

# Study touting hydrogen — a technology favored by gas firms — was funded by gas interests, e-mails show

By [Sabrina Shankman](#) Globe Staff, Updated November 16, 2022, 5:39 a.m.



GLOBE/ILLUSTRATION BY GLOBE STAFF/ADOBE

**INTO THE RED:** Climate and the fight of our lives

What if it were possible to swap out the fuel flowing through pipes from natural gas to something carbon-free? Like magic, you could keep heating homes as they are currently heated, but put an end to a major source of emissions that is contributing to the onslaught of wildfires and catastrophic weather of recent years.

This has been one of the hopes for so-called green hydrogen — a fuel produced using renewable energy — and an idea that's been embraced by a natural gas industry that is otherwise facing an existential crisis as the world transitions off of fossil fuels.

That's part of what researchers from the University of Massachusetts Lowell were aiming to find out when they embarked on a study to examine the viability of hydrogen in Massachusetts. In a paper [published earlier this year](#) in the peer reviewed journal *Frontiers in Energy Research*, the team offered an endorsement, recommending, among other things, that the state should consider adopting green hydrogen and blending it with natural gas to heat homes and fuel appliances like gas stoves. A similar recommendation wound up in a bill before the Legislature.

The trouble is, like magic, not everything is as it seems.

Several prominent scientists say the UMass Lowell study's conclusions largely dismiss a body of research that has found risks associated with running hydrogen through ordinary gas pipes, and that the process of

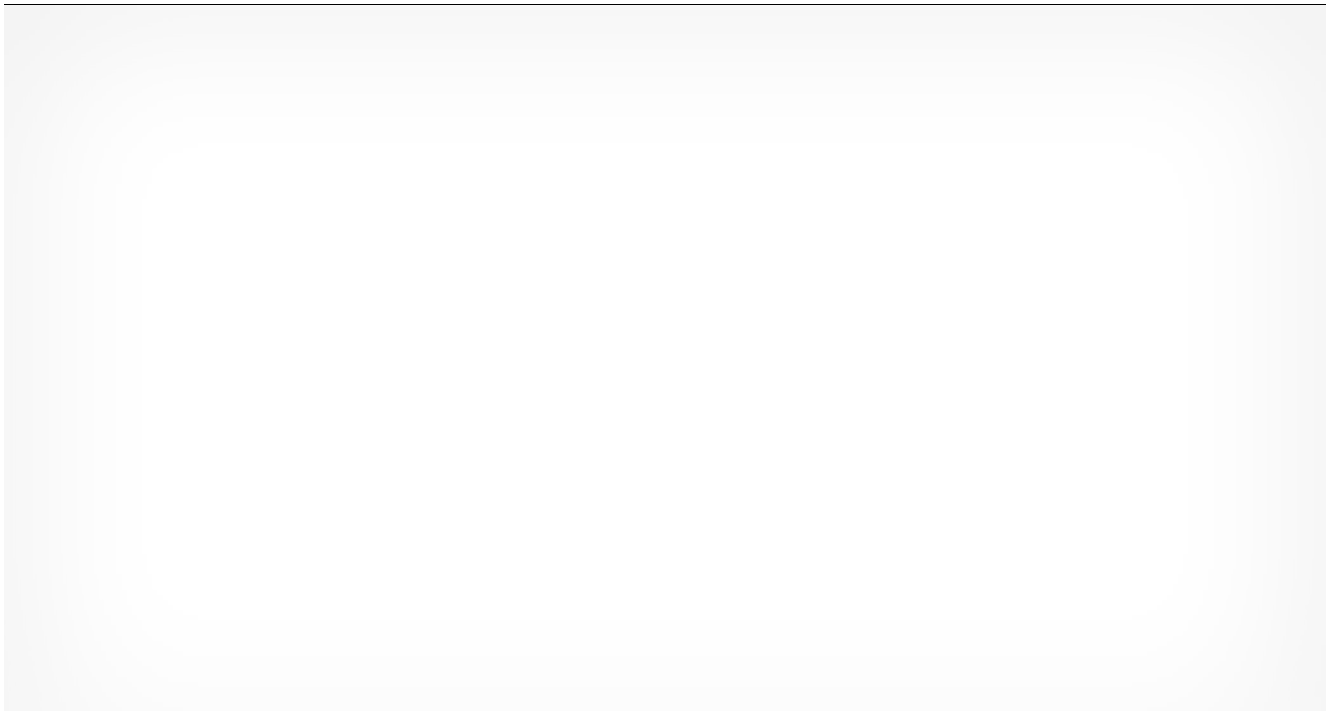
producing it requires so much energy that making it on a mass scale wouldn't be viable for heating homes. Some researchers have even concluded that hydrogen, though it has no carbon, could actually accelerate global warming.

