IN THE SERVICE OF DELAY

FOSSIL FUEL CONNECTIONS TO PRINCETON UNIVERSITY

DIVEST PRINCETON

Contributors

A report by Sunrise Princeton, with contributions from Divest Princeton

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Executive Summary

Princeton legitimizes and financially supports the fossil fuel industry. The University continues to invest in, profit from, and produce research that serves the interests of fossil fuel companies. This report reveals the extent of Princeton's entanglement with the industry across many of its activities. It aims to illustrate how Princeton's ambition to be a climate leader, and to seek truth through its academics, is undermined by its continued advancement of fossil fuel interests. It focuses on issues associated with Princeton's fossil-fuel funded research and investments in the industry, summarized below.

RESEARCH

1. Princeton has cut research ties with certain highly polluting fossil fuel companies, a process that it calls "dissociation." However, it has avoided acting upon recommendations by University committees for a more comprehensive dissociation policy.
2. The University still partners with companies engaging in active climate disinformation and denial campaigns, in contradiction to its "truth-seeking mission."
3. Over the past 10 years, five fossil fuel companies have spent over $43 million on Princeton research.
4. Five fossil fuel companies have funded 210 Princeton-based research papers in the last five years. Of these papers, 14.8% explicitly allow for continued or expanded fossil fuel production.
5. The Carbon Mitigation Initiative (CMI) has been funded by BP since it originated in 2000. BP uses CMI to advance its communications campaign to promote natural gas, boost its credibility as a supposed climate leader, and influence policy at the highest level.

INVESTMENTS

1. Despite divesting its endowment of fossil fuel holdings worth $1 billion, Princeton continues to invest approximately $700 million in privately held fossil fuel companies without justification. The Board of Trustees has so far not followed through with its pledge to achieve a net-zero emission endowment.
2. Princeton has earned over $350 million directly from oil and gas extraction activities over the last decade.
3. Princeton appears to own a fossil fuel company called Petrotiger, from which the university has earned nearly $140 million over the last 10 years in investment income and direct financial contributions.
4. The Princeton University Retirement Plan uses TIAA as its recordkeeper, a company whose investments in fossil fuels has been estimated at more than $78 billion and that is the fourth-largest holder of coal-related bonds.

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Introduction

Since the 1970s, fossil fuel companies have known that the coal, oil, and gas they produce are some of the main drivers of climate change.[1] But instead of pivoting their business models to non-fossil fuel energy sources, companies like Exxon, BP, and Shell spent the following decades casting doubt on climate science[2] and producing disinformation to convince the American public that climate change was uncertain and an energy transition was not necessary.[3] This was the era of climate denialism.[4]

As the consensus around the existence and severity of climate change has become stronger, outright climate denial has become untenable, or at least politically difficult. In the face of that consensus, however, fossil fuel companies have not shifted their business model to one that can mitigate the worst of the climate crisis. Indeed, they merely changed denial tactics. The new era of climate denial minimizes the climate problem, delays the energy transition, promotes false solutions, and leads to ever-receding and ever-eroding climate commitments while the fossil fuel industry extracts even more coal, oil, and gas from the earth. As Dr. Genevieve Guenther writes in *The Language of Climate Politics*, the narrative of this new form of climate denial follows this kind of rhetoric:

> Yes, climate change is real, but calling it an existential threat is just alarmist—and anyway phasing out coal, oil, and gas would cost us too much. Human flourishing relies on the economic growth enabled by fossil fuels, so we need to keep using them and deal with climate change by fostering technological innovation and increasing our resilience.[5]

In this report, we find striking overlap between this general message of climate disinformation and the specific principles underlying Princeton's approach to climate change, including the narratives arising from fossil fuel-funded climate research at Princeton. This report contributes to mounting evidence of how universities help fossil fuel companies disseminate a vision of the new climate denial. One report published in September 2024, for instance, finds that "universities are an established yet under-researched vehicle of climate obstruction by the fossil fuel industry."[6]

At Princeton, we see the new climate denial manifest in many ways. We see the University diminish the climate crisis' existential nature through its continued ownership of a fossil fuel company. We see Princeton officials claim that fossil fuels are necessary to economic growth when the former manager of the University endowment claims that "fossil fuels are necessarily part of getting to where the overall economy needs to be."[7] We see the idea that "we need to keep using [fossil fuels] and deal with climate change by fostering technological innovation" when Princeton-produced climate research focuses on ways to mitigate natural gas use—rather than end it—and when researchers recommend carbon capture utilization and storage (CCUS) to enable "the full use of fossil fuels through the energy transition and beyond."[8] Princeton's unofficial motto is "in the nation's service and the service of humanity." In reality, the University helps serve the narratives of the new climate denial.

The ideas contained within this new denial would not be so harmful if they were correct.

But, as Guenther writes, these narratives are "designed to foment the incorrect and dangerous belief that the world does not need essentially to stop using fossil fuels—either because climate change won't be that destructive or, in some versions of the story, because the world can keep using coal, oil, and gas and still halt global heating anyway."[9] As you read this report, keep this in mind. Many of the things that Princeton and leading researchers who collaborate with fossil fuel companies do would be acceptable, or, in fact, productive *if* they were in line with scientific consensus from the international community. But this is not the case: as this report demonstrates, the expectation of indefinite fossil fuel use is significantly out of step with the climate research consensus and understanding of what is necessary to avoid the worst of the climate crisis.

This consensus finds that climate change is an urgent and, as has been repeated time and again, existential threat to human and non-human survival on the planet.[10] Mitigating its worst impacts is going to require reaching net zero emissions as soon as possible.[11] Recent science shows that we are on track for 3 degrees C of warming by 2100 without aggressive decarbonization[12] — a temperature at which it is likely that the whole East Coast of the U.S. and much of its North, all the way to California, would warm so dramatically that for three months out of the year, just being outside would put you at the risk of severe injury or death.[13] The climate crisis also manifests in the form of devastating wildfires,[14] unprecedented floods,[15] and rising sea levels that threaten to submerge entire cities.[16] It is a crisis that affects both the rich and the poor, the global North and the South, but hits people hardest who live in low income communities and communities of color, especially in the Global South.[17] These are communities who have contributed the least to the climate problem yet are the most at risk due to centuries of colonization and economic exploitation– in addition to geographic vulnerability.[18]

The Princeton university community has not been spared from the beginning of the crisis. Last summer, our campus was shrouded by smoke from incinerated Quebecois pine trees, smoke that turned the sky a burning orange. Outdoor workers on and off campus were hit hardest amid a fragmented safety response effort, left unprotected by a dearth of federal safety regulations.[19] Floods nearby destroyed transport infrastructure and made it harder for our community members to come to campus to work or to learn.[20] Scorching temperatures at the start of each fall semester make it difficult to think.

As the scientific community has repeatedly warned, the window to mitigate the worst effects of climate change is closing rapidly. This moment demands courage, vision, and unwavering commitment to the greater good. It demands universities embrace their role as leaders in the global fight for a livable future. Only by rejecting the fossil fuel industry's deception can Universities like Princeton ensure that our generation and the ones that follow inherit a world that is not only livable but thriving—a world where the pursuit of knowledge is in harmony with the care for and repair of our planet.

