

Literature Review:

The Influence of the Fossil Fuel Industry in Academia

For Divest Princeton

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[\(powerpoint Divest Princeton talk July 2020\)](#)

Bottom line: FF funding at universities is pervasive, under the radar and beneficial to industry

Tobacco playbook (also used by sugar/fast food industries)

- Coopt academia because they influence regulatory policy: hire them/give them research grants; let them think they still have “academic freedom”
- at a minimum they won’t speak against FF interests & fosters more favourable view of industry
- shape research topics/questions/directions – direct to safe non-threatening/inconsequential issues for FF; direct away from “dangerous” topics that threaten FF emissions
- obtain early access to research directions and results: monitoring (“nip it in the bud”)
- position industry as good citizen, helping courts and public
- rebrand ff companies as “energy” companies

Create “we need more research” narrative

- Always emphasize complexity and difficulty of problem of replacing fossil fuels while simultaneously emphasizing their benefits (“who among us could live without fossil fuels”); emphasize long timeframe required
- Frame climate change as technical/scientific problem, never as a political problem
- undermine activists/opponents as emotional and biased: “passionate advocates” vs scientists working so hard to find highly complex and sophisticated solutions
- FF companies are “leaders working to decarbonize”
- Shift the blame onto other countries and individuals

Focus of research: fossil friendly

- Focus almost exclusively on CCS
- Ignore renewables
- Encourage efficiency (with ff)
- Tout hydrogen (uses ff)
- Bioenergy using ff infrastructure
- Use media to divulge “results” and use scientists for op eds etc

\$\$ - Pittance on research vs cap ex vs lobbying to obstruct climate policy

Academic centers partially or totally funded by fossil fuels:

- Princeton Carbon Mitigation Initiative (BP and Ford initially, now just BP)
- Princeton Andlinger Center
- Berkeley Energy Biosciences Institute
- Stanford Program on Energy & Sustainable Development
- Stanford Global Climate & Energy project
- Stanford Woods Institute for the Environment
- Stanford Precourt Center for Energy Efficiency
- Stanford Precourt Institute
- Stanford Natural Gas Initiative
- Stanford Energy Modelling Forum
- MIT Energy Initiative
- MIT Joint Program on the Science and Policy of Global Change
- MIT Center for Energy and Environmental Policy Research
- MIT Earth Resources Laboratory
- Harvard Environmental Economics Program
- Harvard Project on Climate Agreements
- Harvard Consortium for Energy Policy Research
- Harvard Electricity Policy Group

Priorities:

- compile data
- analyze how funding shaping attitudes and affecting choices of projects
- bring issue to public’s attention

[Big Oil U by the Center for Science in the Public Interest 2008](#)

Merrill Goozner & Erin Gable

Study found 5 major limitations on academic freedom stemming from fossil fuel funding:

- Giving industry sponsors *first rights to intellectual property*
 - Allowing *company representatives on governing boards*
 - Allowing industry sponsors a role in *deciding what research projects are funded*
 - Permitting *industry review of research* before it is published
 - Allowing companies to *delay publication of research results*
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- ...inappropriate industry demands can cause universities to lose some control of their research agendas and become more like business enterprises than generators of knowledge.
 - As universities become more commercialized, there is less space to perform research that is critical of industry or challenges the conventional wisdom. In the field of energy research, this is particularly important since the energy industry has a major stake in continuing our reliance on fossil fuels or politically popular substitutes like biofuels that do not threaten the status quo.
 - Inherent conflict of interest: University research is supposed to work toward the common good. Corporate research is primarily aimed at maximizing profits.
 - Energy firms remain among the least research and development-intensive among all industrial sectors.
 - The carbon-dependent industries have lavished intense public relations attention on these modest university R&D programs. Their modest size and modest goals raise serious questions about whether universities have paid too high an intellectual price for the relatively few dollars they have brought in from these corporate sources.

Recommendations

- Prohibiting representatives of corporate donors from sitting on research programs' governing boards
- Prohibiting industry donors from controlling the content and direction of research programs
- Eliminating "first rights" intellectual property clauses from donor agreements
- Barring industry scientists from utilizing campus resources like physical space for corporate research projects
- Ensuring that company representatives cannot suppress research or delay its publication.

[Big Oil Goes to College: An Analysis of 10 Research Collaboration Contracts between Leading Energy Companies and Major U.S. Universities](#) by Jennifer Washburn, 2010 for Center for American Progress

- In a majority of the 10 contracts, the university gave up majority control over the governing body in charge of the university-industry research alliance, and in four cases actually ceded full control to the participating corporations.
- None of the contracts requires that faculty research proposals that fall under these partnerships be peer reviewed by independent experts; most of the contracts fail to adequately explain how faculty can even apply for grant funds; and in most of the contracts the university has given up majority control over academic-research project selection.
- While the contracts preserve the university's right to publish, several allow for long publication delays, in one case as long as seven months, and in another as long as one year.
- Most of these contracts severely limit the university's ability to broadly license the results of research stemming from the university-industry alliance; many fail to adequately protect the sharing of academic data and results with other academic investigators for research verification and other academic purposes, though there are notable exceptions.

