

## Fossil Industry and Respiratory Societies: Time for a Clear Stand

✉ Lucilla Piccari<sup>1</sup>, Naftali Kaminski<sup>2</sup>, and Michael E. Mann<sup>3</sup>

<sup>1</sup>Department of Pulmonary Medicine, Hospital del Mar, Barcelona, Spain; <sup>2</sup>Section of Pulmonary, Critical Care and Sleep Medicine, Yale School of Medicine, New Haven, Connecticut; and <sup>3</sup>Department of Earth and Environmental Science, University of Pennsylvania, Philadelphia, Pennsylvania

ORCID IDs: 0000-0002-2241-7523 (L.P.); 0000-0001-5917-4601 (N.K.).

Climate change is a major driver of respiratory disease (1), as is pollution, causing millions of deaths per year worldwide (2). The burning of fossil reserves of oil, coal, and gas to fuel energy-intensive industrial processes is the biggest cause of climate change (3). This has had many effects: the buildup of carbon dioxide and other pollutants in the atmosphere; general warming of the planet's temperature; disruption of ecosystems, triggering a new mass extinction; and unpredictable, extreme weather events (3). Fossil fuels have also poisoned the air we breathe, the water we drink, and the food we produce, triggering cardiovascular, neurologic, and oncologic diseases (2). Respiratory health is prominently affected by climate change through worsened air quality, increased pollutants and concentrations of aeroallergens, and extreme weather events (1). Exacerbations of chronic obstructive pulmonary disease, increased incidence and severity of asthma, stunted development or accelerated decline in lung function, and novel respiratory infections are all direct and indirect effects of climate change (1). The direct effect on respiratory health is clear and visible: recent massive wildfires have caused an estimated 33,510 yearly deaths globally within days of their unfolding (4).

Despite the fossil fuel industry's prominent role in creating this planetary threat, there is surprisingly little oversight on how it might interfere with the integrity of academic research. When the detrimental role of tobacco on health became known,

scientific societies actively worked to avoid undue industry influence on research into these subjects. A carefully planned marketing strategy by cigarette manufacturers to keep this damaging information secret was subsequently revealed (5). It included spreading doubt about scientific evidence, employing scientists to publicly deny any harmful effects, insisting on smokers' personal responsibility, strong lobbying against unfavorable legislation, and aggressive advertising campaigns (5, 6). When these strategies came to light, respiratory societies responded promptly: the European Respiratory Society banned membership and publications (7) from those who had "been full, or part-time, employees of, or paid consultants to, or those with any real or perceived direct or indirect links to the tobacco industry," and the American Thoracic Society banned any research funded by tobacco entities from its journals and conferences and any persons with ties to tobacco manufacturing from any role in the Society or its activities (8). These restrictions have recently been tightened and reaffirmed. Recent evidence shows that the fossil fuel industry has implemented the same techniques as the tobacco industry (Figure 1A), including directly misleading the public, employing the same researchers, funding alternative research, and hiring the same marketing firms and executives from tobacco companies (5, 6). More importantly, when judged by their actions, most fossil fuel companies are not aligned with policies aimed to reduce global warming (3), so there

is little reason to think they approach climate change in good faith. This has led to calls to cut research ties with fossil industries (9). Moreover, money poured into academic research is used to project credibility, a phenomenon labeled "greenwashing" (9).

Industrial interests infiltrating academic institutions to dictate their focus and favor their agenda is nothing new (5, 9). The fossil industry laid the groundwork for this partnership using marketing techniques such as "issue advertising" (i.e., debate centered on favored energy topics rather than on reducing the use of oil products) and "informed influentials" (i.e., seemingly independent scientists or personalities voicing views favorable to the industry). These tactics were further developed throughout the 1970s by public-relations firms working to specifically protect the fossil industry's bottom line (5, 6).

But is the fossil industry funding respiratory research? Although it is hard to assess whether individual respiratory researchers are funded by these companies directly or indirectly (through industry foundations and think tanks), there is no doubt that institutions are both being funded and benefitting from investments in the fossil fuel industry (5, 6, 9). Individual examples include medical toxicologists working with a consulting firm with close ties to the gas stove industry who author peer-reviewed manuscripts (10) and give public testimony proclaiming the safety of gas stoves and discrediting their link to asthma (11), and esteemed scientists who are members of

(Received in original form August 12, 2023; accepted in final form October 5, 2023)

✉ This article is open access and distributed under the terms of the Creative Commons Attribution Non-Commercial No Derivatives License 4.0. For commercial usage and reprints, please e-mail Diane Gern (dgern@thoracic.org).

Author Contributions: N.K. conceived the idea. L.P. and N.K. wrote the first draft of the manuscript. L.P., N.K., and M.E.M. revised the manuscript critically for important intellectual content, approved the final manuscript, and agreed to be accountable for its overall content.