A NOTE ON REPORT STRUCTURE AND SCOPE

This report examines the fossil fuel industry's most significant ties with Princeton University, how those ties violate the University's values, and why they must be severed. We strive to provide accurate and fair information as to these ties. However, we will not hide the fact that the authors of this report are deeply concerned about the climate crisis and are skeptical about fossil fuel com-

panies' good faith in efforts to address it. We feel that this skepticism is earned, given the decades of fossil-fuel company disinformation as well as the current, professed intent of many companies to continue using high levels of fossil fuels detailed in this report.

A core sustainability principle of the University is that "Princeton's most meaningful [sustainability] efforts will come from its research [and] the education of its students."[21] Accordingly, the bulk of this report (Section 1) focuses on how oil and gas companies fund research at Princeton to help sustain their legitimacy and promote their business models. The section spotlights BP's funding of CMI, a relationship that the company uses to promote natural gas.

Section 2 examines the University's endowment and financial activities, highlighting the funds Princeton continues to invest in fossil fuels, and other sources of revenue from fossil fuel activity including a fossil fuel company that Princeton has, and likely continues to, own.

Many potential venues for fossil fuel activities, such as recruiting events, conferences, awards, and governance positions, were left unstudied due to time constraints. Examining such areas in future work may provide further relevant information. This report is also limited in the number of companies examined. While the fossil fuel industry is composed of thousands of drillers, pipeline companies, distributors, importers, refinery operators, and other corporate entities, this report examined the influence of only a few key players at the University. In the Research section, for instance, only five oil and gas companies (BP, ExxonMobil, TotalEnergies, Syncrude, and Shell) were studied.

Despite its limitations in scope, this report provides a broad overview of the fossil fuel industry's presence and influence at Princeton. It is our hope that the report helps inspire the University community to advocate for a fossil free future, at Princeton and beyond.

Research

From 2013 to 2023, a handful of influential fossil fuel companies and industry groups spent over $43 million on Princeton research (See Appendix 2). Oil and gas companies have formed close relationships with Princeton academics and programs, with at least once fossil fuel company having an office on campus with an employee in residence for years.[22] The following section discusses the impact of this funding on Princeton's scholarship, and on broader climate policy discussions.

Fossil fuel companies benefit from funding University research in three main ways. Funding helps the companies 1) shape the climate conversation to ensure the perpetuation of fossil fuel business models across the energy transition, 2) greenwash their image, and 3) gain insider access to the environmental research community.

"A recent study published in Nature Climate Change showed that university-based energy research institutions that receive fossil fuel industry funding report more favorably on fracked gas than on renewables, especially in communications that specifically mention fossil fuel companies."

1) Steering the conversation on climate change and its solutions

By providing funding to research on climate solutions, fossil fuel companies gain a degree of control over the direction of that research. While these companies used to fund outright climate denial,[23] they now leverage institutions like Princeton to steer the climate conversation towards their priorities. This is known as "sponsorship bias," or "the funding effect." While funding is not the only indicator or cause of bias, it has consistently proven to be a contributing factor. In one recent study, researchers concluded that corporate interests tend to affect the earliest stages of the research process, when investigators are deciding which questions to pursue and how to frame issues in their fields. The most well-known case of this is the tobacco industry's funding of medical and scientific research.[24] Research funded by oil and gas corporations is no exception.[25] The fossil fuel and tobacco industries even used some of the same researchers and public relations companies to craft their messages.[26]

As the following section will demonstrate, although they may not directly influence the results of funded research, fossil fuel companies are able to influence which questions researchers ask and what subjects they investigate. They devote money towards researchers studying topics like "low-carbon" natural gas or carbon capture and storage, while withdrawing money from researchers less friendly to their interests, in order to divert money, attention, and intellectual resources away from renewable solutions that might threaten fossil fuel dependency. This happens at Princeton's BP-funded CMI, as discussed below.

In some cases, the link between fossil fuel funding and university communications is starkly evident. A recent study published in *Nature Climate Change* showed that university-based energy research institutions that receive fossil fuel industry funding report more favorably on fracked gas than on renewables, especially in communications that specifically mention fossil fuel companies.[27] Institutions that do not receive fossil fuel industry funds show the opposite, presenting a more neutral sentiment towards gas and reporting more favorably toward renewable options such as solar and hydroelectric power.

In other cases, fossil fuel companies influence universities' messaging in more subtle

ways.[28] Regardless of how this influence manifests, the funding effect allows for the fossil fuel industry to influence research agendas to investigate topics that can contribute to the continued or expanded use of fossil fuels.

2) Funding to greenwash

In addition to shaping the climate conversation toward fossil fuel industry objectives, research partnerships with well-reputed academic institutions legitimize and greenwash fossil fuel companies,[29] making them appear as eager advocates[30] of climate action despite their scaled back renewable investments and their lobbying against climate legislation.[31]

"'The fossil fuel industry strategically partners with universities to lend an aura of credibility to its deception campaigns.'"

As stated in a report on fossil fuel misinformation campaigns assembled by the House Committee on Oversight and Accountability, "today's climate denialism centers on greenwashing industry commitments that purport to address climate change." Today, the fossil fuel industry adopts public pledges to move away from oil and gas extraction even as it continues to advance anti-climate action agendas.[32] Fossil fuel companies tailor their narratives in an attempt to convince the public that they engage in sustainable practices. For example, BP worked with a self-described "reputation management firm"[33] to refine its narrative about its role in the energy transition.[34]

When fossil fuel companies are able to publicly state that they fund climate initiatives at prestigious academic institutions, it entrenches their social license to operate.[35] Social license should be earned through trust and confidence that a company will make good choices and follow through with its promises. Fossil fuel companies, however, have transformed it into a transactional commodity, buying community acceptance and "green credibility" by sponsoring sports, arts, and climate research.[36]

As encapsulated in the House Committee report, "The fossil fuel industry strategically partners with universities to lend an aura of credibility to its deception campaigns." By receiving fossil fuel funding for climate research, Princeton actively participates in this lending of credibility.

3) "Valuable intel": Gaining Insider Access to the Environmental Research Community

Fossil fuel companies receive direct access to insider information with the environmental research community and policymakers. Fossil fuel funders often interact with the researchers they fund, for example, at the annual CMI-hosted conference to which BP officials are invited. In many cases, industry funders form close working relationships with researchers through conferences, honors, and awards. These bonds connect researchers to fossil fuel priorities and give fossil fuel companies a useful window into the environmental research community.

This can affect the direction of research: applied researchers need a way to decide which topics to research now to produce applications that will be relevant in the near future. One way to do this is for industry to inform researchers as to where the market, or their individual companies, are moving and what questions are relevant to those decisions: in one example, a Colorado School of Mines researcher who received ExxonMobil funding for his lab explained that some research institutes value exactly this — sponsors who inform academics of market needs.[37]

This bridge between academics and fossil fuel company employees goes both ways, also giving fossil fuel companies a way to discover what the environmental community is interested in order to adapt their messaging — although not necessarily their actions. In one email, Robert Stout, former vice-president and head of regulatory policy and advocacy for BP, wrote that "[climate academics and BP employees] do not always agree on matters of policy, but we do get valuable intel on the evolving perspectives and priorities of the environmental community and are able to tell the story of what we are doing and why in a more personal and compelling way. In return they are able to give us valuable input on our strategies and messaging."[38]

Fossil fuel companies also seek access to policymakers and influential thought leaders, and BP's partnerships with Princeton's CMI give the company a throughline to senior government officials with influence over national and international policymakers: in another email, Stout wrote that "relationships [with Princeton, Harvard, Tufts and Columbia] are key parts of our long-term relationship building and outreach to policy makers and influencers in the US and globally."[39]

Dissociation at Princeton

Informed by some of the problematic consequences of relationships with fossil fuel companies described above, Princeton's Board of Trustees took action to dissociate from (cutting research funding ties with) coal and tar sands companies.[40] Following guidance from a faculty panel convened by the Board, the University dissociated from 9o coal and tar sands companies. Since 2022, it has refused to engage in relationships with over 2,300 companies (of which only 29 were active on Princeton's campus in the recent past). However, Princeton's dissociation remains incomplete, because the Board has not followed through on an earlier recommendation to cut ties with fossil fuel companies that do not have credible decarbonization plans, as well as a commitment it made to dissociate from companies which have engaged in climate disinformation campaigns.