Public money becomes private: Because of the federal government's growing preference for allocating federal R&D funds through corporate matching grants and other cost-sharing and cooperative-research arrangements, private industry now directly influences anywhere from 20 percent to 25 percent of university research funding overall. In this way, a significant share of U.S. taxpayer funding that starts out as "public" funding is effectively turned "private" by the time it reaches the university investigators in their academic labs.

You pay, you play: A large body of analytical and empirical research finds that industry-sponsored research is far more likely to favor the corporate sponsor's products and/or commercial interests compared to government- or non-profit-funded research. Studies also find that industry-sponsored research is linked to growing corporate control of academic data, delays on publication, increased secrecy, and reduced academic sharing of research data and materials.

It's all relative: Relative to the oil industry's vast profit margins, energy R&D spending remains infinitesimally small. Consider BP's 10-year, \$500 million investment at U.C. Berkeley, which is primarily dedicated to researching biofuels. Relative to BP's profit margins, this mega-size university deal represents a mere 0.021 percent of BP's total projected revenues, and just 0.26 percent of its total profits, during the period 2006-2015. Between 1988 to 2003, the U.S. energy industry invested just 0.23 percent of its revenues in R&D, far below the average of 2.6 percent for U.S. industry as a whole but the government was no better - from 1993 to 2006, U.S. government spending on all energy-related R&D remained flat and was 60 percent less than the U.S. government spent on energy R&D in 1979.

Why is fossil fuel influence in academia so bad:

- the vast majority of these contracts seriously **challenge the historic research integrity and the independence of the universities** involved.
- preserving an independent research sector inside top-ranked U.S. universities remains vitally important for the advancement of clean energy research. **U.S. universities have traditionally performed many types of research (curiosity-driven science, fundamental inquiry, disinterested research) that private firms were unable, or unwilling, to finance adequately on their own, because of shorter-term commercial, strategic, and profit considerations. Many of this nation's most path-breaking scientific discoveries—including those that launched the biotechnology, computing, and information-technology revolutions—were born out of publicly financed research, performed in academic labs.**
- we need to preserve a research sphere that is **committed to public-good research**— research that has enormous social value, but which rarely generates commercial profits. In the area of energy research alone, this might include studies comparing the relative social, economic, energy, and environmental consequences of various competing alternative-energy technologies, or advanced research to measure carbon and other greenhouse gases emitted from various sources, or the development of effective carbon caps, taxes, trading, and measuring systems. Without this type of public-good research—carried out independently of specific commercial- or special-interest groups—it is far more difficult for political leaders and the public to develop effective, enlightened public policies.

Why and how did this happen?

University perspective

- Need for money - persistent shortfalls in U.S. government outlays for energy research and development propelled American universities to seek greater financial support from private industry.

- Open lines of communication with talented industry scientists
- Industry input regarding the practical applications of new academic discoveries, market opportunities and limitations, as well as the feasibility of commercial scaling
- Access to corporate proprietary knowledge sources
- Heightened commercial involvement with early- stage academic research, which may help to speed subsequent commercial development
- The rise of **academic commercialism** - first, there was the rise of a knowledge-driven economy, which made academic research far more valuable to outside companies and venture capitalists. Second, changes in U.S. patent law vastly expanded the types of academic knowledge that were newly eligible for patenting, such as human genes, medical processes, and mathematical formulas. Third, the U.S. Congress passed landmark legislation, in 1980, known as the **Bayh- Dole Act** which granted U.S. universities automatic rights to own all federally funded research performed on campus, and the right to patent and license that taxpayer research **to industry in exchange for a share of the commercial rewards (patent royalties, equity, licensing fees).**

Industry perspective

- Prime greenwashing content
- Nearly all the energy companies basically axed most of their research capacity, if not all of it
- academia is cheap, because you've got these graduate students working for practically nothing with low overheads rate, compared to the commercial research companies with overhead rates of 150 percent, paying people \$100,000 a year. University labs and their labor force (including world-class research faculty, graduate students, and post-doctoral candidates) are heavily subsidized by U.S. taxpayers through numerous channels, including federal research grants, fellowships for graduate students, and student tuition aid; state educational support; publicly financed buildings, labs, and equipment; not to mention substantial tax breaks. Companies also receive generous federal tax breaks whenever they invest in academic research.