What's more, while the study lists the Associated Industry of Massachusetts Foundation as the funder, hundreds of pages of documents obtained by a public records request reveal that the authors knew that the funds had been solicited directly from some of the foundation's members in the natural gas and pipeline industry, which has staked its future in part on the large-scale adoption of hydrogen. But in the published study, the authors did not disclose what some experts say is a conflict of interest.

E-mails sent among the study's principals and their funders reveal that specialists at natural gas giant National Grid and a business lobbyist with ties to the industry were allowed to review and suggest changes before the study was released. Some of the study's recommendations were substantially written by the lobbyist.

“My personal take is this should not have been published in a peer reviewed journal as it is, because I think the presentation is biased, slanted, and misleading in a way that's hard to defend academically,” said Robert Howarth, a professor of ecology and environmental biology at Cornell University who has published research on hydrogen and is helping to advise New York state's climate transition.

ADVERTISING



The UMass study appears to be part of a trend in which researchers who receive funding from the gas industry have concluded that hydrogen can be used in home heating, while independent studies have not.

“There are at least as many industry-funded studies as there are independent ones,” said Jan Rosenow, the European program director of the Regulatory Assistance Project, an independent energy policy organization, and the author of a [recent study](#) that examined how studies on hydrogen and heating differed, depending on the funding source. “To my own astonishment I found that of the studies I identified as independent, not one suggests that hydrogen for heating, at least at scale, is a sensible, economic choice,” he said.

UMass Lowell officials and the study’s lead author, Christopher

Niezrecki, a distinguished professor and, at the time of the study, chair of the university's mechanical engineering department, said that they stand behind the work and that it complied with the university's research integrity policies.

The UMass Lowell records were shared with the Globe after being obtained by the utility watchdog group Energy and Policy Institute, which requested the documents after an early press release led it to suspect a cozy relationship between the researchers and the gas industry.

The idea for the study was hatched at a time when gas companies were seeing ominous signs for their industry in Massachusetts. In 2020, the Baker administration had prepared a plan for net zero greenhouse gas emissions that prioritized replacing gas and oil for home and commercial heating with electric heat pumps. And Attorney General Maura Healey had petitioned the state's Department of Public Utilities to chart an orderly downsizing of natural gas, which some viewed as tantamount to calling for the death of the industry.

Mary Usovicz, then a senior staff member of UMass Lowell's business development office, brought a proposal for a study on hydrogen to the Associated Industries of Massachusetts, a business trade organization. It was Usovicz's job to find industry partnerships for university research, and AIM was a logical place to turn.

The group includes members from various industries — construction,

retail, hospitality, and more — but has been found to have a particularly close relationship with the energy industry. An analysis by researchers at Brown University last year concluded that AIM consistently worked in line with the gas industry and named it one of the primary forces working to stall climate action in Massachusetts.

