26044243-aga-monthly-february-1989/#document/p36/a2677710>, 36.

3.8

Friends with Benefits: The Oil and Gas Producers Join Forces

Over the same time period, the gas utilities and pipeline operators were also developing closer ties with another key industry player: oil and gas producers. The oil majors, BP, Chevron, Exxon, Mobil, Phillips Petroleum, Shell, and Texaco, had been the country's largest gas producers for decades, and their trade organization, API, had lobbied for greater gas development since at least 1980.²¹⁹ Beginning in the mid-80s, however, the producers showed “heightened interest” in natural gas as a share of their overall oil and gas production.²²⁰ What changed was the availability of new federal tax credits and lowering costs of production that raised their profit margins for gas. And, towards the end of the decade, the public’s growing political interest in acid rain²²¹ and climate change²²² showed a future with even more upside for the producers who recognized that gas demand was poised to grow with further government and consumer support.²²³



Gas Refinery at Port of Tacoma. PHOTO: Mark Hatfield/iStock

As *AGA Monthly* reported in February 1989, paraphrasing comments made by a senior vice president at Phillips Petroleum, “producers want to sell more gas, and they can handle an upsurge in demand.”²²⁴

By 1988, the major gas producers, which were also the major oil companies of the day, had joined forces with GRI to exploit the opportunity for expanding natural gas. This began in 1987, when GRI created a “Producer Task Force” bringing together “representatives of the three gas industry segments for frank discussions about gas issues,” enabling them to “gain a better understanding

219 *Two Energy Futures: A National Choice for the 80s* (American Petroleum Institute, 1980), University of Wyoming, <https://www.documentcloud.org/documents/21094515-1980-api-two-energy-futures-a-national-choice-for-the-80s/>, 10.

220 “The Majors Shift to Natural Gas” (U.S. Energy Information Administration, September 2001), <https://www.documentcloud.org/documents/26514676-majors-shift-to-natural-gas-eia/?mode=document#document/p5/a2786331>, 5.

221 “Unusual Alliance Promotes More Gas Use for Clean Air,” *American Gas Association Monthly* (July 1988), U.S. Library of Congress, <https://legacywww.documentcloud.org/documents/26044219-aga-monthly-july-1988/#document/p6/a2773819>, 6.

222 “Natural Gas In A New Market Environment” (Center for Public Policy, May 1989), Sierra Club National Legislative Records (1960-), Container 162, Folder 9, Bancroft Library, University of California Berkeley, https://legacywww.documentcloud.org/documents/25378114-gas-natural-1989-bancroft-library-sierra-club-records-carton-162_folder-8/#document/p103/a2614689, 103.

223 American Petroleum Institute, “The American Petroleum Institute (API) Position on Global Climate Change,” (July 1989), courtesy of Nathaniel Rich, author of *Losing Earth*, <https://legacywww.documentcloud.org/documents/28110478-ipieca-briefing-documentation-on-potential-enhanced-greenhouse-effect-february-1990#document/p5/a2815456>, 5.

224 “Electricity Generation Sees Gas In Its Future,” <https://www.documentcloud.org/documents/26044243-aga-monthly-february-1989/?mode=document#document/p36/a2677705>, 36.

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of one another's positions on an array of topics."^{225,226} Shortly after, GRI added the producers as members and, eventually, board members, adding Amoco, Chevron, Texaco, Conoco, Phillips, Mobil, and Shell to its ranks over the next few years — a sign of the increasing control oil majors had across GRI's priorities.²²⁷ **"By bringing gas producers into our membership," GRI Chairman John H. Croom explained in 1988, "we will have a stronger, more balanced, and more beneficial research and development program."**²²⁸

GRI celebrated the "quality of producer *participation* in GRI's program—both on technical project groups and on policy-forming advisory bodies,"²²⁹ explaining that the "new producer members have a direct voice in the program and participate firsthand in field work."²³⁰

In his 1988 address at the annual meeting of the Natural Gas Supply Association (NGSA), the primary trade organization representing natural gas producers, AGA chair Eugene Tracy declared that making gas "America's Energy Cornerstone" would require industry

unification.²³¹ Paraphrasing Tracy's remarks, *American Gas* (the rebranded title for the industry's *AGA Monthly*) reported that he had implored the industry to **"speak as one on the facts of supply and market growth," promising that distributors would provide support on policy issues like access to public lands for drilling if producers would, "in return, ... be active and visible advocates for the positive future of natural gas."**²³²

Tenneco Gas CEO Robert C. Thomas reiterated these points in a 1990 interview with *GRID* (GRI's publication, *Gas Research Institute Digest*), saying, "Most major oil producing companies are just now coming to realize how important gas is as a part of their product mix."²³³ He argued that producers could be particularly helpful "on the advertising side — communicating the benefits of gas to end users," since the industry's top priority had to be expanding markets. "[W]e simply must work closer together in market development," Thomas explained. "That's got to be one of the key things in the future — getting the industry working even more closely together."

- 225 "American Gas Association 1987 Report to Members," <https://legacy.www.documentcloud.org/documents/25511667-aga-1987-report-to-members-box-103-roddis-papers/#document/p5/a2622730>, 5.
- 226 Fuel switching was discussed by representatives from Exxon, Mobil, Shell, Texaco, BP, API, and others at a 1988 meeting of the International Petroleum Industry Environmental Conservation Association (IPIECA). IPIECA, "IPIECA Briefing Documentation on Potential Enhanced Greenhouse Effect" (February 1990), courtesy of Nathaniel Rich, author of *Losing Earth*, <https://legacy.www.documentcloud.org/documents/28110478-ipieca-briefing-documentation-on-potential-enhanced-greenhouse-effect-february-1990#document/p3/a2815460>, 3.
- 227 "Gas Research Institute Annual Report 1988: Benefits, Balance, Broad Industry Cooperation" (Gas Research Institute), Louis H. Roddis papers, 1823-1990, Box 96, David M. Rubenstein Rare Book & Manuscript Library, Duke University, <https://legacy.www.documentcloud.org/documents/25511664-gri-1988-annual-report-box-96-roddis-papers#document/p4/a2622435>, 4; "Gas Industry Member Company Index 1985-1988" (Gas Research Industry Digest Index, 1989), Thomas Boulevard Library, University of Pittsburgh, <https://www.documentcloud.org/documents/24626994-grid-member-companies-index-1985-1989/>.
- 228 "GRI Adds Producers To its Membership" (*American Gas*, May 1989), U.S. Library of Congress, <https://www.documentcloud.org/documents/26044207-aga-monthly-may-1988/?mode=document#document/p24/a2671605>, 24; "Gas Industry Member Company Index," <https://www.documentcloud.org/documents/24626994-grid-member-companies-index-1985-1989/>.
- 229 "Gas Research Institute Annual Report 1988," <https://www.documentcloud.org/documents/25511664-gri-1988-annual-report-box-96-roddis-papers/?mode=document#document/p4/a2622442>, 4-5, Original emphasis.
- 230 "Gas Research Institute Annual Report 1988," <https://www.documentcloud.org/documents/25511664-gri-1988-annual-report-box-96-roddis-papers/?mode=document#document/p5/a2622448>, 5, Original emphasis.

“You can call it cooperation or whatever you like, but it’s working together for the benefit of the total industry.”²³⁴

- 231 "Spokesmen See Future Of Aggressive Marketing," *American Gas* (February 1989), U.S. Library of Congress, <https://www.documentcloud.org/documents/26044243-aga-monthly-february-1989/#document/p37/37>.
- 232 "Spokesmen See Future Of Aggressive Marketing," <https://www.documentcloud.org/documents/26044243-aga-monthly-february-1989/?mode=document#document/p37/a2815287>, 37.
- 233 "GRID Interviews Robert C. Thomas," *Gas Research Institute Digest* (Summer 1990), Thomas Boulevard Library, University of Pittsburgh, <https://www.documentcloud.org/documents/24630522-grid-summer-1990/?mode=document#document/p6/a2563448>, 6.

3.9

“The Energy of Choice”: The Gas Industry Uses Climate Concerns to Reinforce the “Clean” Gas Myth

With federal agencies, environmental groups, electric utilities, and the oil majors aligning on the benefits of natural gas, the gas industry’s next task was convincing policymakers and the public — and the timing could hardly have been better. James Hansen’s testimony in front of Congress in June 1988 brought global attention to the issue of CO₂-driven climate change, which became a major public policy issue in the United States.

Increasing concern over CO₂ and climate, as well as environmental issues in general, reinforced the benefits of the clean gas myth for the industry. “Acid rain, brown clouds, ozone formation, overflowing landfills, and the greenhouse effect are all evidence of the deterioration of our environment,” an issue “of increasing concern to all Americans,” explained GRI’s 1988 annual report.²³⁴ The report noted that fossil fuel combustion was a factor in these environmental harms but presented gas as distinct: “Not all fuels are alike, however. Natural gas is the cleanest and least polluting of the fossil fuels” it stated, adding that gas could “be recovered and transported with minimum environmental impact.”²³⁵

This claim was crucial to many of the industry’s arguments in the following years. It misappropriated true facts about gas — that burning gas emitted less sulfur, nitrogen oxide, and CO₂ than coal and oil — to overstate gas’ benefits, selectively ignoring the other ways in which gas is harmful to the environment, including air pollution (through ground-level ozone pollution) and, crucially, its contribution to “the greenhouse effect” through emissions of methane.



NASA scientist James Hansen tells U.S. Senate that global warming “is already happening now,” June 24, 1988. ([New York Times](#))

While claiming gas was the “cleanest and least polluting of the fossil fuels,” GRI’s annual report made no mention of the climate risk posed by the industry’s methane emissions.²³⁶

But industry also realized this message would gain more credibility coming from other messengers,²³⁷ and forged new alliances to bring this misrepresentation to the forefront. In November 1988, AGA co-sponsored a “Bringing Energy and the Environment into Focus” conference at the University of Houston in Texas along with INGAA, the Texas General Land Office, the Sierra Club, and others.²³⁸ Convened to “explore policy

234 “Gas Research Institute Annual Report 1988,” <https://legacy.www.documentcloud.org/documents/25511664-gri-1988-annual-report-box-96-roddis-papers#document/p33/a2822489>, 33.

235 “Gas Research Institute Annual Report 1988,” <https://legacy.www.documentcloud.org/documents/25511664-gri-1988-annual-report-box-96-roddis-papers#document/p33/a2622543>, 33.

236 “Gas Research Institute Annual Report 1988,” <https://legacy.www.documentcloud.org/documents/25511664-gri-1988-annual-report-box-96-roddis-papers#document/p33/a2622543>, 33.

237 “American Gas Association 1987 Report to Members,” <https://legacy.www.documentcloud.org/documents/25511667-aga-1987-report-to-members-box-103-roddis-papers/#document/p4/a2622728>, 4.

238 “Natural Gas In A New Market Environment,” https://legacy.www.documentcloud.org/documents/25378114-gas-natural-1989-bancroft-library-sierra-club-records-carton-162_folder-8/#document/p98/a2614681, 98.

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initiatives that would advance interests shared by gas producers and consumers,”²³⁹ the conference’s corporate underwriters included major producers Amoco, ARCO, Exxon, Shell, and Texaco.²⁴⁰ According to the conference report, INGAA’s president Jerald Halvorsen applauded a “greenhouse” bill in Congress but opposed its funding provisions for “all the old failed and stalled programs,” such as nuclear, solar, and wind power.²⁴¹ To take advantage of a proposed restructured fuel market, gas industry representatives should make their case more actively to lawmakers, urged Halvorsen and other speakers at the conference.²⁴²

A position statement presented at the conference by the Texas-New England Biregional Committee on Natural Gas — whose members included representatives from the Texas independent producers as well as oil and gas companies²⁴³ — advocated for greater gas use to prevent climate change, arguing that “[e]xpected amendments to the Clean Air Act should recognize the importance of increased natural gas use in meeting air-quality standards, limiting acid rain, and reducing the possibility of global warming.”²⁴⁴ While positioning gas as a climate solution, the statement failed to disclose gas’ potential contribution to global warming through its methane emissions.

“With the growing concern about the greenhouse effect, if we will sell our environmental story, we will be the energy of choice.”

CEO of gas distribution giant Enron, Kenneth Lay, who addressed the conference on the subject of “Meeting the Challenge of New Market Opportunities,”²⁴⁵ followed suit, telling participants that, **“With the growing concern about the greenhouse effect, if we will sell our environmental story, we will be the energy of choice.”**²⁴⁶

The following year, the major producers, represented by NGSA, put these same concepts into action, jointly lobbying the federal government with AGA and INGAA to keep the U.S. Outer Continental Shelf open to oil and gas development. A 1989 letter written by the three trade groups exemplified a shared messaging strategy, marketing gas as both clean energy and a climate solution while failing to mention gas’ methane problem. “Natural gas is by far the cleanest burning fossil fuel since it produces less carbon dioxide per unit of energy output,” stated the letter which also invoked “the environmental community’s support for the increased use of natural gas to solve some of our nation’s pressing environmental problems.”²⁴⁷

239 “Natural Gas In A New Market Environment,” https://legacy.www.documentcloud.org/documents/25378114-gas-natural-1989-bancroft-library-sierra-club-records-carton-162_folder-8/#document/p100/a2614685, 100.

240 “Natural Gas In A New Market Environment,” https://legacy.www.documentcloud.org/documents/25378114-gas-natural-1989-bancroft-library-sierra-club-records-carton-162_folder-8/#document/p99/a2614682, 99.

241 “Natural Gas In A New Market Environment,” https://legacy.www.documentcloud.org/documents/25378114-gas-natural-1989-bancroft-library-sierra-club-records-carton-162_folder-8/#document/p103/a2614689, 103.

242 “Natural Gas In A New Market Environment,” https://legacy.www.documentcloud.org/documents/25378114-gas-natural-1989-bancroft-library-sierra-club-records-carton-162_folder-8/#document/p103/a2677793, 101, 103.

243 “Natural Gas In A New Market Environment,” https://legacy.www.documentcloud.org/documents/25378114-gas-natural-1989-bancroft-library-sierra-club-records-carton-162_folder-8/#document/p109/a2614700, 109.

244 “Natural Gas In A New Market Environment,” https://legacy.www.documentcloud.org/documents/25378114-gas-natural-1989-bancroft-library-sierra-club-records-carton-162_folder-8/#document/p109/a2614698, 109.

245 “Natural Gas In A New Market Environment,” https://legacy.www.documentcloud.org/documents/25378114-gas-natural-1989-bancroft-library-sierra-club-records-carton-162_folder-8/#document/p118/a2614707, 118.

246 “Natural gas poised for revival, Enron chief says,” *Houston Chronicle* (November 30, 1988); Sierra Club National Legislative Records (1960-), Container 161, Bancroft Library, University of California Berkeley, https://www.documentcloud.org/documents/25378116-gas-natural-1988-bancroft-library-sierra-club-records-carton-161_folder-37/#document/p13/a2663035, 13.

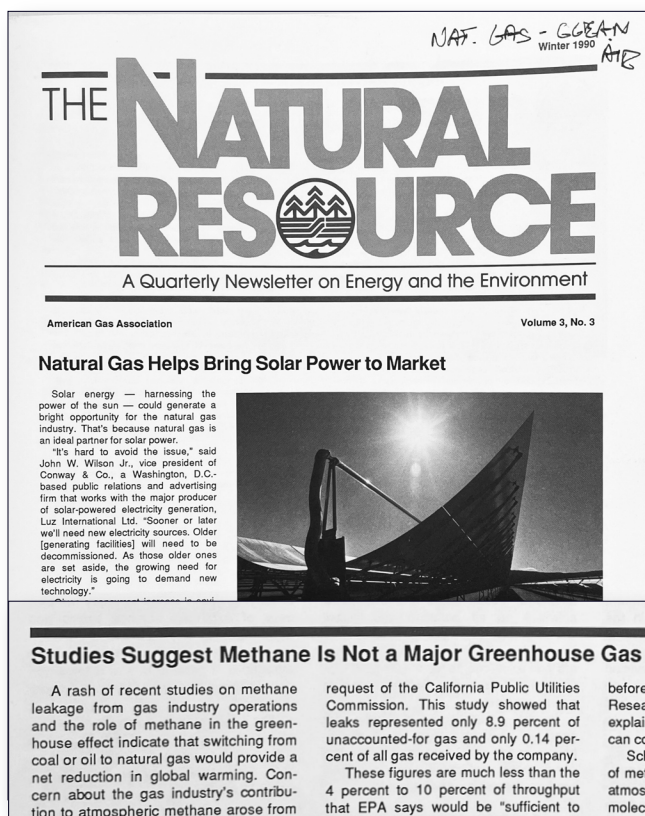
247 “NGSA, AGA, INGAA urge keeping OCS (Outer Continental Shelf) Open,” FYI: *The newsletter of the Natural Gas Supply Association* (1989), Stephen H. Schneider Papers, Box 87, Folder 38, Stanford University Archives Special Collections, <https://www.documentcloud.org/documents/27890750-sc1053-b87-f38-natural-gas-supply-association-meeting-1990/#document/p13/a2807970>, 13.

3.10

The Unified Industry Introduces Gas as a “Bridge” and Climate Solution

While oil and gas trade groups positioned gas as the answer to national environmental problems including climate change, they continued to be confronted with evidence that gas was not as clean as they liked to claim. The industry had monitored the latest science showing methane was a powerful greenhouse gas, and knew significant methane emissions rates had the potential to make natural gas as much of a climate problem as coal. In spite of that knowledge, industry representatives routinely misappropriated scientific findings, relied heavily on the industry’s own self-sponsored research, and omitted results that pointed to legitimate concerns about the climate impacts of gas — all the while positioning gas as the most environmentally friendly fossil fuel through sponsorships such as PBS’ NATURE series and educational projects.

The *Natural Resource*, the newsletter AGA published for environmental groups, showed all of these sleights of hand in action, with an article printed under the grossly inaccurate headline: “Studies Suggest Methane Is Not a Major Greenhouse Gas.”²⁴⁸ To support this claim, AGA cited an address made by NCAR scientist Stephen Schneider at the 1989 International Gas Research Conference in Japan. When explaining the importance of methane as a greenhouse gas, Schneider had warned that any potential climate benefits of fuel switching from coal and oil to gas were dependent on the gas industry ensuring that methane leakage from its operations was tightly



In 1990 AGA used its *Natural Resource* newsletter to downplay methane's significance as a greenhouse gas. ([Sierra Club Records](#), [Bancroft Library](#), UC Berkeley)

controlled.²⁴⁹ But when AGA reported on the presentation in *The Natural Resource*, it omitted Schneider's leakage warning from its article and instead used his comments and other selective quotations from scientists to support the article's inaccurate headline.

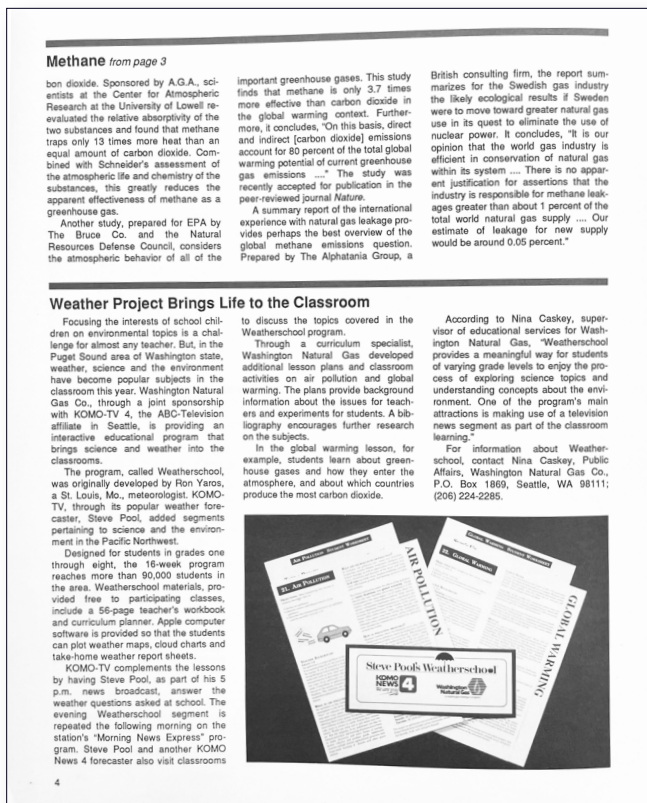
AGA also used the same article in *The Natural Resource* newsletter to push back against what it described as “erroneous reports” relating to “the gas industry’s contribution to atmospheric methane.”²⁵⁰ Citing only industry studies — sponsored by AGA,

248 “Studies Suggest Methane Is Not a Major Greenhouse Gas,” *The Natural Resource* 3 (American Gas Association, Winter 1990), Sierra Club National Legislative Records (1960-), Container 162, Bancroft Library, University of California Berkeley, https://legacy.www.documentcloud.org/documents/25378114-gas-natural-1989-bancroft-library-sierra-club-records-carton-162_folder-8/#document/p123/a2614721, 123.

249 Stephen H. Schneider, “The Greenhouse Effect: State Of The Science,” presented at the International Gas Research Conference (1989); Stephen H. Schneider Papers, Box 86, Stanford University Archives Special Collections, <https://legacy.www.documentcloud.org/documents/25419271-stephen-h-schneider-speech-intntl-gas-research-conference-japan-1989/#document/p9/a2615950>, 8-9.

250 “Studies Suggest Methane Is Not a Major Greenhouse Gas,” https://www.documentcloud.org/documents/25378114-gas-natural-1989-bancroft-library-sierra-club-records-carton-162_folder-8/#document/p123/a2614722, 123.

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Gas industry messaging on global warming in the 1990s was targeted at U.S. schoolchildren, from an article in the AGA Natural Resource newsletter. ([Sierra Club Records](#), Bancroft Library, UC Berkeley)

Pacific Gas & Electric, and European gas companies — AGA's newsletter attempted to rebut climate-related concerns over methane emissions, claiming that "switching from coal or oil to natural gas would provide a net reduction in global warming."²⁵¹ AGA's article further challenged "even the preliminary assumption that methane traps 30 times more heat than CO₂," by citing AGA-funded research conducted by researchers at the University of Massachusetts, Lowell.²⁵²

- 251 "Studies Suggest Methane Is Not a Major Greenhouse Gas," https://www.documentcloud.org/documents/25378114-gas-natural-1989-bancroft-library-sierra-club-records-carton-162_folder-8/#document/p123/a2614722, 123.
- 252 "Studies Suggest Methane Is Not a Major Greenhouse Gas," https://legacy.www.documentcloud.org/documents/25378114-gas-natural-1989-bancroft-library-sierra-club-records-carton-162_folder-8/#document/p123/a2614751, 123; Robert R. Gamache and D. Golomb, "The Relative Role of Methane And Carbon Dioxide In The Greenhouse Effect," (University of Lowell Center for Atmospheric Research/American Gas Association, January 1990), courtesy of Robert R. Gamache, <https://www.documentcloud.org/documents/25897685-the-role-of-methane-and-co2-in-the-greenhouse-effect-full-version/>.