The Board's narrow scope of dissociation has left a number of oil and gas research partnerships untouched, such as BP's relationship with Princeton's largest climate research group, the Carbon Mitigation Initiative, discussed below.

Although campus groups like Divest Princeton and other supporters of divestment called for complete dissociation from the entire fossil fuel industry, the Board of Trustees initially proposed dissociation to encompass only companies that met one of two potential criteria: (1) significant operations in the most polluting fossil fuel sectors (thermal coal and tar sands) or (2) engagement in disinformation campaigns.[41] The Board linked each of these to a "core mission" of the University; particularly destructive extraction violates the University's "commitment to sustainability," and the spread of climate disinformation violates its "truth-seeking mission." These two criteria would have made Princeton's dissociation standard one of the strongest in the country, even if they did not account for other critical metrics such as new development of fossil fuel reserves and Scope 3 emissions from fossil fuel use. However, the Board did not implement the criteria fully, leaving dissociation incomplete and its position inconsistent with stated University values. The statement and the implementation of each criteria are explained below.

THERMAL COAL AND TAR SANDS

The thermal coal and tar sands sectors have some of the highest emissions intensities among fossil fuel operations, which the Board takes as a violation of its core environmental values.[42] The Board pledged to dissociate from companies with operations in these sectors surpassing the cutoffs seen in Table 1.

This is a strong step toward a robust dissociation policy – but there remains more to do. Indeed, dissociation using this criterion was framed by the Resources Committee, the University body charged with studying fossil fuel divestment, to be a first step of many: a short term action that could be taken "quickly" while the University worked out a longer-term approach for evaluating more comprehensive dissociation. The

FOSSIL FUEL SECTOR	DISSOCIATION STANDARDS
THERMAL COAL	Coal producers: Companies with either a ≥10% share of revenue from coal production or producing ≥5 million tons of coal per year. Power plants: Companies with either a ≥10% share of revenue from coal-fired power plants or with ≥2.5 GW installed coal power generation capacity.
TAR SANDS	Oil producers: Companies producing ≥20 million barrels of oil equivalent per year from tar sands. Oil refineries: Companies processing ≥20 million barrels of oil equivalent per year of crude oils from tar sands.

Table 1. Dissociation criteria set out by Princeton's Board of Trustees.

Committee recommended that in the longer term, the Board should "establish criteria for conditional dissociation from fossil fuel companies that have not undertaken an acceptable path to achieve carbon neutrality, as guided by scientific recommendations."[43]

When the Board convened a Faculty Panel of experts to study dissociation and make recommendations, the Panel concurred with this part of the Committee's report. It wrote that Princeton's "environmental core value" may be jeopardized by its connections with certain fossil fuel companies, and that this potential violation of values "can be assessed by examining the company's public commitments to achieve net-zero emissions by 2050, along with credible milestones to track progress."[44] While dissociation from the highest emitting sectors of the fossil fuel industry may have been an immediate action that the Board could take, the Faculty Panel also proposed this type of evaluation for a longer-term dissociation policy that would do more to protect University values.

Both entities that the Board charged with considering fossil fuel dissociation — the Resources Committee and the Faculty Panel — recommended that the Board evaluate companies for dissociation based on those companies' decarbonization commitments and actions. They presented a more comprehensive understanding of the University's "commitment to sustainability" beyond simply dissociating from companies with significant engagement in the most polluting sectors. The Board has yet to act on these recommendations. However, now that Princeton has implemented the short-term recommendations from the Resources Committee and Faculty Panel, the time is ripe to move to the next steps outlined by these two entities.

DISINFORMATION CAMPAIGNS

The Board of Trustees initially stated that disinformation campaigns operated by fossil fuel companies are not aligned with Princeton's "truth-seeking mission," and would therefore be grounds for dissociation.[45] The report published by the Faculty Panel defines disinformation as a consistent and sustained set of communications coming from "an agent communicating with the intent to mislead."[46] Such disinformation campaigns include efforts by the fossil fuel industry to deny the climate crisis or to delay solutions to the crisis.

Tasked with generating a report on "metrics

and standards" for actionable criteria for dissociation, the faculty panel proposed a semi-quantitative approach to evaluate disinformation and created a clear scorecard rubric to allow the Board to determine if a company's public communications meet the standard that they lay out. For example, on the scorecard, allegations of greenwashing for a company would trigger an automatic review from Princeton to examine the company's practices. In such a case, the panel notes that "the burden of proof" would lie on the accused company to show it has not participated in spreading disinformation.

In its report, the panel raised no concerns that the bar for determining what is disinformation might be too high, or that dissociation because of disinformation would be inappropriate. Indeed, the report even cited a specific example of what corporate greenwashing looks like and how it would be evaluated in the scorecard. The panel also suggested that the Board of Trustees could start the dissociation process by evaluating a few fossil fuel companies according to their rubric and posting their evaluation publicly.

Despite the panel's extensive explanation of the metrics and standards it produced, the Board rejected those standards on the grounds that they were not "quantitative" enough, and therefore the "exceedingly high" bar for dissociation could not be tested.[47] (This requirement was stated retroactively, as the Board had not previously tasked the faculty panel with generating "quantitative" standards.[48]) Moreover, the Board has given no indication that it followed the Panel's recommendation to evaluate companies using the disinformation criteria and publicize the results.

In the face of inadequately "quantitative" standards, the Board could have asked the panel to revise its metrics and standards to bring them in line with the Board's desired quantitative specifications, which it had not specified earlier. Such an effort would have aligned with the principle of seeking truth by iterative inquiry. The Board chose not to follow this line of action, at least publicly, and instead used the purported inadequacy of the panel's standards to justify its decision to overlook the disinformation criterion, without indicating it had tested the standards to determine their strength first. By not sending the draft standards back to the faculty panel for refinement, the Board risks straying from its own truth-seeking mission. Indeed, this decision may amount to the Board falling short of its goal to prevent disinformation not because it determined that disinformation was not sufficiently severe an issue, but rather because it deemed such a determination too difficult to tackle despite expert opinion that the determination was possible.

Moreover, the Trustees claim that by dissociating on the basis of disinformation, they would in effect force a consensus on an "unsettled" issue amid a "vigorous exchange of ideas."[49] In other words, they claim that because there is active debate over whether fossil fuel companies have engaged in disinformation, they do not want Princeton to effectively "end" the debate at Princeton through their dissociation decision.

By refusing to evaluate if companies involved at Princeton have spread climate disinformation in the first place, the University chooses *de facto* tolerance of that disinformation and risks jeopardizing the Board's mission to seek truth. The following sections demonstrate why that determination does not consider the true danger of climate disinformation to the University's commitments to sustainability and to truth.