Recommendations

Government should:

- develop “standard contract language” attached to every federal research grant for universities that obligates the university to uphold certain core academic and public interest obligations—no matter whether this funding comes via the federal government alone, or in combination with corporate matching grants.
- Require all federal energy grants be issued using expert peer review
- Allocate sufficient funds for fundamental, pre-commercial science and other vital public-good research

Universities should:

- Police commercial conflicts of interests
- Maximize faculty involvement in the design and oversight of large-scale corporate-research alliances
- Safeguard academic autonomy
- Retain academic control over research selection and the use of independent expert peer review
- Minimize delays on publication
- Protect academic knowledge sharing
- Resist monopoly ownership of academic knowledge

[The Big Con: How Big Polluters are advancing a net zero climate agenda to delay, deceive and deny](#)

By Corporate Accountability, Global Forest Coalition & Friends of the Earth International, June 2021

Academic research is being used to validate “net-zero” and make it “The Goal by 2050” (instead of Real Zero by 2030)

Research and innovation coming out of the world’s leading academic institutions play a critical role in **setting the bar for what climate ambition looks like, as well as in shaping national and international climate policy**. If prestigious academic experts produce research and launch initiatives in favour of “net zero”, then **policymakers and governments are likely to follow this lead**—especially if this research provides policy pathways that require little change. This **undermines academic integrity** and **weakens the political will** to address the climate crisis and reduce emissions. And, of course, it **props up Big Polluters’ interests and continues business as usual**.

The idea behind Big Polluters’ use of “net zero” is that **an entity can continue to pollute as usual**—or even increase its emissions—and seek to compensate for those emissions. These schemes are being used to:

- **mask inaction** – most have 2050 as a goal, no bench marks on the way and are very vague
- foist the burden of emissions cuts and pollution avoidance on **historically exploited communities** through land grabs for offsets (**carbon colonialism**) and proposals that have a destructive impact on land and forests, oceans (monocultures, burning forests etc)
- bet our collective future on **risky, unproven, geoengineering technologies**
- perpetuate the idea that one tonne of carbon emitted from any source has the same value of one tonne of carbon sequestered – ignores difference between geological carbon and carbon from the burning of ff
- perpetuate the notion that the climate crisis is a technological crisis rather than the **political crisis** it is
- **greenwashing**

Key net-zero strategies and what is wrong with them:

Burning Trees or Biomass (dubbed Bioenergy): Evidence suggests that burning trees emits more greenhouse gas emissions than coal or natural gas, when taking into account the lifecycle of the emissions and when implemented at commercial scale. If carried out at the scale suggested by Big Polluters, burning trees for energy is also likely to give way to land grabs, biodiversity loss, and rights violations for Indigenous Peoples, local communities, women, and frontline communities.

Carbon Capture and Storage/Utilization and Storage/Sequestration (CCS): ok to continue to pollute, if they can somehow suck up that carbon dioxide, and store it in the ground or use it in other production to postpone emissions. However, nearly all existing CCS is used in service of Enhanced Oil Recovery (EOR), a process developed by the oil industry to reach deep oil reserves that would otherwise be inaccessible and non-viable. *(NB US IRS tax credit 45Q allows polluters to claim tax credit for saying they are doing CCS – it is believed that Exxon claims \$70m per year in tax credits for just 1 CCS plant. FF industry lobbied heavily for this to be able to continue profitable business as usual under the umbrella of “net-zero”).*

Carbon markets: These allow Big Polluters to continue polluting and supposedly achieve their emissions reductions by purchasing “carbon credits” from other countries or actors that have contributed less to climate change. They are proven to lead to fraud and speculation and haven’t substantially reduced emissions.

Direct Air Capture (DAC): The notion that Big Polluters can keep polluting and develop technology down the line that sucks the carbon dioxide from back out of the air - untested at large scale, risky and extremely energy-intensive, and is unlikely to ever work at the scale required on the timeline needed in a fair manner. To store the carbon dioxide once it has been extracted from the atmosphere, DAC technology will likely need to work in combination with CCS or CCUS. It is therefore additionally dependent on yet more technologies that may never be effective at scale.

Carbon offsets and Nature-Based Solutions (NBS): commodify nature, by allowing a corporation or government to compensate for their emissions by funding projects meant to absorb carbon emissions (by creating carbon sinks through, for instance, monoculture plantations) and claim that the carbon removal via these projects can balance out their continued high levels of emissions. Many of these schemes have been widely discredited and shown to not only fail to offset the emissions in question or only do so temporarily, but also often drive human rights abuses.

Hydrogen: Big Polluters insist that hydrogen is ‘green’ and will be produced using renewable electricity, but globally less than 0.1 percent of hydrogen production is ‘green’, with the rest coming mainly from fossil gas. Big Polluters claim that CCUS technology will make hydrogen ‘clean’ and ‘low carbon’, while maintaining their destructive business models—and even receiving massive public subsidies to do so.