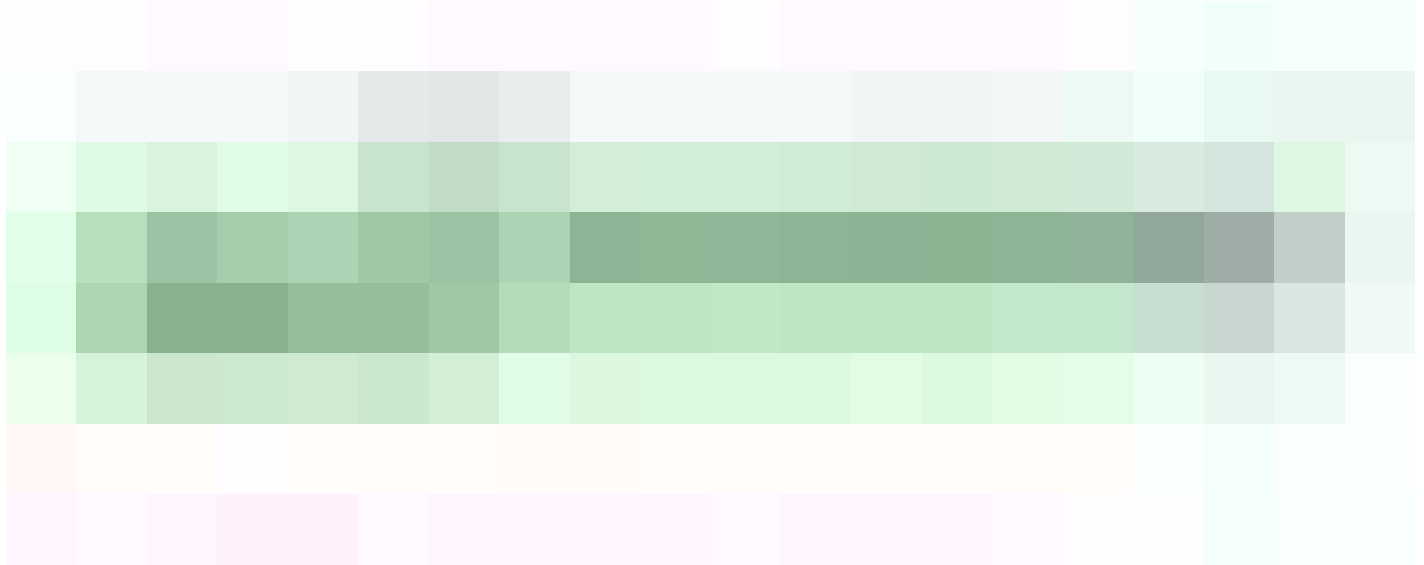
Usovicz had spent decades working in the gas industry and had been friendly with AIM lobbyist Robert Rio for years. Rio agreed to have AIM's charitable arm, the AIM Foundation, fund the study. He then worked closely with Usovicz, an author on the study, while the research was being conducted, meeting as often as once a week, and ultimately helping to write the study's policy recommendations, he acknowledged in interviews. He said he had no particular agenda or influence over the study's outcome.

“I parachuted in when necessary and made sure that it was on track,” Rio said. “I read the report, edited it a little bit, did some you-should-look-at-this, you-should-look-at-that.”

Asked about Rio's involvement in the study, UMass Lowell spokesman Jonathan Strunk said the university was “transparent about the report's sponsor and the stakeholders the university authors engaged.”

A disclosure on the report states that, “Any opinions, findings, conclusions or recommendations expressed in this report are those of the authors and do not reflect the views of the AIM Foundation or the

stakeholders interviewed.” A list of stakeholders included energy companies such as National Grid, Enbridge, and Avangrid, along with advocacy organizations like the Acadia Center, Gas Leaks Allies, and Salem Alliance for the Environment.



An image from a UMass Lowell report on hydrogen's climate potential. RYAN HUDDLE

But the documents provided under the public records request shed a different light on the role that industry played. One e-mail attachment, a Microsoft Word file with editing track changes, shows that Rio drafted or edited entire passages of the final version of the executive summary as well as portions of the policy recommendations.

Rio said in an interview that his changes largely amounted to rewriting and smoothing out what others were proposing already, but much of his language remains nearly verbatim in the final version.

“It is our conclusion that the use of hydrogen in some applications which currently use fossil fuels will reduce overall greenhouse gas emissions and

help contribute to meeting the Commonwealths 2050 net-zero carbon goals and if widely adopted, help reduce CO2 emissions globally,” reads

one paragraph that was substantially written by Rio, and which appears nearly identical in the final.

Rio also drafted the language for a recommendation that the state create an overall hydrogen policy to emphasize using hydrogen to replace greenhouse-gas-emitting fuels for heating buildings, and for a recommendation that the pilot program be established to start allowing gas utilities to begin blending hydrogen into the natural gas they deliver.

The e-mails also reveal that specialists from National Grid, who were among the many stakeholders that the report authors talked to as they compiled the report, were given a unique opportunity. Unlike the environmental advocates listed as stakeholders by the report authors, the specialists from National Grid were invited to provide feedback and comments on an early draft of the study.



## AIM Foundation’s tracked changes to the report’s executive summary

An early version of the report’s executive summary, seen in a Microsoft Pages document shared with the Globe, shows tracked changes from Bob Rio, senior vice president of the Associated Industries of Massachusetts

It is our conclusion that the **use of hydrogen in some applications which currently use fossil fuels will reduce overall greenhouse gas emissions and help contribute to meeting the Commonwealths 2050 net-zero carbon goals and if widely adopted, help reduce CO2 emissions globally. We believe that the challenges related to the use of hydrogen – cost, and safety primarily can be overcome with proper and appropriate regulations.**

Bob Rio added this on October 20

Bob Rio added this on October 21

Bob Rio added this on October 20

Bob Rio added this on October 21

Bob Rio added this on October 21

Source: Energy and Policy Institute • Ryan Huddle / Globe staff

 A Flourish data visualization

A spokesman for National Grid acknowledged that green hydrogen is a part of the company's strategy and said that, as a longtime AIM member, "we were eager to support a study that would allow us to learn more about hydrogen's potential as a decarbonization solution."