Fossil Fuel Research on Campus

This section finds that a significant portion of fossil fuel-funded papers published by Princeton researchers advance the immediate priorities of the fossil fuel industry rather than long-term decarbonization imperatives.

The following findings detail how fossil fuel companies fund research, how that funding translates into published academic articles, and how those academic articles further the interests of their funders. Of particular note in this section is a focus on the work of the Carbon Mitigation Initiative (CMI), and how it supports BP's operations. Information unveiled by a U.S. House Committee on Oversight and Accountability investigation into fossil fuel misinformation provides an unparalleled view of how BP uses CMI to boost its image and protect its fossil fuel business model.

RESEARCH GRANTS AND FUNDING

From 2013 to 2023, the most recent year of available funding statistics at time of publication, five fossil fuel companies spent over $43 million on Princeton research. In order of funding amount, those companies are BP ($27.5 million), Exxon ($12.8 million), TotalEnergies ($1.5 million), Syncrude ($865,067), and Shell ($394,801), which in this period only started to fund research at Princeton in 2020. BP spent the most of these companies (63.7% of

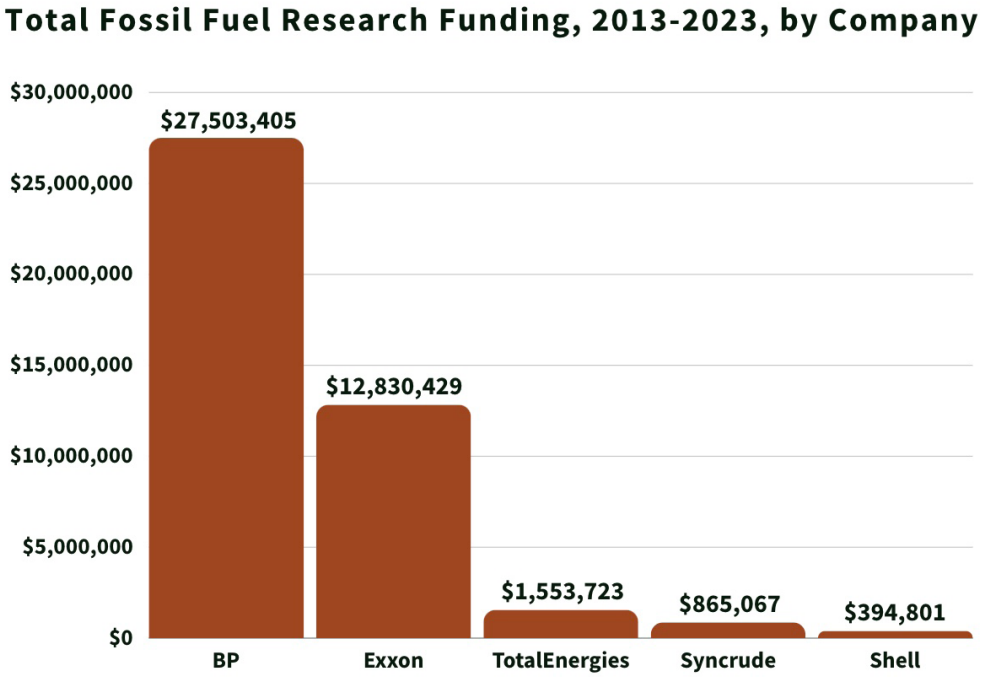

Fig. 1: Fossil fuel funding (2013-2023 total) by company.

the total) through its contributions to CMI.[63] Exxon's funding contributed 30% to the $43 million total through its E-filliates Partnership in the Andlinger Center.[64] Now that Princeton has dissociated from Exxon, its funding amounts are expected to drop to zero in the coming years. See Appendix 2 for more detail.

Figure 2 shows fossil fuel research funding over time, by company. BP has spent more money on Princeton research than the other four companies combined. Since BP increased its funding of CMI in 2022 and 2023, total fossil fuel funding of Princeton research has ramped up despite Exxon's withdrawal of funds following dissociation in 2022.

Finally, University research is also sponsored by organizations and foundations that fund climate denial efforts.[65] These foundations were identified based on a study on US-based climate denial foundations and organizations.[66] From 2019 to 2023, these organizations have contributed over 14 million to Princeton University in research funding (see Appendix 10).

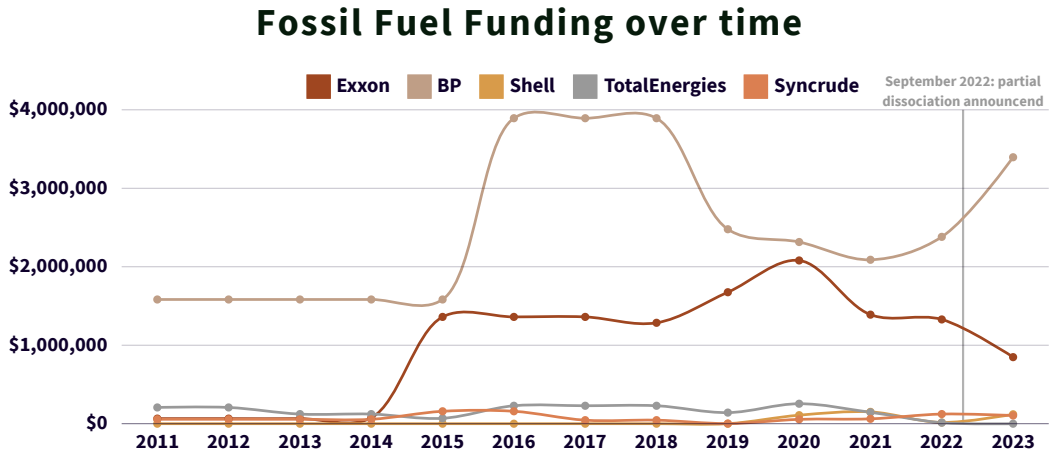

Fig. 2: Fossil fuel funding (2011-2023), by company.

Fossil Fuel Funded Research Papers

Fossil-fuel funding of Princeton research helps produce research that is often favorable to fossil fuel industry interests. In the past five years, five fossil fuel companies have funded 210 Princeton-affiliated papers, many of which are compatible with continued or expanded fossil fuel use. As mentioned above, Princeton has stated that its "most meaningful efforts" to advance sustainability are enacted through University research. The findings below demonstrate that projects funded by fossil fuel companies can be used to support the continued or expanded use of oil and gas.

METHODOLOGY

Research papers funded by the main fossil fuel companies that are active at Princeton were recorded using the Web of Science database, a collection of databases that house publications of prominent scholarly research across disciplines. Web of Science records information on the author and sponsorship affiliations of each publication in its database. For this report, articles published from 2019-2023 were collected that had a Princeton University-affiliated author and received funding from at least one oil and gas company on our list of the top industry funders at the University (Exxon, BP, Shell, Syncrude, TotalEnergies). Affiliated papers published with funding from other major oil and gas companies (e.g. Chevron, Saudi Aramco) were also noted and aggregated in a separate category.

Each of these papers were then evaluated to determine whether they may be used to continue or expand fossil fuel dependence. They were divided into three categories: (1) The paper has an *explicit* application for the continued or expanded use of fossil fuels, (2) The paper has an *implicit* application for the continued or expanded use of fossil fuels and (3) The paper *does not* have an explicit application for the continued or expanded use of fossil fuels.