This effort by AGA to cast doubt upon methane's greenhouse potency²⁵³ ultimately proved short-lived as the scientific consensus strengthened.²⁵⁴ Placed alongside the article was a photograph showing the AGA leadership "honored" for its support of the PBS NATURE series,²⁵⁵ and a separate feature describing a gas company-sponsored²⁵⁶ educational project that included teaching schoolchildren "about which countries produce the most carbon dioxide."²⁵⁷

Despite growing evidence that methane from natural gas operations presented a serious climate risk,²⁵⁸ the gas industry continued with its campaign to market gas as a way of "reducing the possibility of global warming."²⁵⁹ Specifically, the gas industry's effort to position itself as the best possible alternative energy source to coal culminated in the industry's framing of natural gas as a "bridge fuel." Michael German, a vice president at AGA, was quoted in a 1988 *Washington Post* article introducing the public to the phrase of gas as a "bridge fuel."

- 253 Robert R. Gamache and D. Golomb, "The Relative Role of Methane And Carbon Dioxide In The Greenhouse Effect," *Gas Energy Review 18* (American Gas Association, June 1990), British Library, <https://www.documentcloud.org/documents/25506350-gamache-and-golomb-the-relative-role-of-methane-and-co2-in-the-greenhouse-effect-gas-energy-review-june-1990/>.
- 254 *Climate Change: The IPCC 1990 & 1992 Assessments*, <https://www.documentcloud.org/documents/25877555-ipcc-90-92-assessments-far-full-report/>.
- 255 "Studies Suggest Methane Is Not a Major Greenhouse Gas," https://legacy.www.documentcloud.org/documents/25378114-gas-natural-1989-bancroft-library-sierra-club-records-carton-162_folder-8/#document/p123/a2614720, 123.
- 256 "Studies Suggest Methane Is Not a Major Greenhouse Gas," https://legacy.www.documentcloud.org/documents/25378114-gas-natural-1989-bancroft-library-sierra-club-records-carton-162_folder-8/#document/p124/a2813244, 124.
- 257 "Studies Suggest Methane Is Not a Major Greenhouse Gas," https://legacy.www.documentcloud.org/documents/25378114-gas-natural-1989-bancroft-library-sierra-club-records-carton-162_folder-8/#document/p124/a2813246, 124.
- 258 U.S. Environmental Protection Agency, *Methane Emissions and Opportunities for Control: Workshop Results of Intergovernmental Panel on Climate Change*, <https://legacy.www.documentcloud.org/documents/25912948-methane-emissions-and-opportunities-for-control-epa-workshop-december-1989/#document/p91/a2661227>, 91.
- 259 "Natural Gas In A New Market Environment," https://legacy.www.documentcloud.org/documents/25378114-gas-natural-1989-bancroft-library-sierra-club-records-carton-162_folder-8/#document/p109/a2614698, 109.

III. THE GAS INDUSTRY FINDS ALLIES

The article paraphrased German's explanation that gas could be "the least harmful alternative while the world looks for other, longer-lasting solutions to the 'greenhouse' effect."²⁶⁰

A full decade earlier, in 1979, an internal memo produced by a summer employee at Exxon had expressed a similar idea while assessing different climate scenarios from varying levels of fossil fuel production. It articulated the idea of a bridge fuel in a scenario of "significant" climate change, where natural gas "is encouraged beginning in 1990 to minimize coal combustion until non-fossil fuels are developed."²⁶¹

The industry funded a series of materials that reinforced this logic. An industry-funded study from 1989, for example, argued that federal policies should support the expansion of gas production as a step along the path to a future potentially powered by renewable energy. The study, which had been co-authored by a former Reagan DOE official and paid for by 28 company sponsors from all three segments of the gas industry²⁶² stated: "There is no doubt now that enough natural gas can be produced and delivered from secure sources at reasonable prices to let gas serve this country as an important 'bridging fuel' to 2010 — by which time even more environment-friendly renewable sources might be nearly ready for widespread and economical use."²⁶³

As the 1980s drew to a close, the industry believed it was poised for a period of rapid growth. Gas producers, pipeline companies, and distributors were aligned on their vision for gas, and they had collectively sold that vision to each core audience they had identified. With federal agencies, major environmental organizations, and electric utilities aligning on the benefits of fuel switching from coal to gas, the gas industry had assembled the coalition of support it needed to overcome its critics and ensure that the clean gas myth would be treated as fact.

As far as the industry was concerned, natural gas was the fossil fuel of the future. Beneath the surface, however, the industry's expansion plans were vulnerable to growing evidence of methane emissions — a problem it knew could have long-term consequences for the Earth's climate.

260 Martha M. Hamilton, "Natural Gas, Nuclear Backers See Opportunity in 'Greenhouse' Concern," *Washington Post* (July 22, 1998), <https://www.washingtonpost.com/archive/business/1988/07/22/natural-gas-nuclear-backers-see-opportunity-in-greenhouse-concern/b7c3ad3f-280f-439c-8041-3cf3fc99d999/>.

261 "Controlling Atmospheric CO₂" (Exxon Research and Engineering Company, October 16, 1979), courtesy of Climate Files and Inside Climate News, <https://www.climatefiles.com/exxonmobil/1979-exxon-memo-on-potential-impact-of-fossil-fuel-combustion>.

262 George H. Lawrence, "America's Strategic Resource," *American Gas* (January 1989), U.S. Library of Congress, <https://legacy.documentcloud.org/documents/26044236-aga-monthly-january-1989index-1988/#document/p4/a2677332>, 4.

263 Scott L. Campbell and William F. Martin, "Natural Gas A Strategic Resource For The Future," *Gas Energy Review* 17 (American Gas Association, January 1989), U.S. Library of Congress, <https://legacy.documentcloud.org/documents/26183778-gas-energy-review-1989-strategic-resource-for-the-future/#document/p3/a2673879>, 3.

SECTION IV: 1990-2000

Institutionalization of a Myth

To secure its future expansion, the oil and gas industry — now unified to an unprecedented degree — moved to cement natural gas as a climate solution. Achieving these goals required neutralizing growing climate concerns about methane emissions nationally and internationally. To do this, the industry worked alongside its allies to challenge the science and sources of methane pollution, casting doubt on gas’ contributions to global warming, and minimizing estimates of the amount of methane emitted by industry operations. Ultimately, the industry produced a key study in partnership with EPA that purportedly showed methane emissions from gas operations presented a minimal climate risk. However, documents reveal that the study’s design, datasets, and analysis, as well as final review, were closely controlled by the industry. The industry also assuaged concerns about methane emissions by promoting the idea that it could regulate itself through voluntary initiatives. Through these efforts, the oil and gas industry codified natural gas as both a climate solution and a clean source of energy, locking the United States and other nations into decades of additional fossil fuel use.

4.1

The Gas Industry Targets International Climate Policy

For all of the gas industry’s enthusiasm at the end of the 1980s, there was an understanding that the expansion of gas was far from a foregone conclusion. As AGA president George Lawrence described it, the industry’s “projection of a new era of natural gas — with its vital efficiency, economic and environmental contributions — will not be fulfilled automatically. Once we’ve recognized the potential, we must

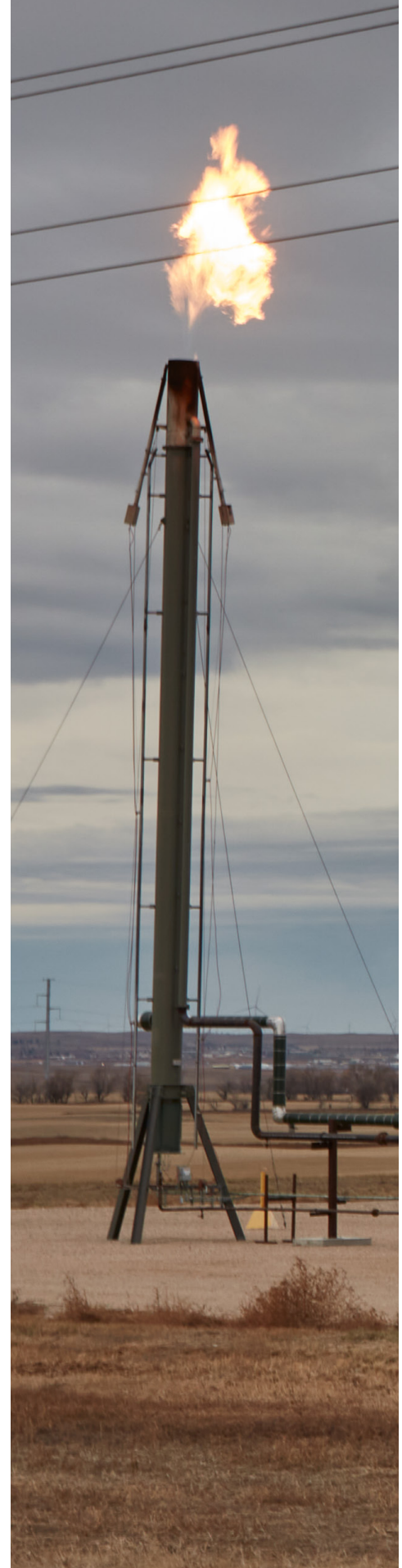


PHOTO: Carol M Highsmith/Library of Congress

IV. INSTITUTIONALIZATION OF A MYTH

take advantage of it.”²⁶⁴ This was the story of natural gas in the 1990s: an industry, now unified from producers to utilities, trying to capitalize on new markets by establishing its product as a climate solution. Doing so required putting its communications strategy and alliance-building successes to use, codifying the clean gas myth to ensure that gas would be embraced as an acceptable solution to ever-growing climate concerns.

Shaping national and international policy was a vital part of the industry’s strategy. An April 1990 IPCC workshop, convened to consider measures for limiting methane emissions, provided an early opportunity for the industry to influence both national and international approaches to emissions management.²⁶⁵ Representatives from gas trade groups, including AGA, gas utilities, and oil majors²⁶⁶ were among those who attended the meeting, held by the IPCC’s Energy and Industry Subgroup (EIS).²⁶⁷ By participating in the workshop, the gas industry successfully incorporated both its data and viewpoints into the discussions, as summarized in a 170-page workshop report. Multiple industry-funded studies identifying low rates of methane leakage from gas pipeline and distribution operations were included in the discussion, leading to the suggestion that “CH₄ emissions from natural gas system leakage may be smaller than has been previously believed, at least for the U.S. and potentially for other countries with similar operations.”²⁶⁸

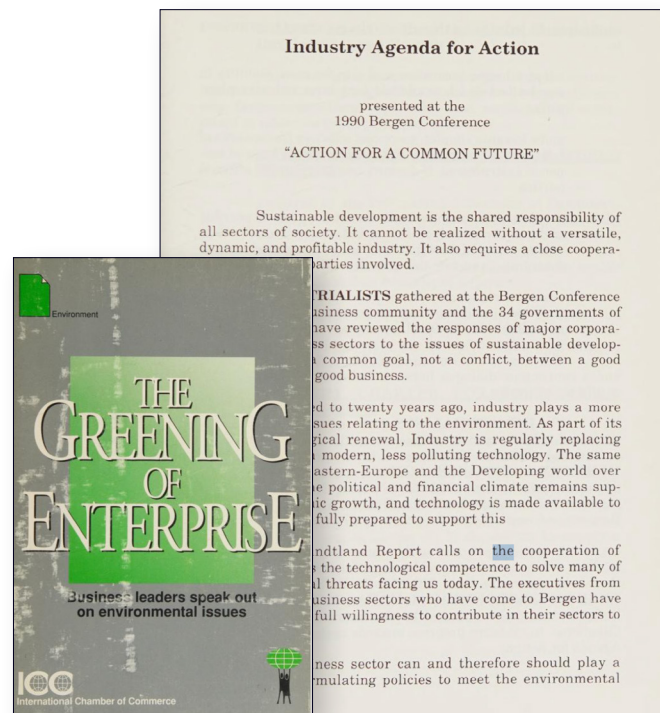
264 George H. Lawrence, “The Emerging Era of Natural Gas,” *American Gas Association Monthly* (August 1988), U.S. Library of Congress, <https://www.documentcloud.org/documents/26044218-aga-monthly-august-1988/?mode=document#document/p4/a2678455>, 4.

265 U.S. Environmental Protection Agency, *Methane Emissions and Opportunities for Control: Workshop Results of Intergovernmental Panel on Climate Change*, <https://legacy.www.documentcloud.org/documents/25912948-methane-emissions-and-opportunities-for-control-epa-workshop-december-1989/#document/p1/a2655719>, 1.

266 U.S. Environmental Protection Agency, *Methane Emissions and Opportunities for Control: Workshop Results of Intergovernmental Panel on Climate Change*, <https://legacy.www.documentcloud.org/documents/25912948-methane-emissions-and-opportunities-for-control-epa-workshop-december-1989/#document/p156/a2655724>, 156-168. Representatives from AGA, INGAA, GRI, PG&E, SoCalGas, Amoco (now BP), and Unocal (now Chevron) attended the workshop.

267 U.S. Environmental Protection Agency, *Methane Emissions and Opportunities for Control: Workshop Results of Intergovernmental Panel on Climate Change*, <https://legacy.www.documentcloud.org/documents/25912948-methane-emissions-and-opportunities-for-control-epa-workshop-december-1989/#document/p9/a2655753>, 9.

268 U.S. Environmental Protection Agency, *Methane Emissions and Opportunities for Control: Workshop Results of Intergovernmental Panel on Climate Change*, <https://legacy.www.documentcloud.org/documents/25912948-methane-emissions-and-opportunities-for-control-epa-workshop-december-1989/#document/p97/a2791713>, 97.



Major gas producers like BP and Shell advocated for voluntary emissions management programs through the International Chamber of Commerce’s ‘Industry Agenda for Action.’ (International Chamber of Commerce, *‘The Greening of Enterprise,’* Internet Archive)

Although AGA would later inaccurately refer to the workshop report as an IPCC study — endowing these industry datasets and viewpoints with a deceptive appearance of external credibility²⁶⁹ — it was merely a summary of remarks made by the workshop’s various participants including those representing the oil and gas industry. AGA publications selectively quoted those sections of the workshop report that downplayed the gas system’s methane emissions rates, describing it as “the most authoritative overall assessment of world methane emissions to date.”²⁷⁰

269 Michael Bally III, “Being Part of a Global Solution,” *American Gas* (April 1992), U.S. Library of Congress, <https://legacy.www.documentcloud.org/documents/26047813-aga-monthly-april-1992/#document/p2/a2675135>, 2.

270 Donna Mercado, “An Alternative Energy Future: Greenhouse Gases,” *Gas Energy Review* Vol. 20 (American Gas Association, August 1992), U.S. Library of Congress, <https://legacy.www.documentcloud.org/documents/25451067-aga-gas-energy-review-vol-19-1992-loc-tp-700/#document/p97/a2630819>, 97.

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While promoting the industry's own figures of a 1 percent emissions rate, a figure significantly lower than independent estimates,²⁷¹ AGA publications failed to mention that the workshop discussions also highlighted “many important uncertainties” surrounding this low emissions rate since “field data are not available to confirm these [industry] estimates.”²⁷²

The workshop summary also included discussions of the industry's preferred, voluntary approach for monitoring and reducing methane emissions from gas operations as opposed to legally binding regulations, reporting that “[e]conomic incentives, market mechanisms, and technology-based approaches ... should be considered as alternatives to regulatory ‘command-and-control’ approaches that require emission rollbacks.”²⁷³

The following month, senior oil and gas executives from companies such as Shell and BP gathered as members of the International Chamber of Commerce (ICC) to produce an “Industry Agenda For Action,” which presented fuel switching from coal to gas as “a form of ‘insurance policy’” to protect the climate that could “‘buy time’ for subsequent, more costly and ‘difficult’ measures.”²⁷⁴ The agenda backed a voluntary approach to emissions

reductions.²⁷⁵ Determined to shape negotiations around the upcoming 1992 United Nations Earth Summit in Rio de Janeiro,²⁷⁶ ICC's agenda proposed a “Response to the Global Climate Challenge” centered on guidelines for “voluntary actions” that included free-market initiatives to reduce greenhouse gases. The ICC formed a task-force for influencing the Summit, lobbying the UN Secretariat as well as the U.S. and other national governments.²⁷⁷

By promoting an expanded gas industry supposedly safeguarded by a system of voluntary guidelines instead of legally-binding regulations, the oil and gas industry was developing its own insurance policy — one aimed at ensuring future fossil fuel production under conditions of minimal outside scrutiny. The promotion of voluntary commitments as a way of avoiding pollution regulations was a decades-old industry practice strategically reinterpreted by ICC and its oil and gas industry members to deflect the threat of externally mandated greenhouse gas reductions.²⁷⁸

271 U.S. Environmental Protection Agency, *Methane Emissions and Opportunities for Control: Workshop Results of Intergovernmental Panel on Climate Change*, <https://legacy.www.documentcloud.org/documents/25912948-methane-emissions-and-opportunities-for-control-epa-workshop-december-1989/#document/p93/a2661307>, 93; Max K. Wallis, “What price a carbon tax?,” *Nature* vol. 342 (December 1989), <https://doi.org/10.1038/342730a0>, 730. Also accessible at <https://legacy.www.documentcloud.org/documents/26313319-what-price-a-carbon-tax-nature-december-1989/#document/p2/a2773922>.

272 U.S. Environmental Protection Agency, *Methane Emissions and Opportunities for Control: Workshop Results of Intergovernmental Panel on Climate Change*, <https://legacy.www.documentcloud.org/documents/25912948-methane-emissions-and-opportunities-for-control-epa-workshop-december-1989/#document/p97/a2661318>, 97.

273 U.S. Environmental Protection Agency, *Methane Emissions and Opportunities for Control: Workshop Results of Intergovernmental Panel on Climate Change*, <https://www.documentcloud.org/documents/25912948-methane-emissions-and-opportunities-for-control-epa-workshop-december-1989/?mode=document#document/p12/a2773825>, 11.

274 International Chamber of Commerce, *The Greening of Enterprise* (ICC, June 1990), Internet Archive, <https://archive.org/details/greeningofenterp0000unse/page/254>, 255-256.

275 International Chamber of Commerce, *The Greening of Enterprise*, <https://archive.org/details/greeningofenterp0000unse/page/156/mode/2up?q=157>, 157.

276 International Chamber of Commerce, *The Greening of Enterprise*, <https://archive.org/details/greeningofenterp0000unse/page/156/mode/2up?q=157>, 158; Bergquist and David, *Business (In-)Action: The International Chamber of Commerce and Climate Change from Stockholm to Rio*, *Uppsala Papers in Economic History* (2024), <https://journals.uu.se/upeh/article/view/592/526>.

277 Jonathan Plaut, co-chair of ICC's UNCED preparatory task force, prepared statement, July 21, 1992, in House Foreign Affairs Committee, U.S. Policy before the Committee on Foreign Affairs (Washington, DC, 1992), https://www.google.co.uk/books/edition/U_S_Policy_Toward_the_United_Nations_Con/ECs1AAAAIAAJ?hl=en&gbpv=1, 249-259.

278 See, e.g.: “Air Pollution Abatement by the Chemical Industry,” *American Industrial Hygiene Association Quarterly* Vol 13 No. 2 (June 1952), Toxic Docs, <https://www.documentcloud.org/documents/24530756-american-industrial-hygiene-association-1952/?mode=document>; W. L. Stewart Jr., “Management's Responsibility in Air Pollution,” (October 1953), Box 5 Folder 6, Union Oil Company of California (Unocal) records 1884-2005 (Collection 449), UCLA Library Special Collections, University of California, Los Angeles, <https://www.documentcloud.org/documents/25176503-managements-responsibility-in-air-pollution-w-l-stewart-jr-oct-2-1953-unocal-records-box-5-folder-6/?mode=document>; John J. Scott, “Air and Water Conservation: A Balanced Approach,” (June 1965), Box F193, ExxonMobil Historical Collection 1790-2014, University of Texas Briscoe Center for American History, <https://www.documentcloud.org/documents/23391798-f193-speech-by-john-j-scott-gen-counsel-mobil-june-22-1965/?mode=document#document/p4/a2810089>; Ann-Kristin Bergquist and Thomas David, “Beyond Planetary Limits! The International Chamber of Commerce, the United Nations, and the Invention of Sustainable Development,” *Business History Review* 97, no. 3 (Cambridge University Press, April 2023), <https://doi.org/10.1017/S0007680522001076>, 481–511.

IV. INSTITUTIONALIZATION OF A MYTH

The ICC and its members formalized these concepts in its “Business Charter for Sustainable Development,” which became a key communication and policy tool for achieving business-friendly outcomes at the 1992 Rio Earth Summit, including those favored by the gas industry.²⁷⁹ The charter, drafted in part by Shell²⁸⁰ and signed by more than 200 companies (including BP, Shell, Chevron, Mobil, Phillips, and Texaco),²⁸¹ was “intended to act as a rival object to more formal and binding agreements.”²⁸² Or, as ICC itself explained to its members, the Business Charter was **“essential for establishment of public credibility in order to reduce government tendency to over-legislate and to strengthen business influence on public policies.”**²⁸³ Couched in generalizations, lacking in specific action or enforcement details, the principles of the Business Charter encouraged its members to “establish policies, programmes and practices for conducting operations in an environmentally sound manner.”²⁸⁴ The effect of these practices was to promote an image of environmental responsibility while providing no detailed recommendations, binding obligations, or guarantees for achieving this goal. The approach would allow industries greater scope for self-regulation while largely continuing business as usual.

279 “ICC Business Charter for Sustainable Development”, International Chamber of Commerce (April 1991), <https://www.documentcloud.org/documents/25970969-icc-business-charter-for-sustainable-development/>.

280 Bergquist and David, “Beyond Planetary Limits! The International Chamber of Commerce, the United Nations, and the Invention of Sustainable Development,” (2023), <https://doi.org/10.1017/S0007680522001076>, 500. Also accessible at https://legacy.www.documentcloud.org/documents/25970955-beyond_planetary_limits_the_international_chamber_of_commerce_the_united_nations_and_the_invention_of_sustainable_development#document/p20/a2793123, 20.