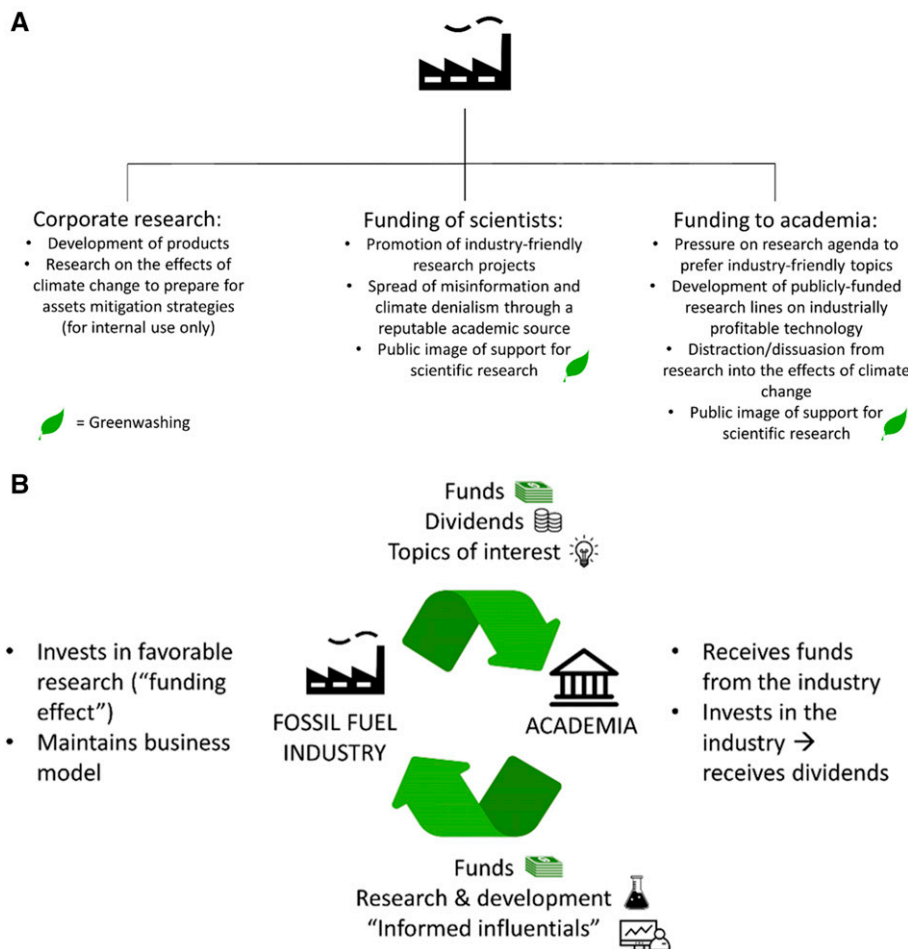
Correspondence and requests for reprints should be addressed to Lucilla Piccari, M.D., Department of Pulmonary Medicine, Hospital del Mar, Passeig Marítim 25-27, 08003 Barcelona, Spain. E-mail: lucilla.piccari@gmail.com.

Am J Respir Crit Care Med Vol 209, Iss 3, pp 245–247, Feb 1, 2024

Copyright © 2024 by the American Thoracic Society

Originally Published in Press as DOI: 10.1164/rccm.202308-1410VP on October 5, 2023

Internet address: www.atsjournals.org



**Figure 1.** Relationship between the fossil fuel industry and research and academic institutions. (A) Research funding of the fossil fuel industry and its aims. (B) The vicious circle of fossil fuel industry-academia entanglement.

official scientific committees conducting controversial medical studies designed by car manufacturers to demonstrate the safety of diesel exhausts (12) as part of a marketing strategy to cheat regulations of diesel pollution (“dieselgate”). Research designs used by the fossil industry to introduce bias in medical evidence have been analyzed (13), and fossil companies donated or pledged more than \$600,000,000 to 27 universities in the United States alone (14), heavily funding

climate change research institutes in an aim to shift their focus toward industry-friendly solutions such as carbon capture or biomass fuels; furthermore, besides the overt conflicts of interest, the well-documented “funding effect” (15) may affect scientists working on the health impacts of climate change. To close the circle, universities and institutions often invest financially in fossil fuel companies and are thereby effectively fossil fuel stakeholders (16, 17), making their

interests in the survival of this industry less than theoretical (Figure 1B). Considering the causal link between respiratory diseases and deaths with fossil fuel-driven climate change, it seems paramount to ensure that fossil fuel interests are not tainting research. The European Respiratory Society (18) and the American Thoracic Society (19) have already taken a strong stand on air quality, and we now suggest that they take more practical steps toward this goal. We propose actions at different levels:

- First, individuals should have to report their previous ties to the fossil fuel industry, divest their investment portfolios, push for their employing institutions to refuse funding and divest from fossil fuel enterprises, and disengage from all current ties with the industry.
- Second, institutions should pledge to stop all funding from the industry, divest their investments, and regularly provide information on their progress toward these goals.
- Finally, respiratory societies should ban fossil fuel industry-derived funding and profit, as is the case with the tobacco industry, by forbidding publication by fossil fuel industry-funded individuals and institutions and supporting divestment.