Papers were categorized as having an explicit application only if their content directly referenced a fossil fuel application, or if an affiliated document (e.g., an annual report of the research institution that published the paper) directly explained how the research would serve the interests of fossil fuel extraction. Papers were considered to "implicitly" enable the continued or expanded dependence on fossil fuels if they researched an area that is of use to fossil fuel companies' current strategies for promoting continued fossil fuel reliance (i.e. methane mitigation for natural gas use, climate risk to oil and gas infrastructure), even if some of the research may be applied to genuine carbon mitigation and eventual decarbonization. If the paper or an official document referencing the paper was unrelated to continuing or expanding fossil fuel production, or did not explicitly reference a fossil fuel application, it was considered to not enable the continued or expanded production of fossil fuels.

The evaluation system was merely a measure of the extent to which a particular paper might cause specific harm - regardless of the

categorization a paper received, all 210 papers in our database were funded by the fossil fuel industry. These companies should not be funding academic research at Princeton given their actions to delay climate action..

Finally, to understand the extent of collaboration between Princeton researchers and the fossil fuel companies for whom they worked, the number of Princeton researchers or research partners who were employed by or otherwise affiliated with the fossil fuel industry was tallied. See Appendix 5 for a detailed account of these findings.

FINDINGS

The top five fossil fuel industry funders (Exxon, BP, Shell, Syncrude, and TotalEnergies) have funded 210 Princeton-affiliated research papers in the last 5 years. The vast majority (123) of these papers acknowledged BP and CMI (funded by BP) as their funding source, followed by Exxon with 82. When including other major fossil fuel companies (Chevron and Aramco), the number of Princeton-affiliated papers increases to 217.

CMI and BP are displayed separately in Fig 3. However, because BP has reported that it funds CMI "in its entirety," funding from CMI is counted as funding from BP.[50] As a result, while the exact funding mechanism of CMI is not publicly available, it is assumed that each paper that lists CMI as a funder receives at least some BP funding.

Of the top 5 fossil fuel industry-funded papers published between 2019 and 2023, 14.8% of the papers contained explicit applications for continued or expanded fossil fuel use, and 12.9% contained an implicit fossil fuel application. When papers funded by Chevron and Aramco are included, the explicit category increases to 15.7%. For example, one 2019 Exxon-funded research paper explored the powder coating and electro-spraying of industrial-scale fluidized beds, vertical vessels that can be used for many types of fuel including oil, gas, and

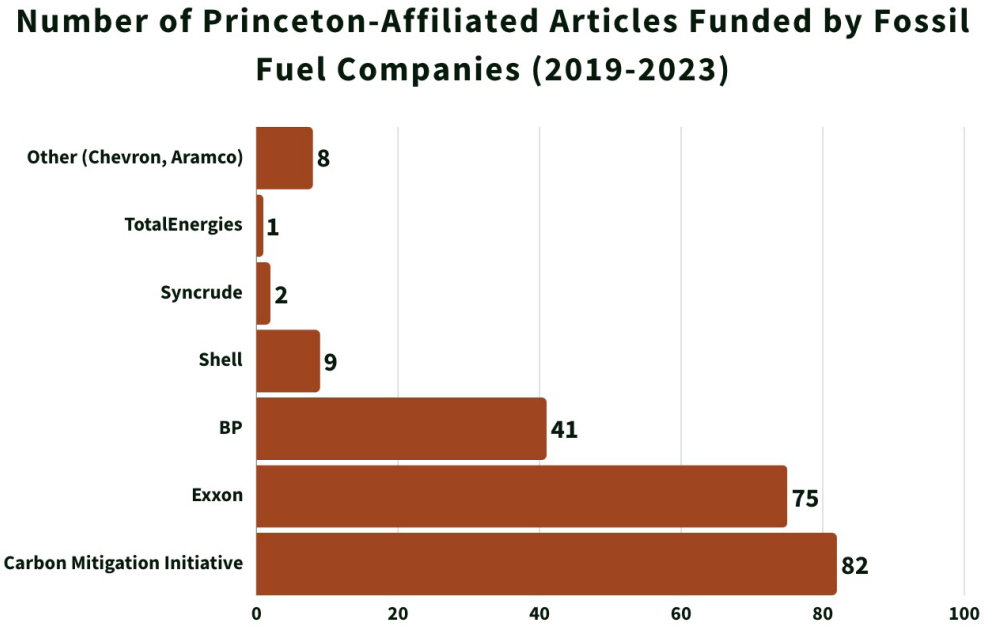

Fig 3: Total fossil fuel-funded Princeton-affiliated articles published from 2019-2023.[67]

coal.[51] More recently, in 2023, BP funded a paper that looked into "the swelling of clay minerals within shale formations during oil and gas exploration."[52] The Appendix lists each paper considered in this report, and an evaluation of the paper (See Appendix 5).

These are conservative estimates, only counting projects that explicitly and implicitly referred to a fossil fuel application. Excluded from both counts were any papers that did not refer to fossil fuel applications or were not referenced directly in an affiliated document. For example, it does not include a paper that analyzed cyclone frequency and was referenced in the 2023 CMI annual report[53] as key to "building strategies to mitigate their damages for the public and private sectors," despite other papers on the same topic being explained as directly beneficial to BP in previous reports: the 2021 annual report explains that "BP has long been interested in tropical cyclone risk because of the vulnerability of its coastal and offshore infrastructure." Papers on tropical cyclones associated with that 2021 report were designated as enabling the continued or expanding production of fossil fuels, but not the paper from 2023, as it was not directly referenced in a report. Had the count used a less conservative metric and included papers that likely involved an application to support continued or expanded fossil fuel production, over half of the papers studied would have such a focus.

The remaining roughly three-quarters of the research projects included neutral applications (i.e. the carbon cycle, ecosystem and species research, geologic research). A minority of the papers (less than 10%) that could be explicitly applied to reduce fossil fuel reliance (i.e. research into solar energy and implementations of an energy transition).

In conclusion, then, more of the University's papers that are funded by the fossil fuel industry have supported continued or expanded fossil fuel reliance than have explored strategies or technologies to reduce that reliance.

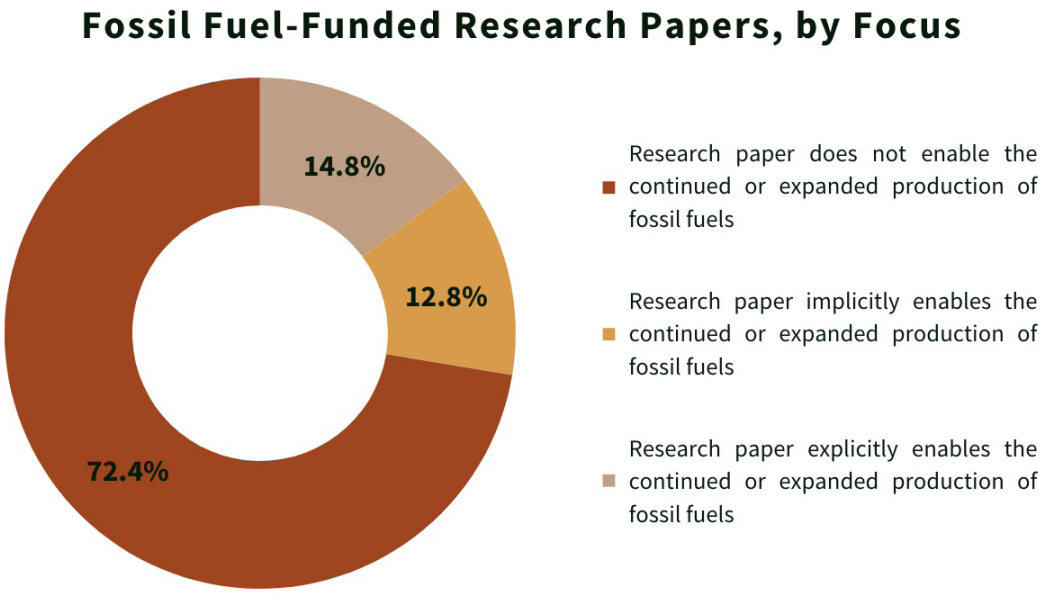

Fig. 4: Fossil fuel funded research project classifications by percentage.