281 Melissa Aronczyk and Maria I. Espinoza, *A Strategic Nature: Public Relations and the Politics of American Environmentalism* (New York: Oxford University Press, 2022), 141.

282 Aronczyk and Espinoza, *A Strategic Nature: Public Relations and the Politics of American Environmentalism*, 141.

283 Bergquist and David, “Beyond Planetary Limits! The International Chamber of Commerce, the United Nations, and the Invention of Sustainable Development,” (2023), <https://doi.org/10.1017/S0007680522001076>, 501. Also accessible at https://legacy.www.documentcloud.org/documents/25970955-beyond_planetary_limits_the_international_chamber_of_commerce_the_united_nations_and_the_invention_of_sustainable_development#document/p21/a2793121, 21.

284 “ICC Business Charter for Sustainable Development”, International Chamber of Commerce, <https://www.documentcloud.org/documents/25970969-icc-business-charter-for-sustainable-development/#document/p2/a2791743>, 2.

The Business Charter for Sustainable Development

Principles for Environmental Management

Fifth Anniversary Edition

Foreword

There is widespread recognition today that environmental protection must be among the highest priorities of every business.

In its milestone 1987 report, “Our Common Future,” the World Commission on Environment and Development (Brundtland Commission) emphasised the importance of environmental protection to the pursuit of sustainable development.

To help business around the world improve its environmental performance, the International Chamber of Commerce created this Business Charter for Sustainable Development. It comprises sixteen Principles for environmental management which, for business, is a vitally important aspect of sustainable development.

This Charter assists enterprises in fulfilling their commitment to environmental stewardship in a comprehensive fashion, in line with national and international guidelines and standards for environmental management. It was formally launched in April 1991 at the Second World Industry Conference on Environmental Management in Rotterdam, and continues to be widely applied and recognised around the world.

Support for the Charter

The ICC undertakes to encourage member companies and others to express their support and implement the Charter and its Principles.

A list of these companies can be obtained from ICC Headquarters. The ICC also publishes regularly a Charter bulletin which provides more specific information on the Charter's Principles and different interpretations possible - an attribute of the Charter that has been widely commended.

The first edition of Business Charter for Sustainable Development was adopted by the ICC Executive Board on 27 November 1990, and first published in April 1991.

It was prepared and revised by the ICC Working Party for Sustainable Development.

Chairman: Peter Scupholme (British Petroleum) Vice-Chairman: W. Ross Stevens III (Du Pont)

The ICC is indebted to numerous companies and business organisations for their input in preparing and revising the Charter. For further information, contact Oliver Keserue, Project Manager at ICC Headquarters, Paris.

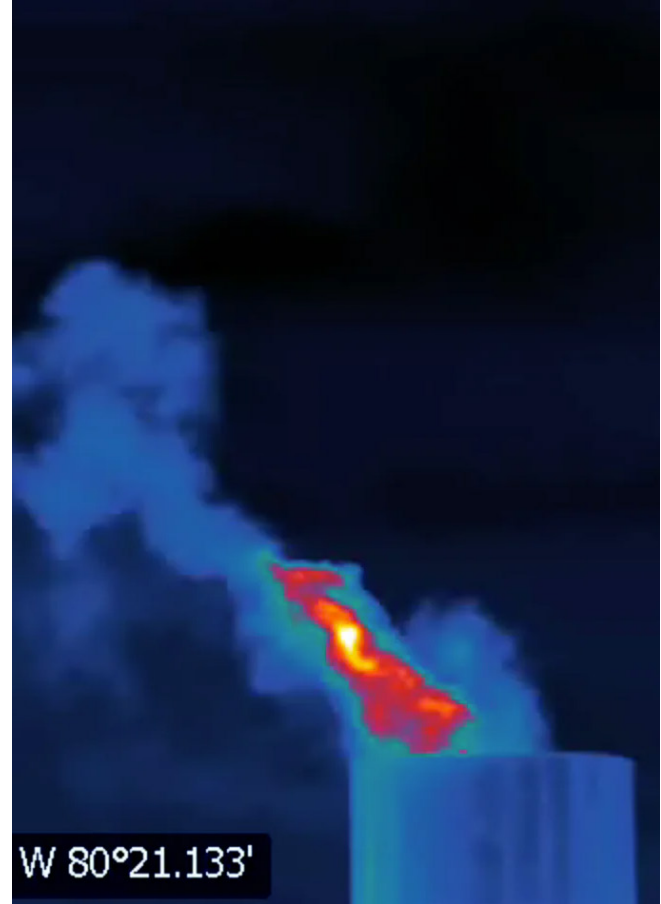
Supported by major gas producers, the ICC's 1991 ‘Business Charter for Sustainable Development’ was intended to reduce government legislation and strengthen business influence over public policies. ([International Chamber of Commerce](#), Internet Archive)

4.2

The Industry Acknowledges a Lack of Reliable Data on Methane Emissions

Despite the gas industry's claims that methane emissions from its operations were low, the lack of monitoring or proper quantification of these emissions was evident. **Although the industry publicized GRI's research into high-tech ways of measuring emissions, including satellite pipeline leak surveillance,²⁸⁵ creating an impression that industry was responsibly addressing its methane problem, the reality was far more mundane and incomplete.** Checks for leaks conducted by the pipeline companies themselves often involved haphazard techniques, such as "walking or driving along the entire pipeline – a time-consuming and labor-intensive effort."²⁸⁶

Methane emissions, in other words, were extremely challenging to detect and measure, in large part because of the sheer scale of the industry's infrastructure. Based on data from 1990, an EPA report to Congress explained that "very little emissions data have been developed for most of the emissions sources in the natural gas system."²⁸⁷ Because the priority was on "eliminating potential [safety] hazards," "the size of the leak is generally not estimated."²⁸⁸ As such, the EPA report stated,



Optical gas image of pollution at Shell Plastics Plant in Beaver, County, Pennsylvania, taken February 16, 2026. Credit: Earthworks

"emissions rates have not been studied extensively or quantified."²⁸⁹ Several previous assessments of methane emissions by independent researchers had been calculated based on an assumed emissions rate of 2 to 4 percent but data measuring the precise rate of these emissions was lacking.²⁹⁰ Other calculations suggested that emission rates could be as high as 10 percent in Britain and 6 percent in the United States — at which point, "despite the lower emission of CO₂ per unit of heat in gas combustion, the gross contribution of gas for the greenhouse effect is no better than that of coal or oil."²⁹¹

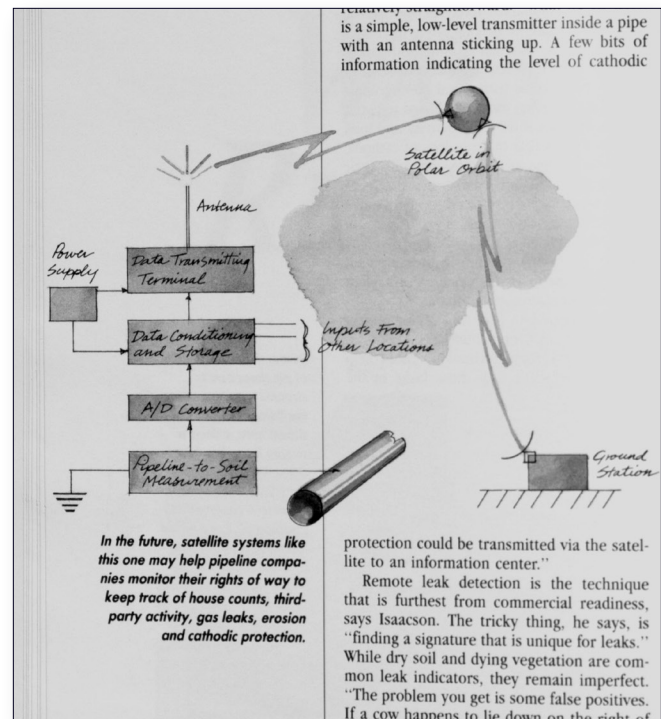
- 285 Jacki Kelley, "Satellite Monitoring—Not Just a Pipe Dream," *Gas Research Institute Digest* (Spring 1989), Thomas Boulevard Library, University of Pittsburgh, <https://www.documentcloud.org/documents/24628007-grid-spring-1989-articles/#document/p18/a2555365>, 18; Laura Kennedy, "New Ways for Rights of Way," *American Gas* (February 1990), U.S. Library of Congress, <https://legacy.www.documentcloud.org/documents/26044264-aga-monthly-february-1990/#document/p6/a2675593>, 6.
- 286 Kennedy, "New Ways for Rights of Way," <https://legacy.www.documentcloud.org/documents/26044264-aga-monthly-february-1990/#document/p6/a2675593>, 6.
- 287 U.S. Environmental Protection Agency, *Anthropogenic Methane Emissions in the United States: Estimates for 1990 Report to Congress*, EPA 430-R-93-003 (April 1993), <https://legacy.www.documentcloud.org/documents/25942918-anthropogenic-methane-emissions-in-the-us-report-to-congress-estimate-for-1990/#document/p47/a2675602>, 47.
- 288 U.S. Environmental Protection Agency, *Anthropogenic Methane Emissions in the United States: Estimates for 1990 Report to Congress*, <https://legacy.www.documentcloud.org/documents/25942918-anthropogenic-methane-emissions-in-the-us-report-to-congress-estimate-for-1990/#document/p47/a2675602>, 47.

- 289 U.S. Environmental Protection Agency, *Anthropogenic Methane Emissions in the United States: Estimates for 1990 Report to Congress*, <https://legacy.www.documentcloud.org/documents/25942918-anthropogenic-methane-emissions-in-the-us-report-to-congress-estimate-for-1990/#document/p47/a2675602>, 47.
- 290 U.S. Environmental Protection Agency, *Methane Emissions and Opportunities for Control: Workshop Results of Intergovernmental Panel on Climate Change*, <https://legacy.www.documentcloud.org/documents/25912948-methane-emissions-and-opportunities-for-control-epa-workshop-december-1989/#document/p42/a2661277>, 42.
- 291 Wallis, "What price a carbon tax?," <https://doi.org/10.1038/342730a0>, 730. Also accessible at <https://legacy.www.documentcloud.org/documents/26313319-what-price-a-carbon-tax-nature-december-1989/#document/p2/a2773922>.

IV. INSTITUTIONALIZATION OF A MYTH

Referring to studies outside the United States, this sentiment was echoed by participants in the IPCC energy industry workshop: “At these levels of emissions, the benefit of substituting natural gas for other fossil fuels would be substantially diminished.”²⁹²

Industry-affiliated studies attempting to quantify emissions consistently found lower emissions rates, and AGA continued to point misleadingly to the IPCC energy industry workshop summary as proof that “[m]ethane emissions from natural gas systems in developed countries are likely to be less than 1 percent of throughput”²⁹³ — a figure AGA failed to disclose was derived from industry-funded studies. The IPCC energy industry workshop summary cautioned that the industry’s own findings of low emissions rates relied upon a small dataset of self-reported industry data using a variety of different methods rather than a unified assessment using consistent methodologies and random sampling. As the summary explained, the figures were “based on extrapolating data from selected gas systems” and “accounting and engineering analyses that vary in detail and methodology.”²⁹⁴ **These limitations meant that “many important uncertainties remain” since “field data are not yet available to confirm these estimates ... CH₄ emissions from natural gas systems could be larger or smaller than indicated by these studies.”**²⁹⁵ Occasionally, even industry publications acknowledged that there was little information on how much methane was actually being released into the atmosphere. In a 1991 AGA publication about



While gas industry publications promoted industry research into high-tech, future emissions surveillance, the reality was far more mundane and incomplete. (American Gas)

a PG&E/GRI study, for example, an EPA official was quoted explaining that “[e]missions are not routinely collected,” since “[k]nowing where a leak is is much different from measuring it.”²⁹⁶

The industry and others generally understood this absence of reliable data to be a limiting factor for any claims to the environmental benefits of switching from other fossil fuels to gas. **As API’s 1989 Position on Global Climate Change explained, natural gas was “favorably positioned as an interim ‘bridge’ fuel for meeting energy demand” but its comparatively low CO₂ advantage might be offset “by inadvertent releases of methane” during transportation and delivery.**²⁹⁷

292 U.S. Environmental Protection Agency, *Methane Emissions and Opportunities for Control: Workshop Results of Intergovernmental Panel on Climate Change*, <https://legacywww.documentcloud.org/documents/25912948-methane-emissions-and-opportunities-for-control-epa-workshop-december-1989/#document/p93/a2793124>, 93.

293 Mercado, “An Alternative Energy Future: Greenhouse Gases,” <https://legacywww.documentcloud.org/documents/25451067-aga-gas-energy-review-vol-19-1992-loc-tp-700/#document/p97/a2630821>, 97.

294 U.S. Environmental Protection Agency, *Methane Emissions and Opportunities for Control: Workshop Results of Intergovernmental Panel on Climate Change*, <https://legacywww.documentcloud.org/documents/25912948-methane-emissions-and-opportunities-for-control-epa-workshop-december-1989/#document/p42/a2661278>, 42.

295 U.S. Environmental Protection Agency, *Methane Emissions and Opportunities for Control: Workshop Results of Intergovernmental Panel on Climate Change*, <https://legacywww.documentcloud.org/documents/25912948-methane-emissions-and-opportunities-for-control-epa-workshop-december-1989/#document/p97/a2791714>, 97. Original emphasis.

296 Frank Ahrens, “Finders of Lost Gas,” *American Gas* (May 1991), U.S. Library of Congress, <https://www.documentcloud.org/documents/26047733-aga-monthly-may-1991/?mode=document#document/p39/a2810091>, 39.

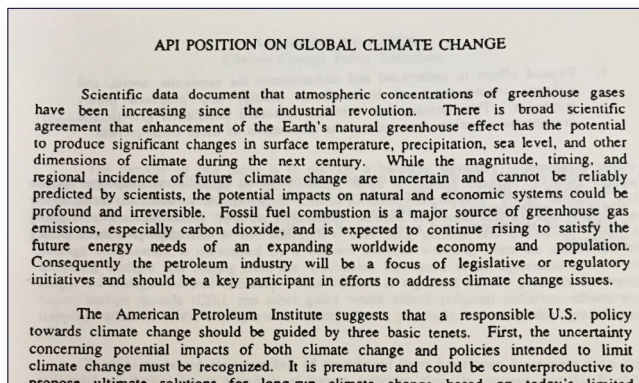
297 American Petroleum Institute, “The American Petroleum Institute (API) Position on Global Climate Change,” <https://legacywww.documentcloud.org/documents/28110478-ipeca-briefing-documentation-on-potential-enhanced-greenhouse-effect-february-1990#document/p10/a2815454>, 10.

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API conceded the outlook for natural gas was less obvious when considering these emissions, noting, “The terms of this tradeoff have not yet been quantified and its policy implications are unclear.”²⁹⁸

This reality was echoed in the IPCC’s energy industry workshop report which stated: “Before a fuel switching strategy can be adopted, it must be clear that methane emissions from natural gas operations will not counteract the CO₂ reductions. This would require estimates of both methane and CO₂ emissions and a CO₂ equivalence for methane to be used to calculate the actual reduction that is achieved from fuel switching.”²⁹⁹

Patrick Gillam, managing director at BP, also gave a measured analysis in his address to industry executives and board members at the 1990 ICC “Industry Forum of Environment” in Bergen. Although he argued that the “carbon-energy ratio of gas may give it a great advantage over all its rivals,” he also noted that “there are problems ... concerned with the transmission and handling of gas, particularly in respect of its potential to leak methane which has a greenhouse factor greater than CO₂.”³⁰⁰ This and other factors meant “in practice, the environmental effect of fuel switching may well be more limited than some enthusiasts expect.”³⁰¹ This admission contrasted with the ICC’s subsequent recommendation, backed by BP,³⁰² that “switching to gas as a more carbon efficient, cleaner fuel” would “benefit



In 1989 the American Petroleum Institute’s ‘Position on Global Climate Change’ described natural gas as an interim ‘bridge’ fuel but cautioned that the climate benefits of gas might be offset by “inadvertent releases of methane.” (American Petroleum Institute, courtesy of Nathaniel Rich, *Losing Earth* (2019))

climate protection.”³⁰³ Following the conference, BP’s Peter Scupholme, a member of the ICC’s Environment Committee,³⁰⁴ led the ICC working group tasked with formulating its “Business Charter for Sustainable Development” aimed at influencing the outcome of the upcoming Rio Earth Summit.³⁰⁵

Other industry representatives also directly acknowledged the lack of data. In September 1990, the *Toronto Star* reported on an address given by GRI’s Howard Reiquam to an audience of gas industry members in Canada. **“[W]e don’t know what methane emissions are for the natural gas industry,” said Reiquam, cautioning that the 1 percent emissions rate identified by industry-affiliated studies was uncertain. “[T]here’s room for error in both directions. It could be substantially more or less,” he explained. “Many people in the natural gas industry think the systems are already tight and [that] the losses are so small we don’t need to worry. But none of us really knows that.”³⁰⁶**

298 American Petroleum Institute, “The American Petroleum Institute (API) Position on Global Climate Change,” https://legacy.www.documentcloud.org/documents/28110478-ipieca-briefing-documentation-on-potential-enhanced-greenhouse-effect-february-1990#document/p10/a2815455_10.

299 U.S. Environmental Protection Agency, *Methane Emissions and Opportunities for Control: Workshop Results of Intergovernmental Panel on Climate Change*, <https://legacy.www.documentcloud.org/documents/25912948-methane-emissions-and-opportunities-for-control-epa-workshop-december-1989/#document/p45/a2661298>, 44.

300 International Chamber of Commerce, *The Greening of Enterprise*, <https://archive.org/details/greeningofenterp0000unse/page/92/mode/2up?q=gillam>, 93.

301 International Chamber of Commerce, *The Greening of Enterprise*, <https://archive.org/details/greeningofenterp0000unse/page/94/mode/2up?q=gillam>, 94..

302 International Chamber of Commerce, *The Greening of Enterprise*, <https://archive.org/details/greeningofenterp0000unse/page/98/mode/2up?q=British+Petroleum>, 98.

303 International Chamber of Commerce, *The Greening of Enterprise*, <https://archive.org/details/greeningofenterp0000unse/page/254/mode/2up>, 255.

304 “List of ICC Environment Committee Members 1987 & 1992,” courtesy of Ann-Kristin Bergquist and Thomas David, Private Collection.

305 International Chamber of Commerce, *Business Charter for Sustainable Development*, (1997), Internet Archive <https://web.archive.org/web/19970703082402/http://www.iccwbo.org/charter.html>; <https://legacy.www.documentcloud.org/documents/28216808-icc-public-document-business-charter-for-sustainable-development#document/p5/a2820224>, 5.

306 Peter Gorrie, “Natural gas spills offset environmental advantage,” *Toronto Star* (September 1990), *Newspapers.com*, <https://legacy.www.documentcloud.org/documents/25999936-the-toronto-star-1990-09-14-34/#document/p1/a2664533>.

4.3

Placating Critics with “Something Useful”: A Study on Methane Emissions

Ambivalence about methane emissions was not workable for the gas industry. The idea that gas was more environmentally friendly than other fossil fuels was a vital component of the industry’s campaign to expand their markets. Nearly 20 years after first funding studies designed to minimize concerns about the health impacts of gas stoves and appliances, the industry was once again in need of “something useful,” as Darrow had advised years earlier, to placate its critics.³⁰⁷

To defend gas as a climate solution, the industry attempted to fill the data void by sponsoring a major study designed to deliver a favorable answer to the methane emissions question.

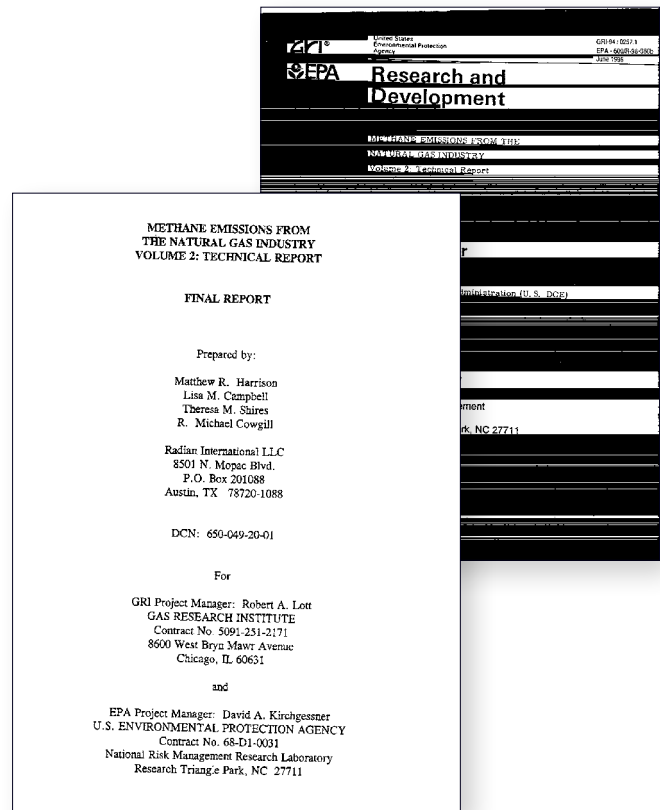
Acknowledging the need for “[a]ctual emissions data and additional fundamental scientific work,” GRI initiated a new research program in 1990 promising “a scientifically valid understanding of the implications of increased gas use on the global climate.”³⁰⁸ And in a move that would provide a patina of objectivity and yield benefits for decades to come, this work would be conducted in partnership with EPA.³⁰⁹

The advantages of having EPA involved were readily apparent; as with previous partnerships with government agencies, it provided the industry’s claims with a level of credibility that would have been impossible to achieve otherwise. GRI itself had been founded in an attempt to create the illusion of distance from gas companies, a goal that had been largely achieved.

307 Darrow, “How To Communicate In A Crisis,” <https://www.documentcloud.org/documents/23795870-how-to-communicate-in-a-crisis/?mode=document#document/p7/a2249850>, 7.

308 Theodore L. Willke, “Global Climate Change: The Role of Natural Gas,” GRID (Spring 1990), Thomas Boulevard Library, University of Pittsburgh, <https://www.documentcloud.org/documents/24630521-grid-spring-1990/?mode=document#document/p4/a2563404>, 4.

309 Willke, “Global Climate Change: The Role of Natural Gas,” <https://legacy.www.documentcloud.org/documents/24630521-grid-spring-1990/#document/p4/a2563408>, 4.