Climate change is no longer a political opinion but a scientifically proven reality, as are its effects on respiratory health, and the role of the fossil fuel industry in knowingly perpetrating them is undeniable. A clear statement by respiratory societies in the form of banning funding and demanding divestment from the fossil fuel industry will show commitment, generate attention, and ultimately serve our patients, our communities, and our planet. ■

**Author disclosures** are available with the text of this article at [www.atsjournals.org](http://www.atsjournals.org).

**References**

1. Joshi M, Goraya H, Joshi A, Bartter T. Climate change and respiratory diseases: a 2020 perspective. *Curr Opin Pulm Med* 2020;26:119–127.
2. Romanello M, Di Napoli C, Drummond P, Green C, Kennard H, Lampard P, et al. The 2022 report of the Lancet Countdown on health and climate change: health at the mercy of fossil fuels. *Lancet* 2022;400:1619–1654.
3. Intergovernmental Panel on Climate Change. Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Report AR6. Core Writing Team, Lee H, Romero J, editors. Geneva, Switzerland: Intergovernmental Panel on Climate Change; 2023 [published 2023 Mar 20; accessed 2023 Aug 12]. Available from: [https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC\\_AR6\\_SYR\\_LongerReport.pdf](https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf).
4. Chen G, Guo Y, Yue X, Tong S, Gasparrini A, Bell ML, et al. Mortality risk attributable to wildfire-related PM<sub>2.5</sub> pollution: a global time series study in 749 locations. *Lancet Planet Health* 2021;5:e579–e587.
5. Oreskes N, Conway EM. Merchants of doubt: how a handful of scientists obscured the truth on issues from tobacco smoke to global warming. London: Bloomsbury Publishing; 2011.

6. Mann ME. The new climate war: the fight to take back our planet. London: Hachette UK; 2021.
7. Rabe KF, Gratiou C, Ward B, Berteletti F. Towards a total ban on links with the tobacco industry: new rules for the ERS. *Eur Respir J* 2012;40:809–810.
8. American Thoracic Society. American Thoracic Society policy on tobacco involvement. New York: The Society; 2007 [updated 2020 Feb; accessed 2023 Aug 12]. Available from: <https://www.thoracic.org/about/governance/ethics-and-coi/resources/ats-tobacco-policy.pdf>.
9. Cohen I, Mann ME. Op-ed: climate research funded by fossil fuel profits discredits universities and hurts the planet. *Los Angeles Times* 2022 April 3.
10. Li W, Long C, Fan T, Anneser E, Chien J, Goodman JE. Gas cooking and respiratory outcomes in children: a systematic review. *Glob Epidemiol* 2023;5:100107.
11. Tabuchi H. In the fight over gas stoves, meet the industry's go-to scientist. *New York Times* 2023 January 29.
12. Marks S, Posaner J. Monkeygate doctor says car firms were not kept in dark. *Politico* [published 2018 Jan 31; accessed 2023 Aug 8]. Available from: <https://www.politico.eu/article/lead-scientist-in-monkey-tests-automakers-fully-aware-of-trials/>.
13. Gennaro V, Tomatis L. Business bias: how epidemiologic studies may underestimate or fail to detect increased risks of cancer and other diseases. *Int J Occup Environ Health* 2013;11: 356–359.
14. Kumar B. Accountable allies: the undue influence of fossil fuel money in academia. Washington, DC: Data for Progress; 2023 [published 2023 Feb; accessed 2023 Aug 9]. Available from: <https://www.filesforprogress.org/memos/accountable-allies-fossil-fuels.pdf>.
15. Almond D, Du X, Papp A. Favourability towards natural gas relates to funding source of university energy centres. *Nat Clim Chang* 2022;12: 1122–1128.
16. Wise J. Health organisations are urged to end investment in fossil fuels. *BMJ* 2015;350:h600.
17. Abbasi K, Godlee F. Investing in humanity: the *BMJ's* divestment campaign. *BMJ* 2020;368:m167.
18. Andersen ZJ, Gehring U, Matteis SD, Melen E, Vicedo-Cabrera AM, Katsouyanni K, *et al*. Clean air for healthy lungs – an urgent call to action: European Respiratory Society position on the launch of the WHO 2021 Air Quality Guidelines. *Eur Respir J* 2021;58:2102447.
19. American Thoracic Society. American Thoracic Society policy brief on clean air. New York: The Society; 2013 [published 2013 Nov; accessed 2023 Aug 12]. Available from: <https://www.thoracic.org/advocacy/clean-air/CleanAir-13.pdf>.