RESEARCH AUTHOR CONFLICTS OF INTEREST

Many of the contributing authors of many fossil fuel-funded papers were employed by or had ties to the fossil fuel industry outside of the research project in question. These ties include having worked for, been on the board of, or been otherwise affiliated with an oil and gas corporation at any point throughout their career. Approximately 21% of the projects included researchers who had such industry ties. Some were still affiliated with a fossil fuel company at the time of carrying out the research.

For example, one researcher was employed by BP[54] during the time they published research on tropical cyclones with a Princeton professor at CMI.[55] Similarly, another researcher who serves as Chevron's Chief Environmental Engineer[56] collaborated on Chevron-funded research with Princeton professors.[57] And the previous longtime Director of CMI[58] served on BP's Energy and Sustainability Challenge (ESC) while working at CMI.[59] Furthermore, many Exxon employees worked on Exxon-funded projects alongside Princeton researchers as part of the company's research partnership at Princeton.[60]

When considering only the 45 projects with fossil fuel affiliated researchers, papers with explicit reference to fossil fuel industry applications increase to 21.4%, and none could certainly be used to decrease fossil fuel dependency. This is in contrast with the aforementioned 14.8% of research out of the overall documents with explicit fossil fuel industry applications. Projects with fossil fuel authors were more likely to focus on research with explicit applications for the fossil fuel industry.

Sometimes, financial ties between oil and gas companies and research are not counted as potential conflicts of interest, , even in papers that are explicitly skeptical of the possibility of ending fossil fuel use. A BP-funded

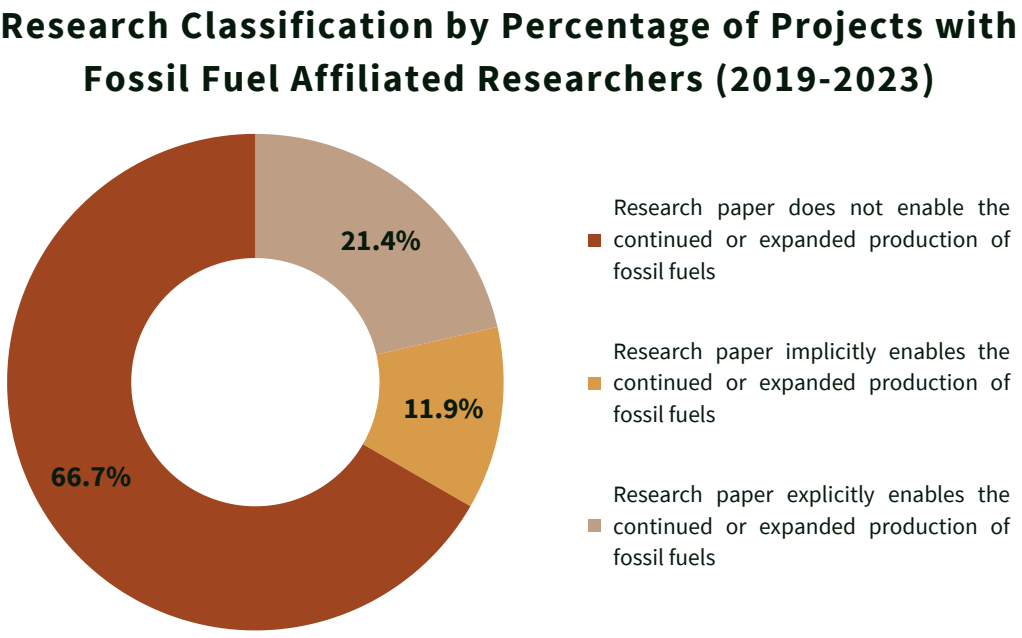

Fig. 5: Fossil fuel funded research classification with fossil fuel affiliated researchers by percentage.

2023 journal article by a group of Princeton researchers, for instance, found that "[a]lthough electrification of end uses coupled with decarbonization of the power sector is widely regarded as a linchpin for achieving net-zero economies, it is difficult for a society to function on electricity alone as a final energy carrier."[61] This assertion is based on a paper which itself is heavily influenced by the fossil fuel industry: the acknowledgments section of the latter paper states that "[m]any of the concepts in this review were researched, developed, or otherwise improved while working on contracts for the Canadian Industrial Gas Users Association."[62] Here, no conflict of interest is declared.

Moreover, dozens of articles since 2019 list CMI as a funder without acknowledging BP at all (see Appendix 5). This gives the research the appearance of independence from fossil fuel funders, even though much of it is ultimately funded by BP.

The following section will expand upon BP's long-standing relationship

Spotlight: The Carbon Mitigation Initiative

"CMI's relationship with BP exemplifies the harmful influence fossil fuel companies can have on academic research and public policy debates around solutions to the climate crisis."

The Carbon Mitigation Initiative (CMI), which aims to bring together "scientists, engineers and policy experts to design safe, effective, and affordable carbon mitigation strategies," is Princeton's "largest and longest-term industry partnership."[68] It was launched in 2000 in partnership with BP and Ford Motor Company, although Ford no longer funds the Initiative. According to BP, the company currently funds CMI "in its entirety."[69] The company spends over $3.3 million a year on CMI, a fraction of its $298 million annual R&D budget in 2023 (see the above section for a detailed breakdown of BP's annual spending on CMI).[70] CMI's relationship with BP exemplifies the harmful influence fossil fuel companies can have on academic research and public policy debates around solutions to the climate crisis.

BP is one of the largest companies in the oil and gas industry. Recently, the company has advertised an attempt to embed "sustainability in the way we do business and across our strategy [in a way that] sets out our aims for getting to net zero, improving people's lives and caring for our planet."[71] This has involved exploring alternative energy technologies like carbon capture and renewables.