The Gas Research Institute’s sponsorship of the 1996 study, ‘Methane Emissions From the Natural Gas Industry,’ was conducted in partnership with US EPA to ensure “acceptability” of the results. ([Gas Research Institute](https://www.documentcloud.org/documents/24630521-grid-spring-1990)/U.S. Environmental Protection Agency)

“Information users see GRI not as a lobbying group but as an objective and reliable information source because multiple interests and constituencies direct GRI via our advisory and regulatory structure,” a 1992 article in *GRID* explained.³¹⁰

GRI was well aware that its collaboration with EPA would only serve to strengthen this perception of independence. A favorable result would deliver an even greater payoff: the institutionalization of the “clean gas” concept. As Theodore Willke, a vice president at GRI, put it in 1990, “EPA’s partnership will help ensure the objectivity and acceptability of the results.”³¹¹ At the same time, Willke also made it clear that it was too important a process to be left to chance, emphasizing

310 Burnett, “Getting the Job Done,” <https://www.documentcloud.org/documents/24630528-grid-summer-1992#document/p14/a2563778>, 14.

311 Willke, “Global Climate Change: The Role of Natural Gas,” <https://www.documentcloud.org/documents/24630521-grid-spring-1990/#document/p4/a2563408>, 4.

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that the gas industry intended to use the study to take control of the debate and further shape the perception of gas as a climate solution. “In addressing global climate change, it is especially important that the natural gas industry assume a leadership role,” said Willke. “Not only is the industry in the best position to appraise its operations, but it has a large stake in the outcome.”³¹²

The industry’s investment in the study’s results was reflected in its involvement in every stage of the process. This included shaping the study itself, and providing data from a self-selecting sampling of sites.³¹³

The exact role EPA played in this study is unclear. An announcement in the Institute of Gas Technology’s *Highlights* newsletter explained that EPA had “agreed to cosponsor the gathering of emissions data.”³¹⁴ What is certain, however, is that the gas industry directed and funded this methane emissions study, prepared by Texas-based industry services company Radian,³¹⁵ a private firm which had a close relationship with GRI and regularly carried out other oil and gas industry-funded projects during this period.³¹⁶

At the outset, the study’s authors developed new frameworks and methods “for measuring and / or calculating” the various factors involved with methane emissions.³¹⁷ These developments were assisted by an “Advisory Committee,” which “consist[ed] of industry representatives, project sponsors, and other interested parties from both government and private sectors” who “provided guidance and peer review for all phases of the program.”³¹⁸ Embodying the “leadership role” advocated by the GRI’s Willke, more than 60 of these 96 advisors and reviewers were from the gas, oil, and utilities industries, including representatives from trade organizations like AGA, INGAA, and API; industry research institutes including GRI and EPRI; and gas producers, pipeline companies, and utilities, including Amoco, Chevron, Conoco, Marathon, Phillips 66, Shell, Texaco, Columbia Gas, Enron, PG&E, SoCalGas, and Tenneco.³¹⁹ The remaining third was made up of representatives from government agencies, consulting firms, research labs, and environmental groups.³²⁰

Records only now reveal the extent to which industry had a stake in what would prove to be a formative study — from the earliest stages of the study to its final review, industry not only had an investment in the outcome, but also maintained close control over the process.

312 Willke, “Global Climate Change: The Role of Natural Gas,” <https://www.documentcloud.org/documents/24630521-grid-spring-1990#document/p4/a25663411>, 4.

313 Radian International, “Methane Emissions From The Natural Gas Industry Vol. 3: General Methodology,” EPA-600/R-96-080c (U.S. Environmental Protection Agency and Gas Research Institute, June 1996), <https://www.documentcloud.org/documents/25198564-methane-emissions-from-the-natural-gas-industry-volume-3-methodology/?mode=document>.

314 “GRI to Study Role of Methane in Global Warming,” *International Gas Technology* (January 1990), <https://legacy.www.documentcloud.org/documents/25560317-igt-jan-22-1990/#document/p2/a2627464>, 2.

315 Radian International, “Methane Emissions From The Natural Gas Industry Vol. 3: General Methodology,” <https://www.documentcloud.org/documents/25198564-methane-emissions-from-the-natural-gas-industry-volume-3-methodology/?mode=document#document/p2/a2629520>, 2.

316 While preparing the study, Radian was also simultaneously under contract with GRI to develop commercial emission control technologies. One of the Radian authors, R. Michael Cowgill, had been a consultant to PG&E’s R&D department and the project manager of its unaccounted-for gas study (co-funded by PG&E and GRI) prior to working on the GRI-EPA study. “A New Emission Control Technology Comes to the Natural Gas Industry,” (Radian International, May 1995), Internet Archive, <https://web.archive.org/web/19970205023436/http://radian.com/rad rept/1995/may2.htm>; Ahrens, “Finders of Lost Gas,” <https://www.documentcloud.org/documents/26047733-aga-monthly-may-1991/?mode=document#document/p37/a2815179>, 37.

317 Radian International, “Methane Emissions From The Natural Gas Industry Vol. 1: Executive Summary,” EPA-600/R-96-080a (U.S. Environmental Protection Agency and Gas Research Institute, June 1996), <https://www.documentcloud.org/documents/23681762-methane-emissions-from-the-natural-gas-industry-1996/?mode=document#document/p11/a2627502>, 11.

318 Radian International, “Methane Emissions From The Natural Gas Industry Vol. 3: General Methodology,” EPA-600/R-96-080c (U.S. Environmental Protection Agency and Gas Research Institute, June 1996), <https://legacy.www.documentcloud.org/documents/25198564-methane-emissions-from-the-natural-gas-industry-volume-3-methodology/#document/p13/a2629532>, 13.

319 Radian International, “Methane Emissions From The Natural Gas Industry Vol. 2: Technical Report,” EPA-600/R-96-CSOb (U.S. Environmental Protection Agency and Gas Research Institute, June 1996), <https://www.documentcloud.org/documents/23728216-methane-emissions-from-that-natural-gas-industry-volume-2/?mode=document#document/p148/a2675938>, 148-150.

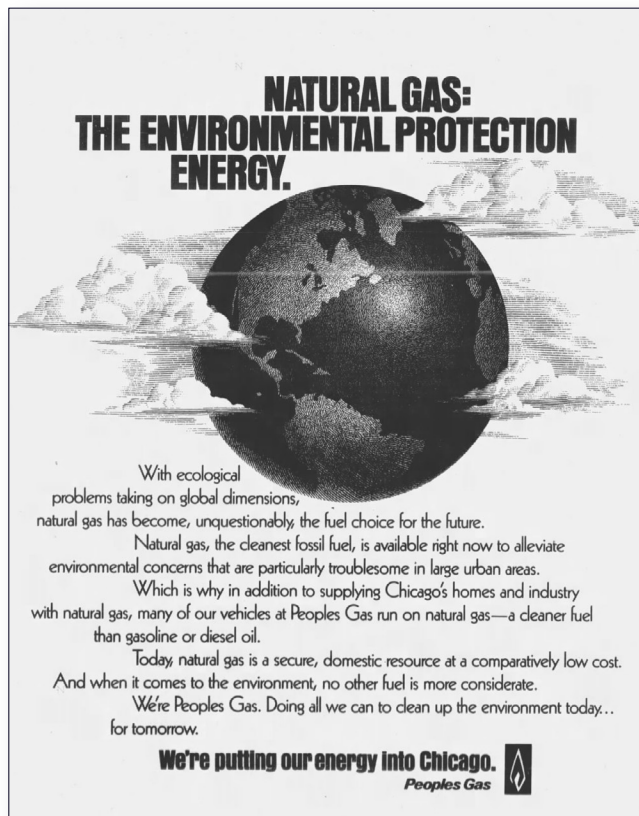
320 Radian International, “Methane Emissions From The Natural Gas Industry Vol. 2: Technical Report,” <https://www.documentcloud.org/documents/23728216-methane-emissions-from-that-natural-gas-industry-volume-2/?mode=document#document/p148/a2675938>, 148-150.

4.4

A Proliferation of Industry-Funded Groups Advance Gas as a Climate Solution

It would be six years before the full GRI/EPA emissions study was published and the gas industry could leverage its results in support of its clean gas claims. In the meantime, the industry didn't hesitate to claim that gas was unequivocally a climate solution.³²¹ In 1991, AGA's "Environmental Protection Energy" campaign directly pitched gas as a solution to environmental problems of "global dimensions."³²² And in 1992, four years before the study's final publication, **Enron CEO Kenneth Lay publicly announced that its results would "ease the concerns some have expressed with respect to methane emissions from the natural gas system."**³²³

AGA president Michael Baly was also explicit about what he believed should be the industry's position in the April 1992 issue of AGA's publication *American Gas*: "Not just on the environment generally, but on the issue of global climate change itself, the natural gas industry has nothing to fear from a full debate in which our voice is heard and the facts are straight," he said. "We can be part of a global solution."³²⁴ Baly added a note of caution, however, alluding to the potential threat the gas industry faced from regulation of methane emissions



"Environmental Protection Energy" promoted gas as a solution to global environmental problems, as seen in AGA-member advertisement in 1991. ([Chicago Tribune](#), [Newspapers.com](#))

by explaining that "[a]ctions taken to combat global climate change could present us with significant market opportunities. But these actions could also hurt us if they are wrongly conceived."³²⁵ He implored the industry to "be part of the national 'conversation' as this issue heats up" and explained what actions AGA was taking, including "working on a plan for an 'alternative energy future.'"³²⁶

321 "Report Shows Findings on Methane Emissions," *American Gas* (September 1991), U.S. Library of Congress, <https://www.documentcloud.org/documents/26047746-aga-monthly-september-1991/#document/p35/a2808405>, 35.

322 Peoples Gas, "Natural Gas: The Environmental Protection Energy," advertisement, *Chicago Tribune* (April 1991), [Newspapers.com](#), <https://www.documentcloud.org/documents/26311759-chicago-tribune-1991-04-25-141/>.

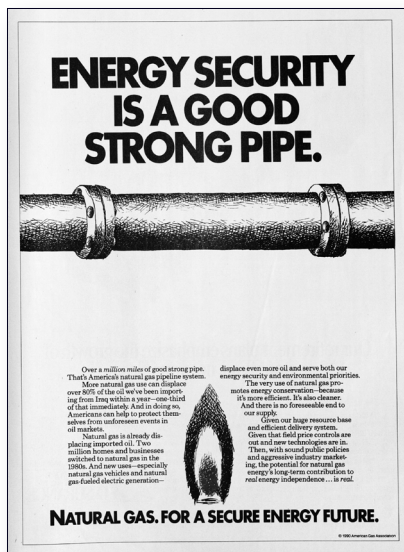
323 Kenneth L. Lay, "Natural Gas: The Cost Effective Link Between Robust Economic Growth and Aggressive Environmental Protection," June 23, 1992, *FOIA: Enron Documents 1992*, U.S. Department of Energy, <https://www.documentcloud.org/documents/25506333-enron1992/?mode=document#document/p53/a2773923>, 53.

324 Michael Bally III, "Being Part of a Global Solution," <https://legacy.www.documentcloud.org/documents/26047813-aga-monthly-april-1992/#document/p2/a2808409>, 2.

325 Michael Bally III, "Being Part of a Global Solution," <https://legacy.www.documentcloud.org/documents/26047813-aga-monthly-april-1992/#document/p2/a2808406>, 2.

326 Michael Bally III, "Being Part of a Global Solution," <https://legacy.www.documentcloud.org/documents/26047813-aga-monthly-april-1992/#document/p2/a2808408>, 2.

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American Gas Association advertisement in Wall Street Journal, August 13, 1990. (Rubenstein Library, Duke University)

Mobil puts it on the line

Seven reasons why Mobil is the gas supplier of choice

- 1. Mobil has the gas.** Eight trillion cubic feet located throughout North America providing vast choices of supply and reliability. And we're discovering and developing new fields, adding new reserves.
- 2. Mobil has the people.** Professionals experienced in all phases of the natural gas business committed to providing you the best service possible.
- 3. Mobil has the flexibility.** Our diverse supply portfolio has access to a vast pipeline network, which gives us a choice of routes to deliver your supplies anywhere in North America.
- 4. Mobil has the contract.** We'll tailor an agreement to suit your special needs—from 30-day interruption to long-term contracts.
- 5. Mobil has GAMMA.** Our innovative and proprietary Gas Marketing Management software system enables us to track, coordinate and service your nomination requests.
- 6. Mobil has the advantage.** In accounting, GAMMA generates accurate, comprehensive invoice packages with gas movement information, delivery points, meter numbers, contract and transportation rate numbers.
- 7. Mobil has the dedication.** Our Mission Statement puts it all in perspective: "We are committed to being the industry leader in providing our customers with reliable gas supplies and quality service. These commitments will be achieved through ethical and innovative application of talent, teamwork and technology."

For more information, contact:
Mobil Natural Gas Inc.
12430 Greensport Drive,
Houston, TX 77060-1991.
1 (800) 662-4564.

Mobil
The Supplier of Choice

Mobil Natural Gas Inc.

Phone: (713) 775-2637 or 1 (800) MobilNG (662-4564) Fax: (713) 775-4150

Mobil advertisement in American Gas, October 1992. (American Gas)

Texaco's Bill Cleary is up late arranging for nominations, storage and delivery while his customer gets another good night's sleep.

It's all in a day's work for Bill and the other specialists at Texaco Natural Gas. "What we do," Bill explains while pouring himself another cup of coffee, "is just the tip of the iceberg in making sure Texaco's customers feel secure in their gas purchases."

To make buying and selling natural gas simple and reliable, we've changed our organization to give you more responsive service 24 hours a day.

Now, we've made our level of responsiveness with our ServiceLine Account Managers. They'll handle your day today.

Flexible products backed by hard assets bring our customer service full circle. The global asset base, the Texaco Gas "One Star Center," consists of more than 1,000 miles of pipeline, the Henry Hub, Texaco's gas processing plant and our Southern storage facility. And these capabilities make a big difference in what Texaco Natural Gas can do for you.

With one call to Texaco, you can arrange for gas purchases and sales, flexible delivery rates, multiple pipeline delivery options, firm and interruptible transportation and storage, and management products and gas processing.

Put the All-Star Performer on your team today. Just call 800-4TEXAS. Talk to Bill or one of our other All-Star Performers and find out how simple and reliable we've made it to do business with Texaco Natural Gas. Then, while we go to work, you can rest a little easier.

All-Star Performer
TEXACO
Natural Gas

Texaco advertisement in American Gas, July 1994. (American Gas)

Once again the industry relied on its favored tactic of shifting attention away from methane toward carbon dioxide, promoting CO₂ as the "chief global warmer,"³²⁷ which had the benefit of making gas seem an ideal solution to replace carbon-intensive coal. Attempting to carve out special treatment for gas, AGA pushed back against the "comprehensive" emission-management position of the Global Climate Coalition (GCC)³²⁸ — an industry-funded climate denial group of which AGA was a founding member.³²⁹ Some members of the group, including the coal industry, favored an approach that played down the importance of CO₂ emissions while giving greater weight to methane from both fossil fuels and agricultural sources. The gas industry, however, stood to benefit from directing greater attention toward CO₂, which it called "by far the most important greenhouse gas."³³⁰ GCC's "continued insistence ... that responses to climate change should focus on the full range of gases is no longer justified by the facts," AGA declared in a letter to the GCC in April 1992.³³¹

While the GRI/EPA emissions study slowly progressed, the gas industry acted through a proliferation of other industry-funded coalitions and trade organization initiatives to promote gas as a climate solution and encourage fuel switching. Among the most important of these was the formation of the Natural Gas Council (NGC) in 1991.³³² It brought together representatives from all of the major gas trade organizations,

- 327 Frank Ahrens, "Finders of Lost Gas," <https://legacy.www.documentcloud.org/documents/26047733-aga-monthly-may-1991#document/p37/a2675158>, 37.
- 328 "Natural Gas Producers Eye Dropping Out of Global Warming Policy Coalition," *Inside EPA's Clean Air Report Vol. 3* (Inside Washington Publishers, May 1992), <https://legacy.www.documentcloud.org/documents/25198684-inside-epa-92-naturalgasproducers/#document/p2/a2675411>, 2.
- 329 "Global Climate Coalition Membership," (November 1989), courtesy of Climate Files and Inside Climate News, <https://www.documentcloud.org/documents/5674022-1989-GcC-Membership/>.
- 330 "Natural Gas Producers Eye Dropping Out of Global Warming Policy Coalition," <https://legacy.www.documentcloud.org/documents/25198684-inside-epa-92-naturalgasproducers/#document/p2/a2675411>, 2.
- 331 "Natural Gas Producers Eye Dropping Out of Global Warming Policy Coalition," <https://legacy.www.documentcloud.org/documents/25198684-inside-epa-92-naturalgasproducers/#document/p2/a2675411>, 2.
- 332 Robert L. Bradley, Jr., *ENRON Ascending: The Forgotten Years, 1984-1996* (Wiley-Scrivener, 2018), 332.

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representing interests that had sometimes been in competition — gas utilities, pipeline companies, the major producers, and the independent producers.³³³ It marked a significant step in the long sought-after process of industry unification of a once “fractious industry” in competition and under different regulatory structures.³³⁴

The Natural Gas Council was explicit about its intentions to do just that, devoting most of its attention to promoting gas as an alternative to coal. It launched with a reported \$15 million marketing budget to “improve methane’s image and increase annual demand,”³³⁵ with its “primary thrust” being “directed toward electric power generation.”³³⁶ **One way NGC promoted gas as a climate solution was through specially-produced brochures that informed readers about the plentiful nature of gas supplies as well as “how few harmful emissions natural gas combustion emits,”³³⁷ according to AGA President, Michael Baly.**

Another of AGA’s partnerships was intended to accomplish similar ends by positioning gas as a partner to renewable energy and efficiency. In 1992, AGA partnered with the Solar Energy Industries Association and the Alliance to Save Energy to produce “An Alternative Energy Future,” described as “the first joint study to be conducted by the energy-efficiency, renewable energy



An argument from “An Alternative Energy Future,” 1992. (American Gas)

and natural gas industries.”³³⁸ **AGA shared the study with every member of Congress prior to the 1992 Rio Earth Summit in hopes of influencing U.S. and international energy policy.**³³⁹ The collaboration allowed AGA, which was the driving financial and editorial force behind the study,³⁴⁰ to present gas as a partner to renewables, aligning it more closely in the public imagination with technologies like solar power rather than other fossil fuels. Under the scenario examined in the study, CO₂ emissions reductions would be spurred by a “shift away from high-carbon fuels to natural gas, renewable energies and higher-efficiency equipment,”

333 At the launch of the Natural Gas Council, members included the American Gas Association, Independent Petroleum Association of America, the Interstate Natural Gas Association of America, and the Natural Gas Supply Association. American Petroleum Institute is also a longtime member. Bradley, Jr., *ENRON Ascending: The Forgotten Years, 1984-1996*, 232; Natural Gas Council, <https://naturalgascouncil.org/>.

334 Bradley, Jr., *ENRON Ascending: The Forgotten Years, 1984-1996*, 332.

335 Bradley, Jr., *ENRON Ascending: The Forgotten Years, 1984-1996*, 332; “Natural Gas Council Announces Goals,” *American Gas* (September 1992), U.S. Library of Congress, <https://legacy.www.documentcloud.org/documents/26047818-aga-monthly-september-1992/#document/p28>, 28.

336 “Natural Gas Supply Association: Minutes of the Steering Committee Meeting,” (July 16, 1992), Box 2008- 294 44A, Folder Natural Gas Supply Association, Texas Independent Producers and Royalty Owners Records, University of Texas Briscoe Center for American History, <https://www.documentcloud.org/documents/25893437-box-2008-294-44a-09743988-folder-natural-gas-supply-association/?mode=document#document/p38/a2631498>, 38.

337 Michael Baly III, “Becoming a United Industry,” *American Gas* (October 1992), U.S. Library of Congress, <https://legacy.www.documentcloud.org/documents/26047822-aga-monthly-october-1992/#document/p4/a2676709>, 4.

338 “An Alternative Energy Future,” (April 1992), Bodleian Library, Oxford University, <https://www.documentcloud.org/documents/25981405-an-alternative-energy-future-aga-1992/?mode=document#document/p5/a2661963>, 5.

339 Todd Bernhardt, “Considering the Alternative,” *American Gas* (October 1992), U.S. Library of Congress, <https://legacy.www.documentcloud.org/documents/26047822-aga-monthly-october-1992/#document/p27/a2675703>, 27.

340 Scott Sklar, former executive director of the Solar Energy Industries Association, interview with authors, Summer 2025.

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including a 40 percent increase in the use of natural gas and a doubling of the use of renewable technologies.³⁴¹ To achieve these figures, the report drew heavily on existing industry studies downplaying the gas industry's methane emissions problem³⁴² and selectively cited the 1990 IPCC energy industry workshop summary — itself heavily influenced by industry — as an independent source.³⁴³ It also omitted from mention the independent studies discussed in the workshop summary that pointed to the gas industry's much higher contributions to atmospheric methane.³⁴⁴

The industry's efforts to institutionalize the clean gas myth reached a global scale at the 1992 Earth Summit in Rio de Janeiro. Working through both the ICC and the "Alternative Energy Future" coalition, the oil and gas industry sought to influence the Summit's decisions on how best to reduce greenhouse gas emissions. Both groups were represented at the conference. Prior to the summit, the ICC directly lobbied the Summit's chair, Maurice Strong, resulting in an official role in the preparatory negotiations as well as the proceedings of the Summit itself for the ICC and its oil and gas industry members.^{345,346} The ICC also released a handbook in connection with the Summit, describing its vision for



1992 United Nations Earth Summit in Rio de Janeiro. PHOTO: UN Photo/Michos Tzovaras

corporate environmental management.³⁴⁷ Under a section titled "The Greenhouse Effect," the ICC handbook made no mention of gas and oil operations as a source of methane emissions, though it did include "coal mining."³⁴⁸ It described gas as "the cleanest fossil fuel" and explained that it could "make a major contribution towards reducing greenhouse gas and other emissions."³⁴⁹ Gas industry executives were also in attendance, arriving at the conference with "a delegation of clean energy industry executives" and holding workshops on the climate benefits of gas outlined in AGA's "Alternative Energy Future" report.³⁵⁰

341 "Free-Market Approach to Reduced Emissions Can Work, Says Study" *American Gas* (July 1992), British Library, <https://www.documentcloud.org/documents/25421087-aga-monthly-july-1992/#document/p5/a2655339>, 5.

342 "An Alternative Energy Future," <https://legacy.www.documentcloud.org/documents/25981405-an-alternative-energy-future-aga-1992#document/p17/a2661994>, 17.

343 "An Alternative Energy Future," <https://legacy.www.documentcloud.org/documents/25981405-an-alternative-energy-future-aga-1992#document/p10/a2661974>, 9.