The comments that National Grid provided on the draft "were rooted in experience in both our UK and US businesses, science, and research," the spokesman said.

Niezrecki said his team accepted some of the suggested changes "because it made sense, but it's not like any company said, 'You must have this wording in the paper.'" He added that he reviewed and approved all changes before publication, and that all of the authors agreed on any language in the study.

Even so, some other scholars familiar with the study said they were appalled.

"That's all a really bad look for academic integrity," said Nathan Phillips, a professor in the Earth and Environment department at Boston University and a climate activist. "This to me is a subtle but clear reflection of how fossil fuel industry funding influences academic research to neutralize and water it down."

Moreover, e-mail correspondence shows that the AIM Foundation funds were solicited from energy companies. In an e-mail dated Jan. 13, 2021,

Usovich wrote to Niezrecki, the study's lead author, detailing "the funds

that we have collected to date,” listing as contributors National Grid,

Eversource, Enbridge, Public Policy Group, a lobbyist for Vistra, and Energy New England, all gas, pipeline, and electric companies.

At the time, those companies had donated \$56,500, she wrote. The sum ultimately raised was \$71,500. It’s not clear where the additional funds came from.

[Usovicz on the companies funding the study \(p. 99\)](#)

**From:** [AnknerUsovicz, Mary P](#)  
**To:** [Niezrecki, Christopher](#)  
**Subject:** Hydrogen Study  
**Date:** Wednesday, January 13, 2021 3:07:28 PM

Dear Chris:

As requested, the following is the funds that we have collected to date. The cut off for accepting any additional funds is 2/1. The steering committee at AIM that will be overseeing the study would like to do an announcement and kick off meeting prior to 2/15 so we need to have selected and hired a graduate student by the 15th.

National Grid  
Eversource  
Enbridge  
Public Policy Group- lobbyist for Vistra  
Energy New England

For a total of \$56,500.00.

Outstanding Commitments

Nextera 15-20K  
Liberty Energy 10K  
ENEL 15-20K

[View the entire document with DocumentCloud](#)

Usovicz and Rio confirmed their fund-raising efforts in interviews but declined to provide additional details, saying AIM policies forbade it.

“It looks like the gas companies used AIM as a kind of front group, really, to hide behind,” said Itai Vardi, a research and communications manager with the Energy and Policy Institute. “The casual reader that opens the report reads that it was funded by the AIM Foundation. But these e-mails show that the pipeline industry, Enbridge, and the gas companies were the main drivers here in terms of providing money.”

From the start, the intent of the study went beyond a purely academic pursuit, Usovicz said in an interview. The goal was to create guidance that policymakers could translate into legislation. In accordance with that goal, Usovicz met with state Representative Tom Golden Jr. just as the research was beginning, and soon wrote in an e-mail dated Feb. 23, 2021 to Niezrecki and others that Golden had filed “placeholder” legislation on “hydrogen and other possible fuels.”

## [Usovicz on Golden filing "place holder legislation" related to hydrogen \(p. 108\).](#)

**From:** [AnknerUsovicz, Mary P](#)  
**To:** [Robinson, Jean](#); [Abrahamson, Daniel B](#); [McCarthy, Terrence J](#); [Chen, Julie](#); [Niezrecki, Christopher](#); [Squires, Amber G](#); [Baacke, Adam C](#); [QMahony, Ruairi O](#); [Millano, Thomas](#); [Corcoran, D](#)  
**Cc:** [Belodeau, Kerj](#); [Mendes, Mary E](#)  
**Subject:** Quarterly update - Alternative Energy Committee Meetings  
**Date:** Tuesday, February 23, 2021 3:52:32 PM  
**Attachments:** [Draft\\_Press\\_Release\\_from\\_AIM.docx](#)  
[HD1919.FIL-\[151995\].pdf](#)

Dear All:

As promised, there is a draft press release from AIM which is currently going through internal review. Attached is the place holder legislation filed by Tom Golden on the hydrogen and other possible fuels. The bill will be updated after the recommendations of the hydrogen study.