But BP's actions contradict its advertised commitment to a clean energy transition. In the summer of 2020, BP pledged to both reduce its oil and gas production by 40% and upstream emissions by 35-40% by 2030.[72] However, it recently reversed this pledge: In 2023, BP's chief executive Bernard Looney announced that BP now expects oil production in 2030 to be just 25% lower than it was in 2019, and upstream emissions to decrease by 20-30%.[73]

Observers note that these changing commitments align not with the urgency of climate science, but rather with the profitability of oil and gas. BP's commitment to greener energy in 2020 was made during a year of especially low profits, with the company reporting a record loss of $18.1 billion.[74] Its reversal came after a period of soaring oil profits associated with Russia's invasion of Ukraine:[75] in 2022, BP reported a record annual profit of $27.7 billion,[76] and their 2023 annual profit, $13.8 billion, was the second highest in a decade.[77]

Despite its changing commitments, BP has been portrayed by CMI as a climate leader. The CMI web page characterizes BP as "a world leading international oil and gas company that is executing a strategy to become an integrated energy company."[78] BP sees this portrayal by Princeton and CMI as essential to its credibility. CMI is positioned as a "core programme" in the company's communications campaign strategy.[79]

The following findings reveal (1) how BP conditions its funding of research at institutions like CMI based on cooperation from researchers and researcher alignment with its vision, (2) how CMI helps BP

advance company messaging on natural gas, and (3) how CMI's relationship with BP brings additional benefits to the company.

BP CONDITIONS FUNDING ON RESEARCHER COOPERATION

BP spends money on climate research when that spending is an investment that advances company priorities. At the same time as BP funds CMI, it also directs money to climate programs at Harvard and Tufts that focus on climate policy complementary to CMI's technical work. But a subpoenaed memo from 2016 revealed that BP expanded its CMI partnership while reducing their investment in programs at Harvard and Tufts because "CMI discussions are directly relevant to BP," more so than discussions at other universities, and because other partnerships "are directed by the Universities" that could exert a greater degree of control over the partnerships. Princeton's research served BP's interests better; thus, BP found it harder to "obtain more value" from Tufts and Harvard when compared with CMI at Princeton.[80]

Therefore, in 2016, BP decided to reduce its funding of Harvard and Tufts' programs from a combined $915,000 per year to a maximum of $400,000 for Harvard and $200,000 for Tufts in 2016. In addition, BP narrowed the focus of the Harvard program to more tightly focus on "climate policy and geopolitics."[81]

BP also practices this method of influence on a smaller scale, giving more support on a case-by-case basis to researchers or professors working on projects favorable to the company's interests and less to projects–or researchers–that the company finds less useful. For instance, the memo also notes that BP experienced "personality" issues with a Harvard professor, and, to resolve this, wrote that it intended to create a "lesser role" for the professor and a "larger role" for other researchers with whom the company did not have such personality issues.

These stories show how the company influences the climate research agenda by choosing which researchers to fund. In these examples, BP did not ask researchers it funded to alter the *findings* of their research to fit BP's priorities. Instead, BP merely cut funding from researchers whose work did not align with its priorities and whose university affiliations impeded BP's influence, and expanded focus towards researchers who produced scholarship that did. In other words, BP encourages what it sees as "relevant" research not by influencing the studies directly, but rather by choosing what kind of research is conducted versus what kind is not, as well as who conducts that research.

BP'S CLIMATE PROBLEM AND SOLUTION

What might research that is "relevant" to BP look like? That depends on how BP—and each of its research partners—define the relationship between BP and the climate crisis. Internal documents show that this is another reason why CMI is such a valuable asset to BP, as compared to programs at Harvard and Tufts. CMI's Princeton co-founders, Professors Stephen Pacala and Rob Socolow accepted industry framing of the relationship between BP and the climate crisis. They focus on the effects of the climate crisis and related policy on BP and place the importance of continuing BP's "core programme" of fossil fuel extraction within their vision of the energy transition.

One example of this can be found in the figure below, a slide from a 2016 presentation to BP by Pacala and Socolow, which

outlines the risks of the "climate problem" that could "disrupt BP's core business."

"Rather than transition its 'core business' (fossil fuel production) to new energy technologies in response to 'effective climate policies,' BP instead decided to launch a coordinated campaign to 'advance and protect the role of gas–and BP–in the energy transition.'"

Here, CMI's founders imply that the "climate problem," specifically for BP, is not just about the climate crisis, listed in the third and last bullet in the above slide. Instead, their focus is on *transition risks*, explained by the EPA as risks "associated with the pace and extent at which an organization manages and adapts to the internal and external pace of change to reduce greenhouse gas emissions and transition to renewable energy."[82] Transition risks themselves are important to think about, especially for companies (like BP) that are currently reliant on fossil fuel extraction. But note the way that the CMI founders talk about these risks — it is very different from the EPA's framing, which notes that the risk is in *companies* not adapting, or not adapting fast enough, to the *necessary* energy transition. Instead, the CMI founders frame the risk as "disruptive new energy technology" and "effective climate policies." The problem, in CMI's framing, is not the company's lack of adaptation—it seems to be that the energy transition to renewables itself might threaten BP in its continued pursuit of fossil fuel extraction.

Rather than transition its "core business" (fossil fuels) to new energy technologies in response to "effective climate policies," BP instead decided to launch a coordinated campaign to "advance and protect the role of gas–and BP–in the energy transition."[83]

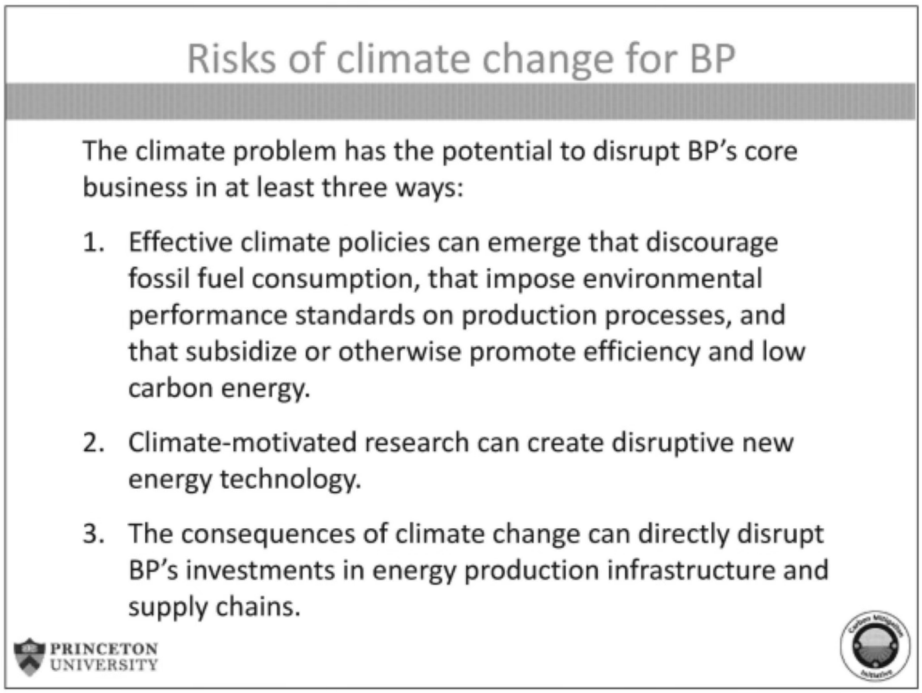

Fig. 6: A slide from a presentation titled "The Challenge of Climate Change," given by CMI founders Steve Pacala and Rob Socolow at BP offices in December 2016.