344 U.S. Environmental Protection Agency, *Methane Emissions and Opportunities for Control: Workshop Results of Intergovernmental Panel on Climate Change*, <https://legacy.www.documentcloud.org/documents/25912948-methane-emissions-and-opportunities-for-control-epa-workshop-december-1989/#document/p93/a2661307>, 93.

345 "International Chamber of Commerce Industry Forum on Environment and Development," (May 25-27, 1992), Box 467, Folder 4436, Maurice F. Strong Papers, Harvard Library, <https://www.documentcloud.org/documents/25992882-strong-b467-f4436/?mode=document#document/p25/a2663783>, 24-26; Pratap Chatterjee, Matthias Finger, *The Earth Brokers*, (Routledge, 1994).

346 In 1992 the International Chamber of Commerce's members included Shell, BP, and Exxon. "List of ICC Environment Committee Members 1987 & 1992."

347 "International Chamber of Commerce Industry Forum on Environment and Development," <https://legacy.www.documentcloud.org/documents/25992882-strong-b467-f4436/#document/p19/a2663772>, 19.

348 International Chamber of Commerce, *The Greening of Enterprise*, <https://legacy.www.documentcloud.org/documents/25998886-from-ideas-to-action-business-and-sustainable-development-the-greening-of-enterprise-1992-icc-may-1992/#document/p11/a2664457>, 11.

349 International Chamber of Commerce, *The Greening of Enterprise*, <https://legacy.www.documentcloud.org/documents/25998886-from-ideas-to-action-business-and-sustainable-development-the-greening-of-enterprise-1992-icc-may-1992/#document/p58/a2664498>, 58.

350 Sklar, interview with authors.

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World leaders at the Rio Earth Summit.
PHOTO: UN Photo/Michos Tzovaras

When the Rio Earth Summit concluded, the gas industry and its allies scored victories on several fronts. Firstly, the United Nations Framework Convention on Climate Change, signed at Rio, contained no binding targets or timetables for greenhouse gas reductions.³⁵¹ Secondly, the Summit's Agenda 21 action plan made few references to fossil fuels' role in causing climate change and endorsed industry's voluntary management of emissions as an effective solution³⁵², an oil and gas priority that would become key to the industry success in avoiding scrutiny of methane emissions.³⁵³ Legitimizing self-regulation of business as a means of protecting the environment, Agenda 21 declared that companies could contribute to sustainable development goals "by using economic instruments such as free market mechanisms"³⁵⁴ and indicated that "[v]oluntary private initiatives should also be encouraged."³⁵⁵

The plan recommended that governments embrace "voluntary (self-regulatory) approaches" in combination with economic and regulatory approaches to achieve sustainable development objectives and "encourage" "[v]oluntary private initiatives" to promote cleaner production.³⁵⁶ The U.S. government's embrace of such voluntary initiatives would ultimately become key to the gas industry's success in avoiding meaningful scrutiny of methane emissions.

After the Summit, Jonathan Plaut, chair of the ICC's Rio task force, described the Earth Summit as "an important landmark" and encouraged the U.S. to follow suit by using "market-oriented approaches to achieve environmental goals."³⁵⁷ Some environmental groups, such as Greenpeace, declared that big business had hijacked the Earth Summit.³⁵⁸

351 United Nations Conference on Environment and Development, Rio de Janeiro, Brazil, 3-14 June 1992, <https://www.un.org/en/conferences/environment/rio1992>.

352 United Nations Conference on Environment and Development, Agenda 21, Rio de Janeiro (June 1992), <https://legacy.www.documentcloud.org/documents/28268742-agenda21#document>.

353 Aronczyk and Espinoza, *A Strategic Nature: Public Relations and the Politics of American Environmentalism*, 142.

354 United Nations Conference on Environment and Development, Agenda 21, Rio de Janeiro (June 1992), <https://sdgs.un.org/sites/default/files/publications/Agenda21.pdf>, 289.

355 United Nations Conference on Environment and Development, Agenda 21, <https://sdgs.un.org/sites/default/files/publications/Agenda21.pdf>, 290.

356 United Nations Conference on Environment and Development, Agenda 21, <https://sdgs.un.org/sites/default/files/publications/Agenda21.pdf> at 290.

357 Jonathan Plaut, House Foreign Affairs Committee, U.S. Policy before the Committee on Foreign Affairs, https://www.google.co.uk/books/edition/U.S._Policy_Toward_the_United_Nations_Con/ECs1AAAAIAAJ?hl=en&gbpv=1, 249-259.

358 Pratap Chatterjee, "Who Pays for the Earth Summit," *New Scientist* (April 11 1992), https://www.newscientist.com/article/mg13418162-900/?_ptid.

4.5

Star Power: Voluntary Programs Avoid “Regulatory Barriers”

After the industry’s victory in Rio, the “Alternative Energy Future” report formed the basis of a new gas industry coalition, the Business Council for a Sustainable Energy Future (BCSEF), which promoted an expanded gas industry stewarded by voluntary programs as a solution for controlling U.S. greenhouse gas emissions. Through the BCSEF, gas companies and AGA positioned gas as a partner to renewables while working to influence both U.S. and international climate policy through outreach to state and federal policymakers, special interest groups, the business community, and the general public.³⁵⁹

Chaired by Enron CEO Kenneth Lay, BCSEF’s membership included representatives from gas utilities, pipeline companies, producers, trade organizations (including AGA), and alternative energy and efficiency associations that had been involved in the “Alternative Energy Future” report.³⁶⁰ **One of the organization’s task forces was charged with engaging with “U.S. federal and state governments and international organizations to shape the debate on climate policy,” according to an early planning document.**³⁶¹

359 Business Council for Sustainable Energy Future (BCSEF), “Organizational Meeting Minutes and Documents,” December 11, 1992, <https://legacy.www.documentcloud.org/documents/26047410-bcse-organizational-meeting-minutes-and-docs-december-11-1992/#document/p2/a2666439>, 2; <https://legacy.www.documentcloud.org/documents/26047410-bcse-organizational-meeting-minutes-and-docs-december-11-1992/#document/p2/a2666436>, 2; <https://legacy.www.documentcloud.org/documents/26047410-bcse-organizational-meeting-minutes-and-docs-december-11-1992/#document/p2/a2666438>, 2; BCSEF, “What is the Business Council For A Sustainable Energy Future?” video, accessed May 8, 2026, <https://bcsef.org/celebrating-30-years-bipartisan-clean-energy-solutions/>, <https://www.documentcloud.org/documents/26340934-bcsef-early-document/>.

360 BCSEF, “Organizational Meeting Minutes and Documents,” <https://legacy.www.documentcloud.org/documents/26047410-bcse-organizational-meeting-minutes-and-docs-december-11-1992/#document/p1/a2666418>, 1, and <https://legacy.www.documentcloud.org/documents/26047410-bcse-organizational-meeting-minutes-and-docs-december-11-1992/#document/p8/a2666455>, 8-9.

361 BCSEF, “Organizational Meeting Minutes and Documents,” <https://legacy.www.documentcloud.org/documents/26047410-bcse-organizational-meeting-minutes-and-docs-december-11-1992/#document/p2/a2666439>, 2.



The natural gas industry targeted environmentalists with “clean” gas messaging. (American Gas)

The organization also intended to analyze “market-based mechanisms for promoting the deployment of sustainable energy technologies” and “critique U.S. government energy and environmental models and propose alternatives.”³⁶² **Working through the BCSEF, Lay and the gas industry aimed to cement gas as a climate solution in federal policy, advocating for deregulation in the guise of voluntary programs.**

The image of gas as a “clean” source of energy, long-cultivated by the industry, helped oil and gas representatives to portray voluntary, market-based systems for emissions management as sufficient for

362 BCSEF, “Organizational Meeting Minutes and Documents,” <https://legacy.www.documentcloud.org/documents/26047410-bcse-organizational-meeting-minutes-and-docs-december-11-1992/#document/p2/a2666438>, 2.

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mitigating methane's climate risk.³⁶³ **Since gas was a "clean" fuel, according to AGA, there was no need for any "major new federal policy initiatives" to manage methane emissions and thus no need for the extensive monitoring, detailed reporting, or penalties for infringement that would accompany legally-binding federal regulation.**³⁶⁴ Emissions reductions could be achieved "without federal intervention in the marketplace" argued *American Gas* in October 1992.³⁶⁵

During this period, AGA and individual gas companies also used their partnerships with environmental groups such as The Nature Conservancy and World Wildlife Fund³⁶⁶ to promote an image of gas as "the most environmentally desirable fuel."³⁶⁷

Alongside these efforts, AGA lobbied the incoming Clinton Administration, arguing that the "Alternative Energy Future" report contained a "blueprint" for achieving the administration's goals of economic growth and emissions reductions, according to *American Gas* in January 1993.³⁶⁸

FREE-MARKET APPROACH TO REDUCED EMISSIONS CAN WORK, SAYS STUDY

A study showing that substantial emissions reductions and increased employment in the U.S. energy industry can work hand-in-hand without federal intervention in the marketplace made its way in May into the hands of every U.S. senator as Congress continued to debate national energy legislation and America's role in last month's "Earth Summit" in Rio de Janeiro.

AGA presented natural gas as a partner to renewables in "The "Alternative Energy Future" study, used to lobby Congress and the 1992 Rio Earth Summit. ([American Gas](#))

Published in October that year, the Clinton Administration's *Climate Change Action Plan* institutionalized the clean gas myth by embracing the greater use of natural gas as a climate solution and enshrining voluntary actions at the heart of U.S. environmental policy.³⁶⁹

AGA understood the benefits of adopting well-publicized voluntary programs, later describing how such cooperation could provide "three major advantages to the natural gas industry: national recognition, regulatory avoidance and heightened awareness of clean-burning natural gas technologies."³⁷⁰ These same strategic principles were channeled in a new initiative created by the gas industry and EPA: the Natural Gas STAR Program.³⁷¹

- 363 "Free-Market Approach To Reduced Emissions Can Work, Says Study," <https://legacy.www.documentcloud.org/documents/25421087-aga-monthly-july-1992#document/p5/a2655336>, 5.
- 364 "Free-Market Approach To Reduced Emissions Can Work, Says Study," <https://legacy.www.documentcloud.org/documents/25421087-aga-monthly-july-1992#document/p5/a2655336>, 5.
- 365 Bernhardt, "Considering the Alternative," <https://www.documentcloud.org/documents/26047822-aga-monthly-october-1992/#document/p24/a2810389>, 24.
- 366 "From Ideas to Action, Business and Sustainable Development," *The Greening of Enterprise* (International Chamber of Commerce, May 1992), British Library, <https://legacy.www.documentcloud.org/documents/25998886-from-ideas-to-action-business-and-sustainable-development-the-greening-of-enterprise-1992-icc-may-1992/#document/p58/a2664498>, 58; Rhonda Lucas Donald, "A Green Thumbs Up," *American Gas* (June 1993), U.S. Library of Congress, <https://legacy.www.documentcloud.org/documents/26047852-aga-monthly-june-1993#document/p23/a2809936>, 23.
- 367 Baly, "The Blue Flame Knows How To Think Green," <https://legacy.www.documentcloud.org/documents/26047852-aga-monthly-june-1993#document/p2/a2809933>, 2.
- 368 Michael Baly III, "Natural Gas Remains a Priority In The White House," *American Gas* (December 1992-January 1993), U.S. Library of Congress, <https://www.documentcloud.org/documents/26047817-aga-monthly-december-1992january-1993/?mode=document#document/p2/a2774522>, 2.

- 369 William J. Clinton and Albert Gore, Jr., "The Climate Change Action Plan," (October 1993), <https://babel.hathitrust.org/cgi/pt?id=uc1.31822033838525&seq=1>, 32.
- 370 Voluntary Emissions Reporting Good for Gas Industry," *American Gas* (April 1995), U.S. Library of Congress, <https://legacy.www.documentcloud.org/documents/26047883-aga-monthly-april-1995/#document/p9/a2675586>, 9.
- 371 "EPA Launches a New Cooperative Program with Gas Producers," (EPA: March 27, 1995), Internet Archive, <https://www.documentcloud.org/documents/25943177-natural-gas-star-program-epa-press-advisory-march-27-1995/>.

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Announced just a few months after the 1992 Earth Summit, EPA's Natural Gas STAR partnership with the gas industry was an entirely voluntary, market-based methane-reduction effort promoted as an adjunct to EPA's new Energy Star efficiency program introduced earlier that year. Natural Gas STAR, launched by AGA and EPA with the declared goal of reducing methane emissions to 1990 levels by the year 2000, provided a framework to encourage its industry partners to adopt new emission-reduction technologies and report their results to EPA.³⁷² In its early days, the program's membership consisted of more than 50 companies across all sectors of the gas industry, with members expected to sign a memorandum of understanding that pledged them to designing and carrying out a 'best management' program (BMP) to reduce their emissions.³⁷³ Companies were under no obligation to implement these best management programs, however. "If a BMP is not cost-effective for a company, it does not have to implement it," an article in *American Gas* explained. "EPA asks only that each partner consider each BMP. In fact, a participating company designs its program with very few restrictions, if any, from EPA."³⁷⁴

Through Natural Gas STAR, the gas industry was effectively able to run a communications program through EPA. As AGA explained in a 1996 *American Gas* article, "providing partners with public recognition" — including "public-service advertisements, press releases, brochures, awards and 'STAR Cards'" — was one of EPA's primary responsibilities in the program.³⁷⁵ The industry itself was also able to point to its participation in the program as proof that it was committed to environmental protection while adopting voluntarily only those emissions-reducing measures it deemed profitable.

372 Cate Barnett Alexander, "Star Power," *American Gas* (May 1996), U.S. Library of Congress, <https://www.documentcloud.org/documents/26047900-aga-monthly-may-1996/?mode=document#document/p22/a2677229>, 22, 12.

373 Alexander, "Star Power," <https://www.documentcloud.org/documents/26047900-aga-monthly-may-1996/#document/p23/a2822670>, 23.

374 Alexander, "Star Power," <https://www.documentcloud.org/documents/26047900-aga-monthly-may-1996/#document/p24/a2677234>, 24.

375 Alexander, "Star Power," <https://www.documentcloud.org/documents/26047900-aga-monthly-may-1996/#document/p23/a2822672>, 23.

The American Petroleum Institute (API) is the major national trade association representing the entire petroleum industry: exploration and production, transportation, refining, and marketing. With headquarters in Washington, DC, and petroleum councils in 33 states, API is a forum for all parts of the oil and natural gas industry to pursue priority public policy objectives and to advance the interests of the industry.

API has been an active endorser of the Natural Gas STAR Program since 1996. To recognize STAR Producer Partners and promote their program achievements, API generously sponsored a full-page, full-color public service announcement (PSA) in the November 9, 1998 issue of the *Oil and Gas Journal*.

We have a dream for the environment...

And we're making it a reality.

In our vision of the future, environmental performance and business innovation go hand in hand, but that's not a far-off dream. In the natural gas industry, 16 companies are already making the dream a reality. We know that, when it comes to the environment, we can't afford to wait for someone else to take the initiative.

As forward-thinking producer companies, we are making our operations cleaner and more efficient, using the extra dollars in the name of environmental responsibility. And, by increasing gas yields, we have realized significant cost savings.

Now here we stand at the implementing regulatory, cost-effective measures to control emissions of methane—a greenhouse gas. Under the Natural Gas STAR Program, the U.S. Environmental Protection Agency (EPA) provides partner companies with information on innovative technologies and methods. EPA also offers assistance in addressing regulatory barriers that inhibit the implementation of methane emission reduction technologies and management practices.

To learn more about how your company can maximize the winning combination of environmental performance and business innovation, visit the program Web site at www.epa.gov/gasstar. You can also contact the program manager by e-mail at Gasstar@epa.gov.

API endorses EPA's Natural Gas STAR Program.

Staff Changes in the Natural Gas STAR Program
Rhonda Resch, Natural Gas STAR Program Manager, left EPA in late 1998 to take a position as Director of Utility Regulation and Environmental Affairs for the Natural Gas Supply Association. We wish him well! Recently joining the STAR team is Carolyn Henderson. Ms. Henderson and Program Manager Paul Gunning will continue to make the STAR Program an effective partnership between EPA and the natural gas industry.

The EPA regularly promoted oil and gas partners of the Natural Gas STAR program. A sample "PSA" from API appeared in an EPA brochure, spring 1999. (EPA.gov, Internet Archive)

A 1998 API ad, for example, touted the participation of 16 of its member gas producers — some of the largest producers of the time — in the Natural Gas STAR program.³⁷⁶ This participation, API argued, was making its "dream for the environment" a "reality."³⁷⁷

Prior to joining Natural Gas STAR in 1995,³⁷⁸ gas producers had anticipated increased scrutiny from regulators "on all aspects of the fuel cycle, from resource extraction through transportation, end use and waste disposal" according to an internal NGSA memo from

376 "Natural Gas Star newsletter," (U.S. Environmental Protection Agency, Spring 1999), Internet Archive, <https://www.documentcloud.org/documents/25970012-natural-gas-star-newsletter-1999/?mode=document#document/p1/a2655614>, 1.

377 "Natural Gas Star newsletter," <https://www.documentcloud.org/documents/25970012-natural-gas-star-newsletter-1999/?mode=document#document/p1/a2655614>, 1.

378 "EPA Launches a New Cooperative Program with Gas Producers," <https://www.documentcloud.org/documents/25943177-natural-gas-star-program-epa-press-advisory-march-27-1995/>.

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1993.³⁷⁹ But these concerns about potential methane regulations were largely headed off by the Natural Gas STAR program and similar voluntary industry initiatives, which served as strategic distractions from the industry's actual environmental impact. EPA also worked on the industry's behalf to promote deregulation as part of the Natural Gas STAR partnership. Among "EPA's responsibilities" through the program, *American Gas* explained in 1996, was "removing unjustified regulatory barriers."³⁸⁰ In effect, a federal agency was mobilized to fend off government-imposed environmental requirements on the basis that companies would choose to implement good environmental practices on their own.

AGA explained to its member companies that such participation in voluntary programs could "lower the probability of future government scrutiny of the gas industry as a source of greenhouse gases."³⁸¹

Indeed, participating in the Natural Gas STAR Program helped gas companies to fend off regulation. In 1996, industry representatives attested to "EPA's success in removing regulatory barriers" while describing how easy it was to participate in the Natural Gas STAR program.³⁸² James Frederick of Spirit 76 Energy — eventually acquired by Chevron — noted Gas Star "generated positive publicity."³⁸³

“[such participation in voluntary programs could] lower the probability of future government scrutiny of the gas industry as a source of greenhouse gases.”

The ICC's model of promoting voluntary guidelines as a means of preventing more formal and binding regulations was fully realized — the gas industry had created a situation in which the federal agency tasked with environmental protection was telling state lawmakers that mandatory emissions regulations would "only add burden without any benefit to the environment."³⁸⁴ AGA's director of engineering services explained how EPA had "intervened successfully in several cases where a state was going to issue environmental regulations" on the basis that industry was "already participating in a voluntary program on a good-faith basis."³⁸⁵

379 "NGSA Environmental Subcommittee: Draft Position Statement on Environmental Externalities," (February 17, 1993), Box 2008-294 28A, Folder: Environmental Issue Networking, Texas Independent Producers and Royalty Owners Records, University of Texas Briscoe Center for American History, <https://www.documentcloud.org/documents/25894459-2008-294-28a-enviro-issues-networking/?mode=document#document/p7/a2649926>, 7.

380 Alexander, "Star Power," <https://www.documentcloud.org/documents/26047900-aga-monthly-may-1996/?mode=document#document/p23/a2677230>, 23.

381 "Voluntary Emissions Reporting Good for Gas Industry," <https://legacy.www.documentcloud.org/documents/26047883-aga-monthly-april-1995/#document/p9/a2675587>, 9.

382 Alexander, "Star Power," <https://www.documentcloud.org/documents/26047900-aga-monthly-may-1996/?mode=document#document/p24/a2677235>, 24.

383 "Climate Change: Voluntary Actions by the Oil and Gas Industry," American Petroleum Institute (1999), P2 InfoHouse, <https://www.documentcloud.org/documents/26313528-api-1999-climate-change-voluntary-actions-report/?mode=document#document/p16/a2773938>, 16.

384 Alexander, "Star Power," <https://www.documentcloud.org/documents/26047900-aga-monthly-may-1996/?mode=document#document/p24/a2677235>, 24.

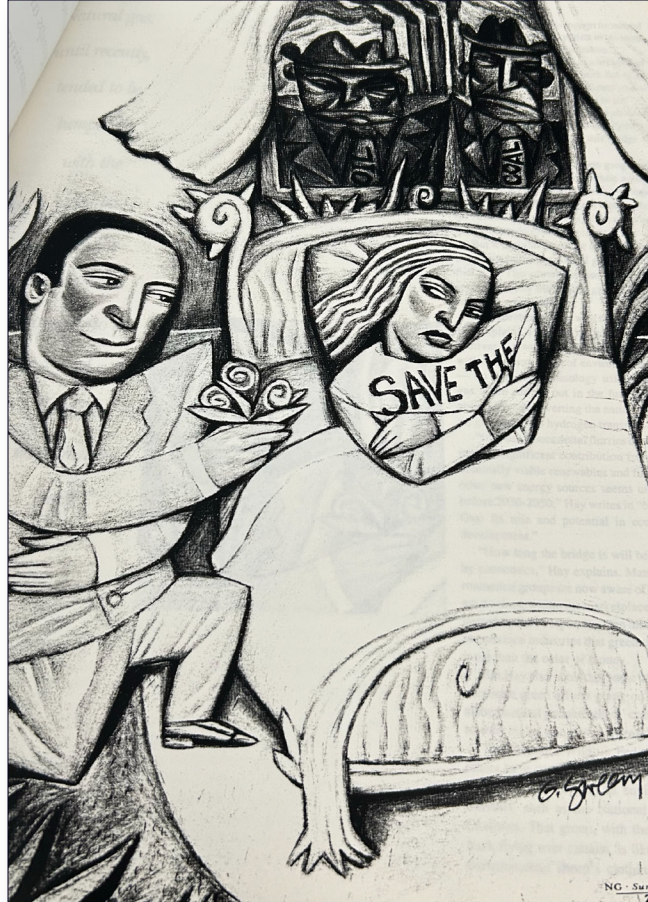
385 Alexander, "Star Power," <https://www.documentcloud.org/documents/26047900-aga-monthly-may-1996/?mode=document#document/p24/a2677235>, 24.