Please feel free to reach out directly to Chris if you have any questions.

Sincerely,

Mary Usovicz  
Sent from [Mail](#) for Windows 10

[View the entire document with DocumentCloud](#)

Legislative records show Golden, who has since left the Legislature for another job, filed two bills, days apart, one that simply called for more study of hydrogen and another that called for a variety of actions that could open the door for large scale use of hydrogen in the state. AIM lobbied for the first bill, according to required disclosure statements, and National Grid lobbied for the second bill. Rio said in interviews that he knew nothing of the second bill, known as House Bill 4081.

## **Usovicz on Golden filing "place holder legislation" related to hydrogen (p. 108).**

**From:** [AnknerUsovicz, Mary P](#)  
**To:** [Robinson, Jean](#); [Abrahamson, Daniel B](#); [McCarthy, Terrence J](#); [Chen, Julie](#); [Niezrecki, Christopher](#); [Squires, Amber G](#); [Baacke, Adam C](#); [QMahony, Ruairi O](#); [Miliano, Thomas](#); [Corcoran, D](#)  
**Cc:** [Belodeau, Kerj](#); [Mendes, Mary E](#)  
**Subject:** Quarterly update - Alternative Energy Committee Meetings  
**Date:** Tuesday, February 23, 2021 3:52:32 PM  
**Attachments:** [Draft\\_Press\\_Release\\_from\\_AIM.docx](#)  
[HD1919.FIL-\[151995\].pdf](#)

Dear All:

As promised, there is a draft press release from AIM which is currently going through internal review. Attached is the place holder legislation filed by Tom Golden on the hydrogen and other possible fuels. The bill will be updated after the recommendations of the hydrogen study.

Please feel free to reach out directly to Chris if you have any questions.

Sincerely,

Mary Usovicz  
Sent from [Mail](#) for Windows 10

[View the entire document with DocumentCloud](#)

As the study was being completed, e-mails indicate that Usovicz successfully proposed a provision in the study's recommendations calling for a state requirement that renewable fuels, including hydrogen, be blended into the gas system.

In November 2021, UMass Lowell announced an event to showcase the findings that was sponsored by Eversource, National Grid, and other gas companies. State lawmakers and others with influence on state policy participated.

In the environmental community, the announcement caused a stir and caught the attention of Regina LaRocque, an infectious disease physician and researcher at Harvard Medical School who is also a climate activist.

“It seemed strange to me that our state representatives would appear on a platform that seems to be hosted by these industry partners,” she said.

LaRocque began an e-mail exchange with UMass Lowell chancellor Julie Chen, at one point sending her a 2008 report that examined how fossil fuel companies influenced academic work by simply funding it.

“I urge you to take a look at today’s event with a critical eye to the role and purpose of the industry funding, including the potential threat that such funding poses to the core academic and public interest functions of a university,” she wrote.

Chen wrote back but did not respond directly to the criticism. Instead, she referred LaRocque to Niezrecki, the report’s lead author, and noted that the authors viewed the study as “just the first in a potential series.”

Golden, who participated in a panel discussion at the event, the next day received \$5,600 in campaign donations from 14 donors who listed Eversource as their employer, including several vice presidents and senior vice presidents. Another \$1,300 came the same day from Hickey & Associates, a lobbying firm that lists Eversource as a client on its website.

Regarding the donations, a spokeswoman for Eversource said, “We

encourage all of our employees to be active members of their communities.” Golden did not respond to multiple requests for comment.

Ron Fein, legal director for Free Speech For People, a campaign finance reform advocacy organization, said there’s nothing illegal about the donations “but it looks sordid. It shows how corrupt our system has become.”

Golden’s bills did not emerge from committee and didn’t pass before the most recent legislative session ended. But in the eyes of the industry, they represented a meaningful, if brief, victory.

And at an industry conference in May, Sheri Givens, National Grid’s vice president of US Policy & Regulatory Strategy, told an audience, “We are proposing, or what other utilities are proposing, is to have some kind of incentive framework for renewable natural gas for heating purposes.”

What’s more, she said there was already a vehicle: “We actually have legislation currently in Massachusetts House Bill 4081.”

---

Sabrina Shankman can be reached at [sabrina.shankman@globe.com](mailto:sabrina.shankman@globe.com). Follow her on Twitter [@shankman](https://twitter.com/shankman).

[Show 44 comments](#)



©2022 Boston Globe Media Partners, LLC