4.6

The Gas Industry Positions Itself as a Long-Term Climate Solution

Even as it announced these new optional measures, the gas industry was careful not to endorse the idea that it actually had a methane problem. “Methane is considered to be a ‘greenhouse gas,’ although carbon dioxide is thought to be the main contributor to global warming,” maintained SoCalGas executive and former AGA chair Richard Farman in 1992.³⁸⁶ The following year, another monthly journal from AGA, *Gas Energy Review*, made a slight acknowledgement of methane’s role in global warming while still downplaying its importance, claiming that “because of significantly lower emission rates and atmospheric concentration, CH₄ has not had a significant impact on the environment.”³⁸⁷

By the mid-1990s, however, the gas industry increasingly sought to position gas not just as a bridge to renewables, but as a destination fuel. Even the industry’s use of the word “bridge” began to change. AGA’s theme for 1995, for example, was “Natural Gas — the Bridge Between a Clean Environment and a Strong Economy.”³⁸⁸ The implication was that gas could help solve environmental problems, not just hold them at bay; AGA chair Robert Catell explained that gas could “spur economic growth without threatening the nation’s environmental gains.”³⁸⁹ And the metaphor of a bridge was also about industry



An illustration from an article, “Natural Gas and Environmentalism: Strange Bedfellows?” in 1993, symbolizing the industry’s overtures to environmental groups with the oil and coal industry watching from the sidelines. (Natural Gas Magazine)

unification. “I want to begin building a bridge so that when it is completed,” Catell explained, “all segments of our domestic industry will be united, our North American natural gas industry will be firmly established and, under A.G.A.’s leadership, natural gas will be the fuel of choice for a clean, global environment and a strong international economy.”³⁹⁰

Regardless of what terms were used, the natural gas industry did not anticipate losing any of the markets it was working to develop anytime soon. As longtime AGA employee Nelson Hay explained, whereas environmental groups were envisioning a “bridge” of 10 to 20 years, the industry was envisioning gas maintaining

386 Alexander, “Star Power,” <https://www.documentcloud.org/documents/26047817-aga-monthly-december-1992january-1993/?mode=document#document/p26/a2677255>, 26.

387 “New Directions: Natural Gas Energy And The Environment,” *Gas Energy Review* 21 (American Gas Association, August 1993), ProQuest, <https://www.documentcloud.org/documents/25973110-ger-aug-1993-new-directions-natural-gas-energy-and-the-enviro/?mode=document#document/p2/a2675233>, 2.

388 “Building a Bridge to The Future,” *American Gas* (December 1994-January 1995), U.S. Library of Congress, <https://www.documentcloud.org/documents/26047877-aga-monthly-december-1994january-1995/?mode=document#document/p19/a2675757>, 19.

389 “Building a Bridge to The Future,” <https://www.documentcloud.org/documents/26047877-aga-monthly-december-1994january-1995/?mode=document#document/p19/a2675757>, 19.

390 “Building a Bridge to The Future,” <https://www.documentcloud.org/documents/26047877-aga-monthly-december-1994january-1995/?mode=document#document/p19/a2675758>, 19.

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its position for 50 years or more.³⁹¹ As the AGA's liaison who often represented the industry in meetings and outreach, Hay's role at AGA included inducing environmentalists to support the gas industry's vision.

While the gas industry positioned itself as a responsible partner to renewable energy through the 1990s via its membership in the BCSEF,³⁹² the industry simultaneously attacked renewables through its membership in both AGA and the Natural Gas Supply Association (NGSA), claiming gas was both economically and environmentally superior. In 1995, AGA's president and CEO, Michael Baly III, urged DOE to prioritize R&D spending on gas technologies over renewables. Baly argued that an investment in gas technology met U.S. "environmental quality" goals as well as being "the most economically sensible."³⁹³ Overall, Baly rated gas much higher than renewables, promising that AGA would "stay heavily involved" in the process of turning these "recommendations into results."³⁹⁴

During this period, AGA pursued a "total advocacy agenda" ensuring its messages reached the "right audiences via the right communications tools."³⁹⁵ According to *American Gas*, these tools included "personal lobbying, electronic correspondence (e-mail, the Web, videoconferences), issue briefs, public relations,

op-ed pieces and letters-to-the-editor."³⁹⁶ The majority of its most important audiences, which included the industry's "legislators and regulators," received "a copy of *American Gas* every month," described by AGA's president as the industry's best communication tool.³⁹⁷ Among its advocacy goals were increasing federal funding for natural gas programs and ensuring that "natural gas plays a prominent role in any federal initiative addressing global climate change."³⁹⁸

Alongside AGA's messaging, NGSA also promoted gas as the top environmental and cost-effective energy source. In 1997, NGSA funded and promoted a study by consulting firm Charles River Associates — the study argued that renewable energy mandates being considered by Congress would hurt the economy and damage the environment.³⁹⁹ (During this period Charles River Associates conducted similar work for API arguing that climate policy would be economically disastrous while failing to account for the costs to the economy caused by future climate change impacts.)⁴⁰⁰ Over the next few years, NGSA, whose members included API,⁴⁰¹ launched a series of public attacks on solar and wind energy, producing papers and press releases "questioning the high cost and environmental damage associated with renewable energy sources."⁴⁰²

391 Daniel Macey, "Gas and Environmentalism: Strange Bedfellows?" (*Natural Gas*, Summer 1993) <https://www.documentcloud.org/documents/25894459-2008-294-28a-enviro-issues-networking/?mode=document#document/p10/a2649938>, 10.

392 "What is the Business Council For A Sustainable Energy Future?," <https://www.documentcloud.org/documents/26340934-bcsef-early-document/>; BCSEF, "Organizational Meeting Minutes and Documents," <https://legacy.www.documentcloud.org/documents/26047410-bcse-organizational-meeting-minutes-and-docs-december-11-1992/#document/p1/a2666417>, 1.

393 Michael Baly III, "How To Allocate Energy R&D Funding," *American Gas* (July 1995), U.S. Library of Congress, <https://www.documentcloud.org/documents/26047888-aga-monthly-july-1995/?mode=document#document/p4/a2809895>, 4.

394 Baly, "How To Allocate Energy R&D Funding," <https://www.documentcloud.org/documents/26047888-aga-monthly-july-1995/#document/p4/a2809895>, 4.

395 David Parker, "Advancing Our Advocacy Agenda," *American Gas* (September 1998), U.S. Library of Congress, <https://legacy.www.documentcloud.org/documents/26047929-aga-monthly-september-1998#document/p7/a2809901>, 7.

396 Parker, "Advancing Our Advocacy Agenda," <https://legacy.www.documentcloud.org/documents/26047929-aga-monthly-september-1998#document/p7/a2809901>, 7.

397 Parker, "Advancing Our Advocacy Agenda," <https://legacy.www.documentcloud.org/documents/26047929-aga-monthly-september-1998#document/p7/a2809904>, 7.

398 Parker, "Advancing Our Advocacy Agenda," <https://legacy.www.documentcloud.org/documents/26047929-aga-monthly-september-1998#document/p7/a2809910>, 7.

399 Charles River Associates, "Renewable Energy Mandates & Electric Utilities Restructuring," (Natural Gas Supply Association, May 1997), Internet Archive, <https://www.documentcloud.org/documents/26211908-ngsa-charles-river-report-on-renewables-mandates/>; "NGSA Media Release Index," (Natural Gas Supply Association, December 1998), Internet Archive, <https://web.archive.org/web/19981201205741/http://www.ngsa.org/MEDIA.HTM>.

400 Benjamin Franta, "Weaponizing Economics: Big Oil, Economic Consultants, and Climate Policy Delay," *Environmental Politics* 31, no. 4 (2022), <https://doi.org/10.1080/09644016.2021.1947636>.

401 "Petition Seeks Elimination of Gas Tariff," *Tulsa World* (June 22, 1997), [Newspapers.com](https://www.newspapers.com), <https://www.documentcloud.org/documents/26311979-tulsa-world-1997-06-22-63/>.

402 Natural Gas Supply Association, "NGSA Details Problems With Solar Energy" (August 20, 1997), NGSA Press Release, Internet Archive, <https://web.archive.org/web/19990203122805/http://www.ngsa.org/SOLAR-PR.HTM>; Natural Gas Supply Association, "NGSA Warns of Wind Power's Cost" (August 27, 1997), Internet Archive, <https://web.archive.org/web/19990204013555/http://www.ngsa.org/WIND-REL.HTM>; Natural Gas Supply Association, "NGSA Media Release Index" (December 1998), Internet Archive, <https://web.archive.org/web/19981201205741/http://www.ngsa.org/MEDIA.HTM>.

4.7

EPA Publishes the GRI Study Despite a Lack of Independent Review

As the GRI/EPA methane study approached completion in the mid-1990s, EPA's capacity was hobbled by budget and staffing cuts and the gas industry continued to exert its influence over the process.⁴⁰³ The study's advisory committee, drawn primarily from the gas industry, gathered a total of six times over the duration of the project.⁴⁰⁴ It had initially "approved the goals and scope of the project" and later "verified that the general results of the project were acceptable," along with conducting a review of drafts and the final report.⁴⁰⁵ In addition to this advisory committee, the gas industry was also able to shape the study's results through a separate "Industry Review Panel," which reviewed more technical aspects of the report. Members of this panel provided "comments on individual reports in their areas of expertise,"⁴⁰⁶ which "served as a [quality assurance] measure by ensuring that all emission sources were accounted for and that all data handling methods were representative of the natural gas industry."⁴⁰⁷

“It is going to be difficult to obtain a conscientious and competent technical review for this many detailed reports within the lab.”

Gas companies and industry bodies, such as AGA, API, and GRI, also provided the majority of the data for the study's "source specific" emissions estimates.⁴⁰⁸

What was not known to the public at the time was the lack of independent technical scrutiny by EPA. The in-house technical review, which would have ordinarily been completed by EPA itself, was instead replaced with an industry review, effectively removing a final opportunity for independent scrutiny.⁴⁰⁹ Although David Kirchgessner, EPA's project manager for the study, told *GRID* that the results provided a "statistically defensible number,"⁴¹⁰ his internal notes acknowledged the limits of EPA's capacity to conduct an independent review — limits that essentially gave industry control over the critical final numbers contained in the report.

“It is going to be difficult to obtain a conscientious and competent technical review for this many detailed reports within the lab,” Kirchgessner wrote in a 1994 memo to his superiors requesting the in-house EPA review be replaced with an “industry review”. “We simply do not have the expertise.”⁴¹¹

403 Leif Fredrickson et al., "History of US Presidential Assaults on Modern Environmental Health Protection," *American Journal of Public Health* 108, (April 2018), <https://pmc.ncbi.nlm.nih.gov/articles/PMC5922215/>; Michael Mansur, "Anti-pollution efforts hindered by EPA budget cuts" *Kansas City Star* (November 30, 1995), <https://www.documentcloud.org/documents/28099910-the-kansas-city-star-1995-11-30-36/?mode=document#document/p1/a2815178>.

404 Radian International, "Methane Emissions From The Natural Gas Industry Vol. 2: Technical Report," EPA-600/R-96-CSOb (U.S. Environmental Protection Agency and Gas Research Institute, June 1996), <https://www.documentcloud.org/documents/23728216-methane-emissions-from-that-natural-gas-industry-volume-2/?mode=document#document/p47/a2627538>, 47.

405 Radian International, "Methane Emissions From The Natural Gas Industry Vol. 2: Technical Report," <https://www.documentcloud.org/documents/23728216-methane-emissions-from-that-natural-gas-industry-volume-2/?mode=document#document/p47/a2627537>, 47.

406 Radian International, "Methane Emissions From The Natural Gas Industry Vol. 2: Technical Report," <https://www.documentcloud.org/documents/23728216-methane-emissions-from-that-natural-gas-industry-volume-2/?mode=document#document/p47/a2627539>, 47.

407 Radian International, "Methane Emissions From The Natural Gas Industry Vol. 2: Technical Report," <https://www.documentcloud.org/documents/23728216-methane-emissions-from-that-natural-gas-industry-volume-2/?mode=document#document/p47/a2627540>, 47.

408 Radian International, "Methane Emissions From The Natural Gas Industry Vol. 3: General Methodology," EPA-600/R-96-080c (U.S. Environmental Protection Agency and Gas Research Institute, June 1996), <https://www.documentcloud.org/documents/25198564-methane-emissions-from-the-natural-gas-industry-volume-3-methodology/#document/p77/a2629541>, 77.

409 "EPA memorandum on peer review procedures for gas industry report, with handwritten note," (July 22, 1994), U.S. EPA Office of Research and Development Air and Energy Engineering Research Laboratory, FOIA Release, <https://www.documentcloud.org/documents/25100324-scanned-from-rtp-d-251-m-08-08-2024-135429/?mode=document#document/p36/a2630124>, 36.

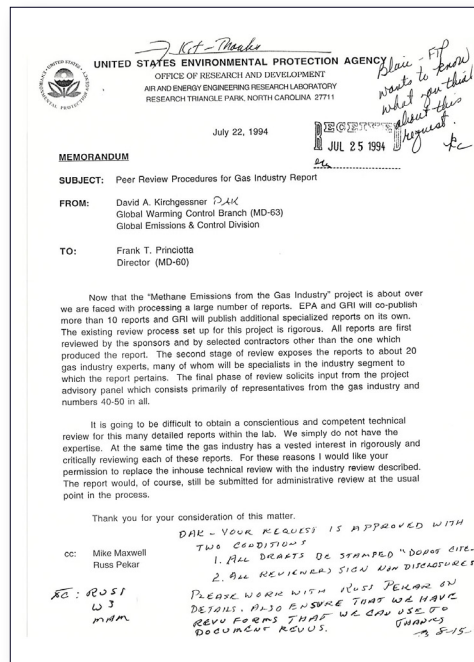
410 "Natural Gas: A Strategy for Reducing Greenhouse Gas Emissions," *Gas Research Institute Digest* (Fall 1996), Thomas Boulevard Library, University of Pittsburgh, <https://legacy.www.documentcloud.org/documents/24638056-grid-fall-1996/#document/p27/a2567684>, 27.

411 "EPA memorandum on peer review procedures for gas industry report, with handwritten note," <https://www.documentcloud.org/documents/25100324-scanned-from-rtp-d-251-m-08-08-2024-135429/?mode=document#document/p36/a2630127>, 36.

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EPA's Deputy Division Director also noted in a handwritten internal memo that while volumes 3-15 of the report had a section explaining their methodology for estimating emissions, he was "unlikely to find problems even if they exist."⁴¹²

Kirchgessner's request was granted and the final technical review was completed by representatives from AGA, Consolidated Edison, Shell Oil, and Texaco.⁴¹³ Stretching the meaning of the term, EPA's documentation noted the report had been "[p]eer reviewed" by these company representatives.^{414,415} In place of the full EPA audit process, each of the study's 15 volumes went through several phases of industry review before publication. The results were initially "reviewed by the sponsors and by selected contractors," then by "about 20 gas industry experts" before finally being evaluated by the advisory committee.⁴¹⁶ The technical reviewers were asked by EPA to sign non-disclosure agreements.⁴¹⁷



The EPA project manager for the 1996 GRI/EPA study wrote, "We simply do not have the expertise," when it came time for a technical review. (FOIA, EPA)

⁴¹² Blair Martin, "Handwritten memo to Frank T. Princiotta," EPA (July 23, 1996), U.S. EPA Office of Research and Development Air and Energy Engineering Research Laboratory, FOIA Release, <https://www.documentcloud.org/documents/25100324-scanned-from-rtp-d-251-m-08-08-2024-135429/?mode=document#document/p39/a2630134>, 39.

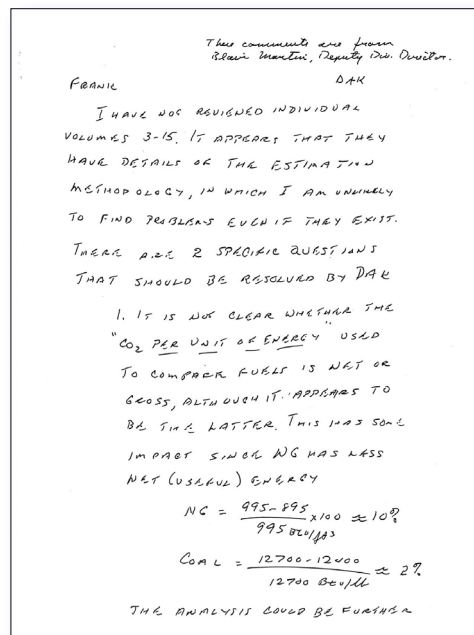
⁴¹³ "ORD Clearance Form for Methane Emissions From The Natural Gas Industry Vols. 1-7," January 14, 1997, U.S. EPA Office of Research and Development Air and Energy Engineering Research Laboratory, FOIA Release, <https://www.documentcloud.org/documents/25100324-scanned-from-rtp-d-251-m-08-08-2024-135429/?mode=document#document/p3/a2630104>, 3.

⁴¹⁴ "ORD Clearance Form for Methane Emissions From The Natural Gas Industry Vols. 1-7," <https://www.documentcloud.org/documents/25100324-scanned-from-rtp-d-251-m-08-08-2024-135429/?mode=document#document/p3/a2630104>, 3.

⁴¹⁵ "ORD Clearance Forms for Methane Emissions From The Natural Gas Industry Vols 8-15," January 14, 1997, U.S. EPA Office of Research and Development Air and Energy Engineering Research Laboratory, FOIA Release, <https://www.documentcloud.org/documents/25100325-scanned-from-rtp-d-251-m-08-08-2024-140540/>.

⁴¹⁶ "EPA memorandum on peer review procedures for gas industry report, with handwritten note," <https://www.documentcloud.org/documents/25100324-scanned-from-rtp-d-251-m-08-08-2024-135429/?mode=document#document/p36/a2630125>, 36; "EPA memorandum on peer review procedures for gas industry report, with handwritten note," <https://www.documentcloud.org/documents/25100324-scanned-from-rtp-d-251-m-08-08-2024-135429/#document/p36/a2630126>, 36.

⁴¹⁷ "EPA memorandum on peer review procedures for gas industry report, with handwritten note," <https://www.documentcloud.org/documents/25100324-scanned-from-rtp-d-251-m-08-08-2024-135429/?mode=document#document/p36/a2630131>, 36.



Handwritten note from an EPA official noting that he could not evaluate the 1996 GRI/EPA study's methane estimates, and was "unlikely to find problems even if they exist." (FOIA, EPA)



Ravenswood Generating Station in Long Island City, Queens, New York. PHOTO: iStock

Finally published in 1996, stamped with both the GRI and EPA logos, the study produced the results the industry wanted: its methane emissions estimate for the entire U.S. natural gas system was 1.4 percent of gas production (with a 0.5 percent margin of error), low enough to support the industry's claim that fuel switching to gas for producing electricity offered a solution to climate change.⁴¹⁸

Based on this emissions estimate of 1.4 percent, the study reported that “natural gas contributes less to potential global warming than coal or oil.”⁴¹⁹ This estimated figure, and the emissions rates for gas industry sources itemized in the study, became influential in the official U.S. government position on methane

emissions.⁴²⁰ The study would be used over many years for estimating total methane emissions in U.S. national inventories — even though EPA had admitted it could not review the study upon which the estimates were based and the study's authors were careful to identify the limitations of their data collection and methodology.⁴²¹ These limitations, later research would show, skewed the picture of methane emissions from the natural gas industry. **As a joint sponsor whose membership was represented at every stage of the study's progress including its final review, the oil and gas industry was aware of its limitations yet would use the study as a cornerstone of their deception.**

418 Radian International, “Methane Emissions From The Natural Gas Industry Vol. 1: Executive Summary,” EPA-600/R-96-080a (U.S. Environmental Protection Agency and Gas Research Institute, June 1996), <https://www.documentcloud.org/documents/23681762-methane-emissions-from-the-natural-gas-industry-1996/?mode=document#document/p7/a2233939>, 7.

419 Radian International, “Methane Emissions From The Natural Gas Industry Vol. 1: Executive Summary,” <https://www.documentcloud.org/documents/23681762-methane-emissions-from-the-natural-gas-industry-1996/#document/p8/a2627499>, 8.

420 “Greenhouse Gas Emissions Reporting From the Petroleum And Natural Gas Industry: Background Technical Support Document,” (U.S. Environmental Protection Agency, 2010), <https://www.documentcloud.org/documents/27900051-ghg-emissions-reporting-from-the-petroleum-and-natural-gas-industry-background-and-technical-support-document-epa-2010/#document/p18/a2809441>, 18.

421 “EPA memorandum on peer review procedures for gas industry report, with handwritten note,” <https://www.documentcloud.org/documents/25100324-scanned-from-rtp-d-251-m-08-08-2024-135429/?mode=document#document/p36/a2630127>; Radian International, “Methane Emissions From The Natural Gas Industry Vol. 2: Technical Report,” <https://www.documentcloud.org/documents/23728216-methane-emissions-from-that-natural-gas-industry-volume-2/?mode=document#document/p37/a2627534>, 37.

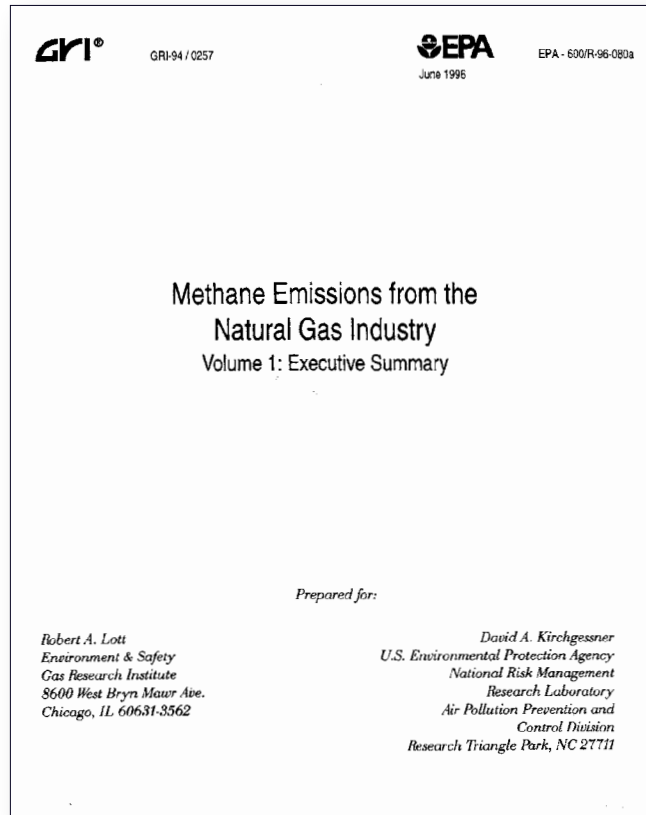
4.8

“A High Level of Uncertainty”: The Limitations of the GRI/EPA Study

In the decades since the GRI/EPA study was published, a number of major methodological issues have been identified that challenge the study’s finding of a 1.4 percent methane emissions rate and its conclusion that switching from oil and coal to gas was better for the climate. **The study was based on a very small sample size, included only a narrow range of infrequently reported data from a single year, made numerous assumptions about key variables, and relied largely on self-reported industry inventories or previous industry-sponsored studies.**⁴²²

A number of these limitations were acknowledged at the time of publication by the authors themselves. First, the study had a compromised statistical sample. As the authors reported, sites were selected “in a random fashion from known lists of facilities” but the companies contacted were “not required to participate, and a complete list of all sources in the United States was generally not available. Therefore,” they concluded, “the final set of companies selected for sampling was not truly random.”⁴²³

Second, the authors acknowledged areas of significant uncertainty. For example, the total mileage of gathering pipelines, which move gas from drilling sites to processing plants or distribution lines, was “not reported or tracked” and had to be estimated.⁴²⁴ Further, unreported



The GRI/EPA study was heavily controlled at various stages by industry panels, including representatives from AGA, Consolidated Edison, Shell Oil, and Texaco. (FOIA, EPA)

leaks in production pipelines were estimated based on data provided by only one contract company specializing in another branch of the industry.⁴²⁵ Additionally, the number of unreported leaks for transmission pipelines was based on data collected once a year by “walking survey,” which according to the single source cited by the authors, failed to account for at least 15% of unreported leaks in this sector.⁴²⁶

Third, in many cases, the study was reliant upon

422 The oil and gas industry provided data for the study. See e.g. Pacific Gas & Electric Company, Southern California Gas Company, American Petroleum Institute, and Canadian Producers Association. Radian International, “Methane Emissions From The Natural Gas Industry Vol. 3: General Methodology,” <https://www.documentcloud.org/documents/25198564-methane-emissions-from-the-natural-gas-industry-volume-3-methodology/>, 116, 90, 98.

423 Radian International, “Methane Emissions From The Natural Gas Industry Vol. 2: Technical Report,” <https://www.documentcloud.org/documents/23728216-methane-emissions-from-that-natural-gas-industry-volume-2/?mode=document#document/p37/a2627534>, 37.

424 Radian International, “Methane Emissions From The Natural Gas Industry Vol. 3: General Methodology,” <https://www.documentcloud.org/documents/25198564-methane-emissions-from-the-natural-gas-industry-volume-3-methodology/?mode=document#document/p93/a2630092>, 93.

425 Radian International, “Methane Emissions From The Natural Gas Industry Vol. 3: General Methodology,” <https://www.documentcloud.org/documents/25198564-methane-emissions-from-the-natural-gas-industry-volume-3-methodology/?mode=document#document/p93/a2630090>, 93.

426 Radian International, “Methane Emissions From The Natural Gas Industry Vol. 3: General Methodology,” <https://www.documentcloud.org/documents/25198564-methane-emissions-from-the-natural-gas-industry-volume-3-methodology/?mode=document#document/p152/a2630095>, 152.

calculated, rather than measured, data. Theoretical estimates were made for entire sectors, including residential and commercial,⁴²⁷ and many of the figures for emissions were based on calculations that had been extrapolated, since obtaining actual measurements was deemed not “practical.” As the authors explained, “Emissions that are intermittent or unsteady have highly variable emission rates during a year. Because it would not be practical to collect data continuously for a year for each source, emissions from these sources were often calculated rather than measured. For some sources, such as maintenance emissions, detailed company calculations are available for multiple years. However, most sources of emissions are not tracked by companies and therefore must be calculated.”⁴²⁸

More recently, academic articles and EPA assessments have drawn attention to these and many additional problems with the GRI/EPA study.

In 2010, an EPA assessment of the methods used to estimate U.S. methane emissions from the oil and gas industry pointed to inaccuracies in the GRI/EPA study due to the fact that in some cases the authors possessed only “limited sample data and knowledge about the industry’s operations.”⁴²⁹ A year later, a study from Cornell scientists Robert Howarth, Anthony Ingraffea, and Renee Santoro noted the GRI/EPA study’s over-reliance on a small sample of directly measured pipeline leaks to estimate the methane leakage rate across the

“[the study] was not based on random sampling or a comprehensive assessment of actual industry practices, but rather only analyzed facilities of companies that voluntarily participated.”

broader system.⁴³⁰ They also highlighted that, in general, the study “was not based on random sampling or a comprehensive assessment of actual industry practices, but rather only analyzed facilities of companies that voluntarily participated.”⁴³¹

Another EPA report in 2014 recognized problems with the study’s calculation of emissions factors, noting that “Uncertainties in these EPA/GRI EFs [emissions factors] raise questions about the validity” of the data, methods, and processes.⁴³² Overall, the study had “a high level of uncertainty,” concluded the EPA.⁴³³

427 Radian International, “Methane Emissions From The Natural Gas Industry Vol. 3: General Methodology,” <https://www.documentcloud.org/documents/25198564-methane-emissions-from-the-natural-gas-industry-volume-3-methodology/?mode=document#document/p182/a2630083>, 182.

428 Radian International, “Methane Emissions From The Natural Gas Industry Vol. 3: General Methodology,” <https://www.documentcloud.org/documents/25198564-methane-emissions-from-the-natural-gas-industry-volume-3-methodology/?mode=document#document/p28/a2677292>, 28-29.

429 “Greenhouse Gas Emissions Reporting From the Petroleum And Natural Gas Industry: Background Technical Support Document,” <https://www.documentcloud.org/documents/27900051-ghg-emissions-reporting-from-the-petroleum-and-natural-gas-industry-background-and-technical-support-document-epa-2010/?mode=document#document/p47/a2809461>, 47.

430 R. W. Howarth, et al., “Methane and the greenhouse gas footprint of natural gas from shale formations,” *Climatic Change* 106, (2011), <https://www.documentcloud.org/documents/23735863-methane-and-the-greenhouse-gas-footprint-of-natural-gas-from-shale-formations-howarth-et-al-2011/?mode=document#document>.

431 Howarth, et al., “Methane and the greenhouse gas footprint of natural gas from shale formations,” <https://www.documentcloud.org/documents/23735863-methane-and-the-greenhouse-gas-footprint-of-natural-gas-from-shale-formations-howarth-et-al-2011/?mode=document#document/p3/a263169>, 3.

432 U.S. Environmental Protection Agency Office of Inspector General, “Improvements Needed In EPA Efforts To Address Methane Emissions From Natural Gas Distribution Pipelines,” Report No. 14-P-0324 (U.S. EPA, July 25, 2014), <https://legacy.www.documentcloud.org/documents/27900052-improvements-needed-in-epa-efforts-to-address-methane-emissions-from-natural-gas-distribution-pipelines-july-25-2014#document/p22/a2809471>, 22-28.

433 U.S. Environmental Protection Agency Office of Inspector General, “Improvements Needed In EPA Efforts To Address Methane Emissions From Natural Gas Distribution Pipelines,” <https://legacy.www.documentcloud.org/documents/27900052-improvements-needed-in-epa-efforts-to-address-methane-emissions-from-natural-gas-distribution-pipelines-july-25-2014#document/p3/a2809475>, 3.

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PHOTO: Warren Lauzon/Flickr CC BY-NC 2.0

Pipeline warning sign in Yavapai, Arizona.



PHOTO: WildEarth Guardians/Flickr CC BY-NC-ND 2.0

Natural gas pipeline on public lands in Daggett, Utah.

A 2020 study by Weller et al. investigating methane leakage from local pipeline distribution systems identified the GRI/EPA study's dependence on "self-reported utility leak inventories" as a contributing factor to historic undercounting of U.S. methane emissions.⁴³⁴ Research has also since found evidence of "superemitters" or operations that are responsible for an outsized share of methane pollution, which the original study failed to detect.⁴³⁵

Finally, the GRI/EPA study used timeframes of 50 and 500 years to calculate the climate impact of the gas industry's methane emissions compared to the CO₂ produced by burning coal and oil.⁴³⁶ The study's

authors cited the latest IPCC guidance as the source for methane's climate impact across different timeframes but did not give a reason for why they did not provide calculations for the 20-year timeframe also published by the IPCC at the time.⁴³⁷ This omission failed to fully convey the short-term climate impact of the gas industry's methane emissions.⁴³⁸

While several of these methodological issues would come to be publicly recognized in the decades that followed, this would not be fast enough to inform the public or policymakers in advance of the massive increase in gas production launched by the fracking boom of the 2000s. **Instead, the gas industry had the results it needed to institutionalize the clean gas myth.**

434 Zachary D. Weller et al., "A National Estimate of Methane Leakage from Pipeline Mains in Natural Gas Local Distribution Systems," *Environmental Science & Technology*, Vol. 54 Issue 14, (2020), <https://doi.org/10.1021/acs.est.0c00437>.

435 Adam R. Brandt, "Methane Leaks From Natural Gas Systems Follow Extreme Distributions," *Environmental Science and Technology*, Vol. 50 Issue 22, (October 2016), <https://doi.org/10.1021/acs.est.6b04303>; Margaret F. Hendrick et al., "Fugitive methane emissions from leak-prone natural gas distribution infrastructure in urban environments," *Environmental Pollution*, Vol 213, (June 2016), <https://doi.org/10.1016/j.envpol.2016.01.094>.

436 Radian International, "Methane Emissions From The Natural Gas Industry Vol. 1: Executive Summary," <https://www.documentcloud.org/documents/23681762-methane-emissions-from-the-natural-gas-industry-1996/#document/p17/a2233997>, 17.

437 Intergovernmental Panel on Climate Change (IPCC), *Climate Change 1995: The Science of Climate Change. Contribution of Working Group I to the Second Assessment Report of the IPCC* (Cambridge University Press, 1996), <https://legacy.www.documentcloud.org/documents/25999679-ipcc-second-assessment-report-1995#document/p36/a2815189>, 36.

438 Radian International, "Methane Emissions From The Natural Gas Industry Vol. 1: Executive Summary," <https://www.documentcloud.org/documents/23681762-methane-emissions-from-the-natural-gas-industry-1996/?mode=document#document/p17/a2233995>, 17.

4.9

Industry Uses the Study to Reinforce the “Clean” Gas Myth

The industry would represent the study’s findings as unequivocal evidence that switching to gas could help prevent global warming despite being aware of the study’s many limitations and qualified conclusions as acknowledged by the authors.

Ignoring its flaws, the industry immediately capitalized upon the study’s results as proof that gas was a climate solution. “[M]ethane: no drawback,” claimed GRI’s *GRID* soon after its publication, declaring that increased gas use could reduce greenhouse gases.⁴³⁹ “Results of a multi-year joint study recently released by GRI and the U.S. EPA’s Office of Research and Development show that natural gas is clearly the best fossil fuel choice for reducing emissions that potentially lead to global warming,” *GRID* reported, ignoring the caveats and uncertainties noted by the study’s authors while highlighting EPA’s endorsement of the results.⁴⁴⁰ “When you’re looking at strategies to control greenhouse gases, switching to natural gas makes sense,” explained GRI’s project manager for the study. “Our analysis shows that natural gas contributes significantly less to potential global warming than coal or oil. That fact supports the fuel-switching strategy suggested by the IPCC, EPA, and others.”⁴⁴¹

“Natural gas is the best fossil fuel for reducing emissions that could lead to global warming,” declared AGA, citing the GRI/EPA study on its website under the slogan “Natural Gas: Fueling a Cleaner Environment.”



The natural gas industry misleadingly claimed, “methane: No drawback,” after the 1996 GRI/EPA study published. (*Gas Research Institute Digest*)

The study, “undertaken jointly by EPA and the Gas Research Institute,” showed natural gas could reduce greenhouse gas emissions since “the benefits of using natural gas outweigh the increased methane emissions associated with its use,” reported AGA.⁴⁴² Increased use of natural gas could help address several environmental concerns simultaneously, argued AGA, including “smog, acid rain and greenhouse gas emissions.”⁴⁴³

439 “Natural Gas: A Strategy for Reducing Greenhouse Gas Emissions,” <https://legacy.www.documentcloud.org/documents/24638056-grid-fall-1996/#document/p27/a2567679>, 27.

440 “Natural Gas: A Strategy for Reducing Greenhouse Gas Emissions,” <https://www.documentcloud.org/documents/24638056-grid-fall-1996/#document/p26/a2567659>, 26.

441 “Natural Gas: A Strategy for Reducing Greenhouse Gas Emissions,” <https://www.documentcloud.org/documents/24638056-grid-fall-1996/?mode=document#document/p26/a2567665>, 26.

442 American Gas Association, “Natural Gas Can Reduce Greenhouse Gas Emissions,” (October 13, 1999), Internet Archive, <https://www.documentcloud.org/documents/28091871-natural-gas-can-reduce-greenhouse-emissions/?mode=document>.

443 American Gas Association, “About Natural Gas,” (October 13, 1999), Internet Archive, <https://www.documentcloud.org/documents/28091869-aga-about-natural-gas/?mode=document>.

The study was also referenced in a 1998 sponsored content section that ran under the headline “Natural gas reduces greenhouse emissions.”⁴⁴⁴

The ad, which resembled a regular news article, explained that gas was “the best fossil fuel for reducing emissions that could lead to global warming, according to a recent study undertaken jointly by EPA and the Gas Research Institute (GRI).” Echoing AGA, the ad went on to explain that the results of the study showed “that the benefits of using natural gas outweigh the increased methane emissions associated with its use.”

Following the study’s publication, other oil and gas lobby groups could also continue to argue that methane was of little climate concern. For example, in the fall of 1996, the Natural Gas Supply Association pursued an “educational” partnership with other oil and gas trade groups, aimed at “students, consumers, and business-people,”⁴⁴⁵ downplaying the industry’s role in climate change. “While methane has been identified as a possible secondary contributor to global climate change, its significantly lower emission rates have prevented it from having any significant impact on the environment,” declared promotional materials.⁴⁴⁶

With gas’ reputation as a climate solution now established in the United States, AGA focused on spreading the message globally. In December 1997, following AGA and gas company lobbying of the UN climate negotiations,⁴⁴⁷ AGA President and CEO David N. Parker declared that any international efforts to cut greenhouse gas emissions “should include policies that promote the direct use of natural gas.”

INDUSTRY

to consumer research on energy, telecommunications, entertainment and information services.

EnergyOne is a national marketing management organization that assists local utilities in managing retail customer relationships during the transition to a competitive environment.

Among the products PNR will develop is an interactive system to model will provide insight into customer preferences as integrated utility services evolve and customer tastes change.

Kerry Diehl, vice president of PNR, said current research shows utilities have limited relationships with customers. “Local utility companies cannot wait until deregulation happens to develop relationships with customers.

utilities must understand consumer switching behavior and relationship development and act now.”

EnergyOne also announced a strategic alliance with Saville Systems for advanced billing systems. Saville’s Convergent Billing Platform will give consumers integrated and flexible billing for electricity, natural gas, telephone and other utility services.

A.G.A. President: Greenhouse Treaty Must Boost Natural Gas Use

Any efforts to cut greenhouse gas emissions “should include policies that promote the direct use of natural gas,” A.G.A. President and CEO David N. Parker said in a statement following the conclusion of the United Nations Convention on Climate Change in Kyoto, Japan.

Parker said A.G.A. “believes strongly in the value of energy conservation measures and technologies and supports research into high-efficiency, low-emission natural gas technologies.”

He added, “A.G.A. is proud that its member companies, the local natural gas utilities, deliver a form of energy that is suitable for a wide range of applications and that emits far less carbon dioxide, the primary greenhouse gas, than other fossil fuels.”

Parker noted that A.G.A. will “continue to promote market-based options that advocate both environmental protection and economic growth while encouraging recognition of the attributes and beneficial contributions of natural gas.”

Following the conclusion of the global warming summit in December, the natural gas industry generally has taken a wait-and-see attitude about whether the global warming treaty will greatly benefit natural gas. The agreement calls on the United States to cut greenhouse gas emissions to 7 percent below 1990 levels by 2012.

FACTS ON GAS

Change in Average Rotary Rig Count
(Jan. - Nov. '97) Jan. - Nov. '96
+21.3%

Number of National Heating-Degree Days
30 yr. normal for Dec.
Dec. '97
5.1% colder than '96
4.1% colder than normal
100% paid by gas
(Source: Heating and Air Conditioning)

U.S. Working Gas in Underground Storage
(Weekly by region, for period ending Jan. 2, 1998)

► Change in Consumer Price Index
(12 months ending Dec. 1997): +1.7%

► Three-month U.S. Treasury Bill Yield
(Jan. 9, 1998): 4.94%

► U.S. Housing Starts
(Nov. 1997, thousands of units): 1,531

► Average Utility Bond Yield
(Jan. 9, 1998): 6.96%

► American Gas Index Fund Closing Price
(Jan. 9, 1998): \$17.23

► Change in Standard & Poor's 500
(12 months ending Jan. 9, 1998): +22.14%

Source: Gas
Fig. 18
12

The natural gas industry promoted gas as a solution in order to benefit from international attempts to rein in greenhouse gases.
([American Gas](#))

His comments were reported by *American Gas* in an article titled, “Greenhouse Treaty Must Boost Natural Gas Use.”⁴⁴⁸ That same year, gas utilities and distribution companies formed an “International Gas Center,” aimed at boosting the industry’s efforts to “go global,” headed by ex-AGA insider Nelson Hay, who was appointed to lead these international efforts.⁴⁴⁹ “Our goal is literally to cover the world,” said Hay.⁴⁵⁰

444 “Natural Gas Reduces Greenhouse Gas Emissions,” *Courier-Post* (October 13, 1998), [Newspapers.com](https://www.documentcloud.org/documents/26196134-courier-post-1998-10-13-page-43-50/?mode=document#document/p6/a2677291), <https://www.documentcloud.org/documents/26196134-courier-post-1998-10-13-page-43-50/?mode=document#document/p6/a2677291>, 6.

445 Natural Gas Supply Association, “New Natural Gas Educational Site Debuts on Internet,” (September 30, 1996), Internet Archive, <https://legacy.www.documentcloud.org/documents/26312538-new-natural-gas-educational-site-debuts-on-internet/>.

446 Natural Gas Supply Association, “The Environmental Impact of Natural Gas,” (1998), Internet Archive, <https://legacy.www.documentcloud.org/documents/26211907-the-environmental-impact-of-natural-gas/#document/p3/a2676194>, 3.

447 Louis Aboud, “Figuring Out the Climate for Change,” *American Gas* (June 1995), <https://www.documentcloud.org/documents/26047882-aga-monthly-june-1995/#document/p43/a2821775>, 43.

448 “AGA President: Greenhouse Treaty Must Boost Natural Gas Use,” *American Gas* (February 1998), U.S. Library of Congress, <https://www.documentcloud.org/documents/26047925-aga-monthly-february-1998/?mode=document#document/p14/a2808829>, 14.

449 Bruce G. Kauffmann, “Becoming a Player in a New World Order,” *American Gas* (June 1997), U.S. Library of Congress, <https://www.documentcloud.org/documents/26047917-aga-monthly-june-1997/#document/p26/a2808907>, 26.

450 Kauffmann, “Becoming a Player in a New World Order,” <https://www.documentcloud.org/documents/26047917-aga-monthly-june-1997/#document/p26/a2808912>, 26.

4.10

An Enduring Legacy

After 1996, the GRI/EPA study became a “cornerstone” for evaluating methane emissions from the U.S. oil and gas industry and remained so for the next three decades.⁴⁵¹ It played an important role in undercounting methane emissions from conventional gas industry operations and in underestimating the climate impact of the hydraulic fracturing boom of the 2000s.⁴⁵² With the dramatic expansion in oil and gas infrastructure that accompanied the boom, the gap between official estimates and actual emissions widened.⁴⁵³

While EPA inventories failed to identify any significant increase in methane emissions between 2002 and 2014, satellite and atmospheric data analysed by Harvard researchers has shown that U.S. methane emissions likely “increased by more than 30%.”⁴⁵⁴



Photo: SkyTruth/Flickr

Natural gas drilling in Utah in 2006. The US has been the world's top producer of natural gas since 2009, with industry benefitting from its long-term promotion of gas as clean.

451 “Greenhouse Gas Emissions Reporting From the Petroleum And Natural Gas Industry: Background Technical Support Document,” <https://www.documentcloud.org/documents/27900051-ghg-emissions-reporting-from-the-petroleum-and-natural-gas-industry-background-and-technical-support-document-epa-2010/#document/p18/a2809441>, 18.

452 “Greenhouse Gas Emissions Reporting from the Petroleum and Natural Gas Industry: Background Technical Support Document,” <https://www.documentcloud.org/documents/27900051-ghg-emissions-reporting-from-the-petroleum-and-natural-gas-industry-background-and-technical-support-document-epa-2010/?mode=document#document/p9/a2809449>, 9.

453 “Inventory of U.S. Greenhouse Gas Emissions And Sinks 1990-2014 Revisions to Natural Gas Distribution Emissions” (U.S. Environmental Protection Agency, April, 2016), https://www.epa.gov/sites/default/files/2016-08/documents/final_revision_ng_distribution_emissions_2016-04-14.pdf, 10; Garvin Heath, et al., “Estimating U.S. Methane Emissions from the Natural Gas Supply Chain: Approaches, Uncertainties, Current Estimates, and Future Studies,” NREL/TP-6A50-62820 (Joint Institute for Strategic Analysis, August 2015) https://www.researchgate.net/publication/311983785_Estimating_US_Methane_Emissions_from_the_Natural_Gas_Supply_Chain_Approaches_Uncertainties_Current_Estimates_and_Future_Studies, 17.

454 A. J. Turner, et al., “A large increase in methane emissions over the past decade inferred from satellite data and surface observations,” *Geophysical Research Letters* Vol. 43 Issue 5, (March 2016), <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2016GL067987>.

More recently, a joint Harvard-Caltech study of satellite data between 2010 and 2015 also showed an increase in methane emissions, which the authors concluded, appeared to be “largely driven by the rapid growth in unconventional oil and gas production in the eastern U.S.”⁴⁵⁵ As noted by the study’s authors, these evidence-based findings conflicted with the official EPA Greenhouse Gas Inventory, which reported a decrease in methane emissions over this same period.

455 Joannes D. Maasakkers et al., “2010–2015 North American methane emissions, sectoral contributions, and trends: a high-resolution inversion of GOSAT observations of atmospheric methane,” *Atmospheric Chemistry and Physics* Vol. 21 Issue 6 (March 2021) <https://doi.org/10.5194/acp-21-4339-2021>.

IV. INSTITUTIONALIZATION OF A MYTH

Despite the EPA's acknowledgment in 2010 that emissions estimates from the study were "outdated and potentially understated" with several important sources "believed to be significantly underestimated,"⁴⁵⁶ the GRI/EPA study has continued to serve as a major reference for estimating oil and gas industry methane emissions in the official *Inventory of U.S. Greenhouse Gas Emissions and Sinks* up to the present day.⁴⁵⁷

Records show that in 2018 the EPA was using the GRI/EPA study to calculate emissions from liquefied natural gas (LNG) storage stations and LNG import terminals despite acknowledging that specific emissions data for these sources "were not available in the GRI/EPA study."⁴⁵⁸ Inventory references for calculating emissions associated with LNG have since been revised. However, the latest U.S. Greenhouse Gas Inventory, published in 2024, continues to rely upon the GRI/EPA study, citing it as one of the "key references" for calculating methane emissions from both gas and petroleum industry sources.⁴⁵⁹ In 2020, researchers studying one of these sources — local gas distribution systems — calculated that **actual emissions for gas pipelines in these local distribution systems were approximately five times greater than the U.S. Greenhouse Gas Inventory estimate.**⁴⁶⁰

Founded on the promise of cutting methane emissions, the voluntary Natural Gas STAR program has also had a long legacy. Installed a few years before publication of the 1996 study, it worked to perpetuate the illusion of clean gas, suggesting the industry was reducing emissions when overall sector pollution was rising.⁴⁶¹ Until the program sunsetted in 2022, replaced by other initiatives, part of EPA's method for estimating gas industry methane emissions was to subtract "voluntary emissions reductions reported under EPA's Gas STAR program" from EPA's overall estimated total.⁴⁶² This produced a "net" emissions figure with two major consequences — a deceptively successful Gas STAR program, and inaccurately low estimates of U.S. methane emissions. Promotion of the program's success was important for the industry, because oil and gas companies advertised Gas STAR as evidence that they were taking responsible steps to tackle climate change.⁴⁶³

Throughout the fracking boom of the 2000s up to today, the oil and gas industry has continued to follow the original blueprint advocated by its public relations and advertising consultants in the 1970s. Partnering with environmental groups as allies, the industry has used self-funded studies to undermine independent scientific research demonstrating higher

456 U.S. Environmental Protection Agency, "Greenhouse Gas Emissions Reporting From the Petroleum And Natural Gas Industry: Background Technical Support Document," <https://legacy.www.documentcloud.org/documents/27900051-ghg-emissions-reporting-from-the-petroleum-and-natural-gas-industry-background-and-technical-support-document-epa-2010#document/p8/a280944>, 4, 8.

457 U.S. Environmental Protection Agency, "Greenhouse Gas Emissions Reporting From the Petroleum And Natural Gas Industry: Background Technical Support Document," <https://www.documentcloud.org/documents/27900051-ghg-emissions-reporting-from-the-petroleum-and-natural-gas-industry-background-and-technical-support-document-epa-2010/#document/p18/a2809454>, 18.

458 U.S. Environmental Protection Agency, "Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2016, Chapter 3: Energy," EPA 430-R-18-003, (2018), <https://legacy.www.documentcloud.org/documents/27919700-2018-chapter-3-energy#document/p95/a2809827>, 95.

459 U.S. Environmental Protection Agency, "Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2022, Chapter 3: Energy," EPA 430R-24004 (2024), <https://legacy.www.documentcloud.org/documents/27919940-us-ghg-inventory-2024-chapter-3-energy#document/p78/a2809840>, 78, 99.

460 Weller et al., "A National Estimate of Methane Leakage from Pipeline Mains in Natural Gas Local Distribution Systems," <https://doi.org/10.1021/acs.est.0c00437>.

461 U.S. Environmental Protection Agency, "2018 Natural Gas Star Program Accomplishments" (January 19, 2021), https://19january2021snapshot.epa.gov/natural-gas-star-program/2018-natural-gas-star-program-accomplishments_.html; Environmental Defense Fund, "New Data Shows U.S. Oil & Gas Methane Emissions Over Four Times Higher than EPA Estimates, Eight Times Greater than Industry Target" (July 31, 2024), <https://www.edf.org/media/new-data-show-us-oil-gas-methane-emissions-over-four-times-higher-epa-estimates-eight-times>.

462 U.S. Environmental Protection Agency, "Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990–2020: Updates Under Consideration for Gas Star and Methane Challenge Reductions," (September 2021), https://www.epa.gov/system/files/documents/2021-09/2022-ghgi-update-gas-starmc_sept-2021.pdf.

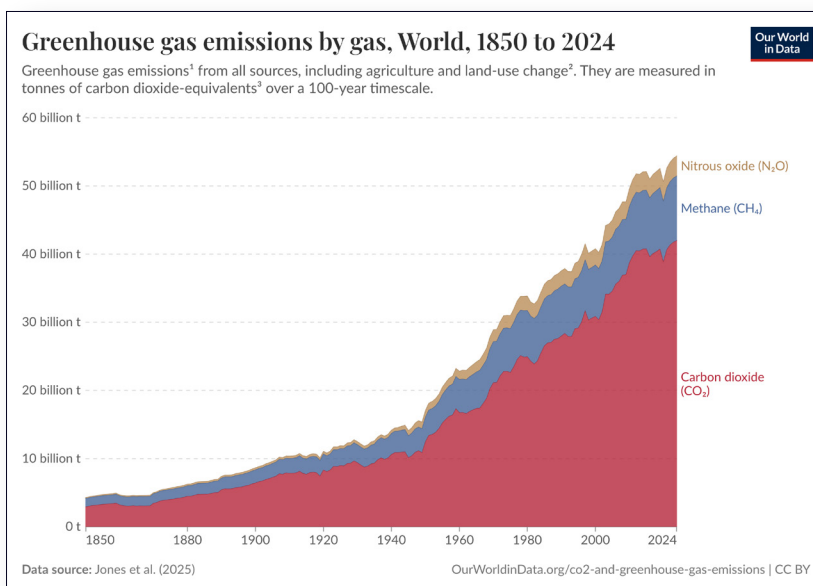
463 See, e.g.: American Petroleum Institute, "Climate Challenge: A Progress Report" (API, 2009), https://grist.org/wp-content/uploads/2010/08/climate_challenge_brochure_update.pdf; "ChevronTexaco participates in the United States Environmental Protection Agency's (EPA) Natural Gas Star Program to reduce methane emissions. In 2003, the EPA awarded ChevronTexaco a Certificate of Achievement for its continuing accomplishments, citing the company for 'aggressively reducing methane emissions and helping lead the way to reducing climate change impacts,' 2002 Chevron Texaco Corporate Responsibility Report: Integrity and learning in an evolving world (ChevronTexaco Corporation, 2003), <https://www.documentcloud.org/documents/26229419-2002-chevrontexaco-corporate-responsibility-report/#document/p39/a2677070>, 39; U.S. Environmental Protection Agency, "Natural Gas Star Partner Update" (Spring 1999), Internet Archive, <https://www.documentcloud.org/documents/25970012-natural-gas-star-newsletter-1999/?mode=document#document/p1/a2655614>, 1.

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rates of methane emissions from oil and gas operations.⁴⁶⁴

Meanwhile, methane emissions have continued to rise. Between 2024-2025, data from a first-of-its-kind space mission, MethaneSAT, showed that overall oil and gas methane emissions were 50 percent higher than those reported in EPA's *U.S. Greenhouse Gas Inventory*, providing further evidence of the historic undercounting of methane emissions from U.S. oil and gas operations.⁴⁶⁵

Ultimately, the GRI/EPA study in tandem with Natural Gas STAR accomplished the gas industry's objective: putting to rest widespread concerns about the climate impacts of natural gas at what was a critical juncture for both the industry's expansion plans and U.S. climate policy. By shaping the influential GRI/EPA emissions study in the early 1990s, the industry obtained the result that it wanted, and held off concerns about gas' climate impact long enough to allow the industry to fully cement gas as a dominant fuel in the United States, ushering in a massive expansion and entrenchment of the gas system in the years that followed.



Global methane emissions have risen by over 30 percent since 1970. ([Our World in Data](#))



Natural Gas Is Getting Cleaner, and Progress on Reducing Methane Emissions Shows How

May 26, 2026

Despite rising methane emissions, the natural gas industry continues to misleadingly claim gas is "clean" and that it is making progress reducing its methane emissions. ([Natural Allies for a Clean Energy Future](#))

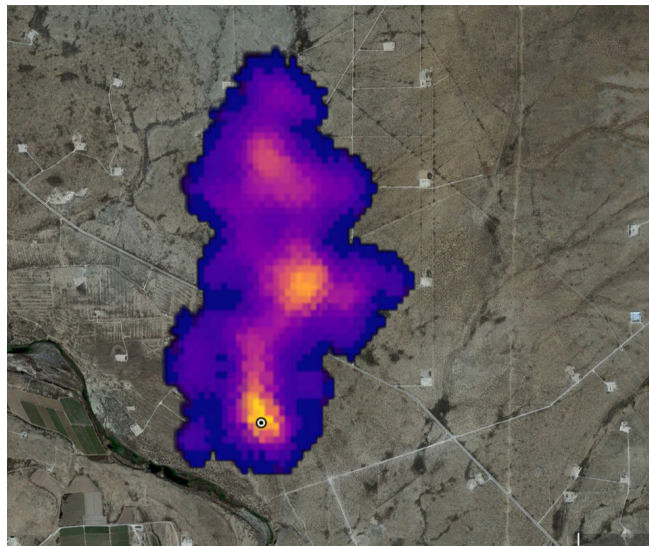
464 See e.g. A 2016 ICF report funded by the Natural Gas Council (NGC) and edited by ExxonMobil that was intended to "show the range and results of methane studies in the public literature." The report concluded that the "industry continues to reduce methane emissions" despite an expanding body of literature finding otherwise. ICF International, "Finding the Facts on Methane Emissions: A Guide To The Literature," (ICF/Natural Gas Council, 2016) Internet Archive, <https://web.archive.org/web/20201021073855/https://www.lngfacts.org/wp-content/uploads/sites/2/2020/09/NGC-Final-Report-4-25.pdf>; "Final Draft: Natural Gas And Methane: Overview and Literature Review," EM-HCOR3-00636619, U.S. Senate Budget Committee/House Oversight and Accountability Committee investigation records, 2022–2024. https://legacy.www.documentcloud.org/documents/28109342-em-hcor3-00636619_3; Charlie Passut, "API, ANGA Laud Results of Second UT Emissions Study," Shale Daily (December 9, 2014), <https://legacy.www.documentcloud.org/documents/27919990-api-anga-laud-results-of-second-ut-methane-emissions-study>.

465 MethaneSAT, "Project Update: First look at a system wide view," (2026), <https://www.methanesat.org/project-updates/first-look-system-wide-view>.

Conclusion



Gas flare in west Texas.



Methane plume detected flowing from an area southeast of Carlsbad, New Mexico.

Today’s gas-dependent world was far from inevitable. As the president of the American Gas Association stated in 1988, a “new era of natural gas” would “not be fulfilled automatically.”⁴⁶⁶ Instead, the industry has worked hard to create it, planning, promoting, and propagating gas’ primacy using multiple channels of influence across more than five decades. Yet, a false promise lies at the heart of it all.

Fifty years after the industry hatched a plan to market gas as a form of “clean” energy, the myth that gas is “clean” and a climate solution has been central to its successful takeover of the global energy system. Throughout this period, the natural gas industry — the producers that extract it, the pipeline companies that transport it, and the utilities that distribute it — joined together to deceive the public about the environmental and climate harms of gas.

466 George H. Lawrence, “The Emerging Era of Gas,” *AGA Monthly* (August 1988), U.S. Library of Congress, <https://www.documentcloud.org/documents/26044218-aga-monthly-august-1988/#document/p4/a2678455>, 4.

Climate change was not the foremost preoccupation among the public or policymakers when the industry launched its “clean gas” campaign in response to declining residential markets and worries about air pollution in the early 1970s, but the simplicity of its message meant the clean gas myth was eminently adaptable. As concerns about the threat of climate change took on greater prominence in the 1980s, the industry scaled up its original publicity campaign to address the new challenge. The idea of clean gas was swiftly repackaged as an answer to the more widely known climate harms of coal and oil, facilitating increased investment in fossil fuel infrastructure at the cost of genuine climate solutions. Federal subsidies and ratepayer levies were poured into research and development of new technologies aimed at increasing access to gas supplies, such as hydraulic fracturing. Despite knowing that methane, the primary component of natural gas, is a highly potent greenhouse gas, the industry positioned its product as a long-term solution for both air pollution and climate change.

Since then, natural gas producers, transporters, and distributors have cemented the clean gas myth as both collective wisdom and public policy — securing that legacy by steering the consequential 1996 methane emissions study, co-funded with the Environmental Protection Agency; the voluntary Natural Gas STAR emissions reduction program; and subsequent industry-funded studies used to undermine independent research demonstrating the extent of the industry’s methane emissions problem.⁴⁶⁷ Alongside these activities, the industry has supported its “clean gas” messaging by continuing its “total advocacy agenda,”⁴⁶⁸ funding extensive advertising and lobbying efforts as well as educational outreach in schools, promotional sponsorship programs, and partnerships with environmental groups.⁴⁶⁹

Since 2000, the industry has experienced unprecedented growth. Natural gas use in the United States has increased by 45 percent,⁴⁷⁰ with electricity generated via gas tripling between 2000 and 2024.⁴⁷¹ The gas industry’s long-term plan to replace coal as the single largest energy source in the United States has come to fruition, with natural gas accounting for over 40 percent of the nation’s electricity.⁴⁷² The United States has also become the world’s top gas producer, a title held since

2009,⁴⁷³ with a planned 20 percent increase in new gas capacity by 2035.⁴⁷⁴

The myth of gas as a climate solution has worked to lock in decades of additional investment in fossil fuel infrastructure, exponentially increasing emissions and making natural gas a key driver of climate change.⁴⁷⁵ The oil and gas industry continues to undermine facts that complicated or contradicted its claims — especially research on the scale of methane emissions across the natural gas supply chain.⁴⁷⁶

In the decades it has taken to recognize the chronic undercounting of methane emissions that have been undetected and undocumented by official inventories, the industry’s false narratives about gas’ role as a climate solution have flourished and continue to this day. Industry’s claims that gas should be the “preferred clean fuel to meet the increasing demands for power”⁴⁷⁷ have become conventional wisdom and investment in gas-fired power plants has continued unabated.⁴⁷⁸ Today, the fossil fuel industry chases new markets through liquefied natural gas exports and electric generation for power-hungry AI data centers while continuing to claim that gas is climate friendly.⁴⁷⁹

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- 467 “First Academic Study Released in EDF’s Groundbreaking Methane Emissions Series,” September 16, 2013, <https://www.edf.org/media/first-academic-study-released-edfs-groundbreaking-methane-emissions-series>; ICF International, “Finding the Facts on Methane Emissions: A Guide To The Literature,” (ICF/Natural Gas Council, 2016) Internet Archive, <https://web.archive.org/web/20201021073855/https://www.lngfacts.org/wp-content/uploads/sites/2/2020/09/NGC-Final-Report-4-25.pdf>.
- 468 David Parker, “Advancing Our Advocacy Agenda,” *American Gas* (September 1998), <https://legacy.www.documentcloud.org/documents/26047929-aga-monthly-september-1998#document/p7/a2809901>, 7.
- 469 Rebecca John, “Revealed: Now There’s Proof That the Fossil Fuel Industry Uses Cultural Partnerships to Block Climate Action,” *DeSmog*, May 20, 2025, <https://www.desmog.com/2025/05/20/revealed-now-theres-proof-that-the-fossil-fuel-industry-uses-cultural-sponsorships-to-block-climate-action/>.
- 470 U.S. Energy Information Administration. *U.S. Natural Gas Consumption, Annual*, <https://www.eia.gov/dnav/ng/hist/n9140us2a.htm>.
- 471 Statista Research Department, “Net electricity generation in the United States from 1990 to 2024, by energy source,” January 20, 2026, <https://www.statista.com/statistics/220174/total-us-electricity-net-generation-by-fuel/#>.
- 472 Aloys Nghiem, et al, “Natural Gas Is Now Stronger Than Ever in the United States Power Sector,” International Energy Agency (IEA), December 4, 2023, <https://www.iea.org/commentaries/natural-gas-is-now-stronger-than-ever-in-the-united-states-power-sector>.

- 473 U.S. Energy Information Administration, “Three U.S. regions each produce more natural gas than most countries,” *Today in Energy*, November 7, 2025, <https://www.eia.gov/todayinenergy/detail.php?id=66584>.
- 474 Noah Ver Beek, et al, *The Dirty Truth*, Sierra Club (September 2025), <https://www.sierraclub.org/sites/default/files/2025-09/dirty-truth-report-2025.pdf>, 7.
- 475 International Energy Agency, *Global Energy Review 2025* (March 2025), <https://iea.blob.core.windows.net/assets/5b169aa1-bc88-4c96-b828-aaa50406ba80/GlobalEnergyReview2025.pdf>, 32.
- 476 Alexandra White, “Big US gas producers are methane super emitters, environmental groups’ data shows,” *Financial Times* (January 23 2026), <https://www.ft.com/content/200995c4-3d34-464a-8685-a9aac4d2bb4f?syn-25a6b1a6=1>; Nicholas Kusnetz, “Is Natural Gas Really Helping the U.S. Cut Emissions?” *Inside Climate News* (January 30 2020), <https://insideclimatenews.org/news/30012020/natural-gas-methane-carbon-emissions>.
- 477 John Browne, “Climate Change: Speech to the Institutional Investors Group”, (BP, November 26, 2003), Internet Archive, <https://web.archive.org/web/20031223092549/http://www.bp.com/genericarticle.do?categoryId=98&contentId=2015334>.
- 478 International Energy Agency, *World Energy Investment 2025*, (2025), <https://www.iea.org/reports/world-energy-investment-2025/executive-summary>.
- 479 Dennis Wamsted, “The Misguided Stampede to Build Gas Power Plants: (Institute for Energy Economics and Financial Analysis, April 8 2026), <https://ieefa.org/resources/misguided-stampede-build-gas-power-plants>; Natural Allies for a Clean Energy Future, Benefits of Natural Gas, <https://www.naturalalliesforcleanenergy.org/benefits-of-natural-gas/>.

Persistent false fossil fuel industry narratives around the inadequacies of renewables have also helped to ensure the primacy of gas in today’s energy mix.⁴⁸⁰ At the start of the U.S. fracking boom, the industry continued to promote gas as a “bridge towards the lower-carbon world of the future.”⁴⁸¹ But as renewables have become increasingly competitive, the industry has become more vocal about its ambitions to protect the markets it once strategically portrayed as only temporary. Recent industry documents show an intention to establish gas “as a destination fuel, not just a transition fuel — one that’s part of a low carbon future, not just a fuel for getting there.”⁴⁸²

At the same time, self-regulation of greenhouse gas emissions through voluntary programs, a key element of the natural gas industry’s strategy, has similarly had far-reaching consequences. The voluntary Gas STAR emissions reduction program continued to offer the industry “positive publicity” and “extra revenue”⁴⁸³ decades after it was initially launched. And today, a proliferation of voluntary self-reporting programs shows that the industry still views this tactic as an effective tool for avoiding more stringent, legally-binding regulation. Although Gas STAR was eventually replaced, industry players see its successor programs as providing “ammunition to help us better mitigate/mold regulation.”⁴⁸⁴

The fraud of “clean” natural gas, and its subsequent expansion, has produced dire consequences for the climate: in 2025 atmospheric methane levels reached 1.95 ppm⁴⁸⁵ — almost three times pre-industrial levels of 0.7 ppm.⁴⁸⁶ According to figures released by the International Energy Agency, the United States is the world’s top emitter of methane from oil and gas operations, roughly equivalent to 1.2 billion tons of CO₂ with the climate impact of 301 coal-fired power plants in 2023 alone.⁴⁸⁷ This increased climate pollution has fueled the accelerating climate crisis, and with it, more intense and destructive extreme weather events that claim lives and cause billions of dollars in damages.

As of the publication of this report, officials in the United States and across the world continue to debate expanding the extraction and use of natural gas, with many employing the same deceptive rhetoric and manipulated science that the fossil fuel industry successfully masterminded and spread for decades. Exposing the deception at the heart of the fraud of natural gas is a vital corrective and a step toward accountability.

480 Natural Allies for a Clean Energy Future, The Reliability of Natural Gas Enables the Expansion of Carbon-Free Renewables, <https://www.naturalalliesforcleanenergy.org/benefits-of-natural-gas/reliable-energy-to-support-renewables/>.

481 BP, “Sustainability Report 2004: Making the Right Choices” (2005), <https://www.documentcloud.org/documents/26279234-bp-2004-sustainability-report/?mode=document#document/p4/a2677338>, 4

482 “Draft: The Biggest Challenges and Opportunities Facing the Global Gas Industry,” BPA-HCOR 00116893, U.S. Senate Budget Committee/House Oversight and Accountability Committee investigation records, <https://www.documentcloud.org/documents/28310688-congressional-big-oil-investigation-may-2024-bpa-hcor-00116893/>, 3.

483 “Climate Change: Voluntary Actions by the Oil and Gas Industry,” (American Petroleum Institute, December 1999), <https://www.documentcloud.org/documents/26313528-api-1999-climate-change-voluntary-actions-report/?mode=document#document/p16/a2773938>, 16.

484 “Inaugural meeting of the API Voluntary Methane Program Steering Committee,” BPA HCOR 00039279, <https://www.documentcloud.org/documents/26313465-bpa-hcor-00039279/>.

485 NASA, “Methane Earth Indicator,” <https://science.nasa.gov/earth/explore/earth-indicators/methane>.

486 NASA, “A Global View of Methane,” March 15, 2016, <https://science.nasa.gov/earth/earth-observatory/a-global-view-of-methane-87681/>.

487 International Energy Agency, *Global Methane Tracker 2026*, <https://www.iea.org/reports/global-methane-tracker-2026/key-findings>; Oil Change International, “U.S. Gas Industry Claims Are False: Analysis of IEA Methane Tracker Finds,” May 16, 2024, <https://oilchange.org/news/u-s-gas-industry-claims-are-false-analysis-of-iea-methane-tracker-finds-u-s-oil-gas-sector-lags-behind-eighteen-other-countries-on-emissions-intensity/>.

THE FRAUD OF “CLEAN” NATURAL GAS