CMI HELPS BP CONTINUE NATURAL GAS BUSINESS

BP set three objectives in this communications campaign: first, to "explain the benefits of gas as a transition *and* destination fuel;" second, to "address the weakness of gas – demonstrating leadership on [the] methane challenge;" and third, to "position BP as a strong gas player."[84]

These objectives counter the message of scientists and environmental researchers. Natural gas (also called "methane gas") is a fossil fuel. Scientists have warned that methane emissions from gas leaks are likely three times higher than EPA estimates.[85] This fact that largely undermines the case that it is better than coal on emissions metrics.[86] Experts also note that building new gas facilities will extend the lifetime of fossil fuel infrastructure in a way inconsistent with current climate policy goals.[87] Significantly, emerging research casts doubt on the idea that natural gas is cleaner than other forms of fossil fuels like coal. For example, one study finds that the fuel is only marginally less emissive than coal when produced and consumed in the U.S., and when natural gas is compressed and shipped abroad as liquified natural gas, the climate benefits from gas disappear.[88] Another study found that gas systems that have a 4.7% leakage rate emit around the same amount of methane as coal mines–and that leakage rates go from 0.65 percent to 66.2 percent of gas production in the U.S.[89]

BP is aware of these flaws. In December 2019, a lobbyist emailed a BP executive an article finding that methane emissions from natural gas minimize the fuel's climate benefits. The lobbyist noted that "This is an issue that will not go away."[90] In response, the executive forwarded the email, writing, "It is quite concerning to us as another blow against natural gas." Nevertheless, the company has consolidated the company strategy around promotion of gas. In a 2017 Quarterly Performance Review, they listed one goal as "prevent[ing] further erosion of near-term support for gas versus other fuels, protect[ing the] role of gas as a bridge fuel, and position[ing] gas a destination fuel for the long term"[91] This is despite the the "erosion of support" stemming from scientific findings that gas is far more polluting than previous estimates and perhaps even being worse for the climate than coal.[92] While BP recognized the potential for gas to be used as a destination fuel in a decarbonized world, BP executive Robert Stout acknowledged the risks to BP's image if it publicly stated as much, given the known downsides of gas. "We would not want to spell all this out, but also not implicitly concede the point by referring to it mainly as a 'bridge,'" he wrote in 2017.[93] In other words, BP officials recognized that its strategy to position gas as a destination fuel would be politically unpalatable. Given the growing consensus around the downsides of natural gas, it would have to pursue such a position without "spell[ing]" it out to the public.

To win the narrative on natural gas against the growing scientific consensus that it was not a viable destination fuel, BP's campaign involved four strategies: (1) creating pro-gas "content," including academic publications, (2) demonstrating "credibility" by addressing "pros and cons" of gas, (3) engaging decision-makers and those who inform them, and (4) making sure that there was consistent pro-gas news.[94] CMI has factored into three of these strategies.

STRATEGY 1: "CREATING CONTENT TO DRIVE THE CAMPAIGN"

BP's first strategy to win the narrative on nat-

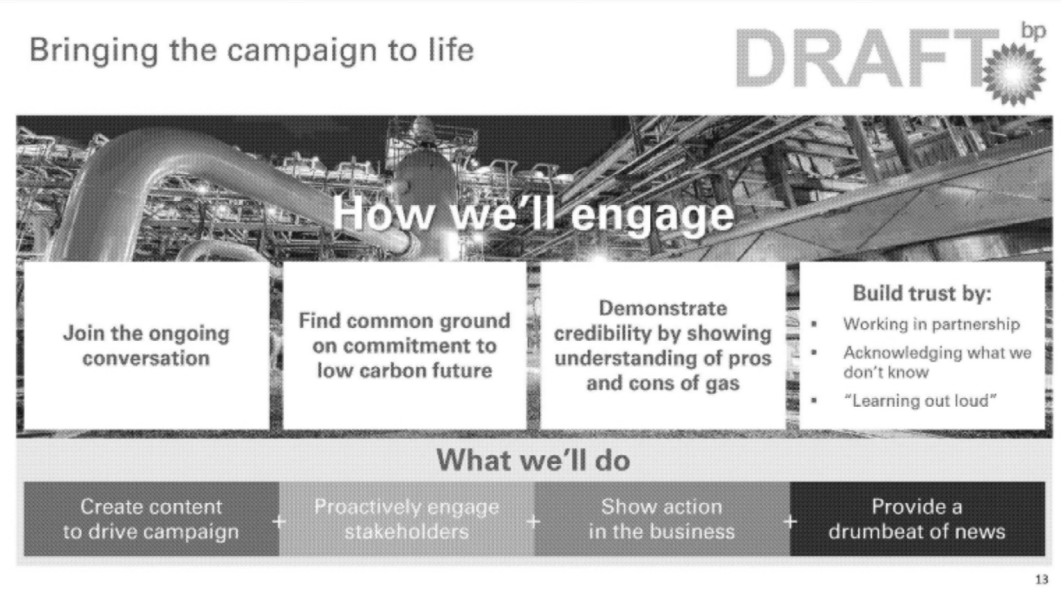

Fig. 7: An image from an internal "communication campaign framework" describing the four pillars of BP's gas promotion campaign.[145]

ural gas was to create pro-gas content that BP could then disseminate to influence public and stakeholder opinion. CMI participates in this "agenda-setting" content because, as a BP presentation concludes, the Initiative allows BP to "publish independent data on methane" that would demonstrate BP's awareness of the pros and cons of natural gas.[95]

"Brunswick Group singled out Princeton's CMI. The company identified CMI as a 'core programme' to help BP demonstrate its seriousness on the so-called 'methane challenge'"

Part of BP's credibility-building on climate lies in acknowledging the downsides of gas. The biggest downside is methane: 70-90% of natural gas is methane,[96] and methane leaks make up its most significant source of emissions.[97] A public relations firm hired by BP to devise the communication campaign, Brunswick Group, called methane the "Achilles heel of [the] gas case."[98] As a result, the company hoped to produce research to "create visibility of BP in a critical gas conversation and authenticat[e] BP's commitment to low carbon."[99] This included research on the methane cycle, which would "demonstrate the seriousness of BP's intent" to take action on methane.[100]

Brunswick Group singled out Princeton's CMI. The company identified CMI as a "core programme" to help BP demonstrate its seriousness on the so-called "methane challenge" by publishing articles on the methane cycle.[101] CMI's Wetland Project (which has previously gone under the name of the "Methane Project") contributes to CMI's work on the methane cycle in a way consistent with BP's goal for methane research.[102] The research program began in 2017, the same year that Brunswick Group presented its communications strategy program to BP, and supports three projects that investigate the methane cycle: one focusing on wetland methane emissions, and two modeling "sources, sinks, and variations of methane associated with land and atmosphere."[103] In a progress report on BP's "Integrated Methane Plan," Princeton's wetlands research is described as a "strat-

egy" towards BP's methane messaging.[104]

And while BP noted in its plan that this was intended to "make meaningful contribution to [the] world's understanding of the methane issue," it was also explicitly part of a public-relations campaign to depict the company as a climate leader despite the company's scaling back of its climate goals. As CMI produced research, BP prepared to "package" the research as media content to authenticate its "commitment to low-carbon."[105] Thus packaged, this "independent data" on methane allows BP to move forward with its second strategy, stakeholder engagement, discussed below.[106]

CMI also produces research on another subject integral to BP's gas campaign: a technology called carbon capture, utilization, and storage (CCUS). Research on CCUS (sometimes referred to as carbon capture and storage, or CCS, when excluding utilization technologies) complements work that minimizes the issues with gas. As a result, BP has promoted CCUS as a means to mitigate those issues. Again, CMI research is useful to the company in this endeavor.

Carbon capture involves trapping carbon dioxide and storing it in such a way that it no longer interacts with the atmosphere. Reports by the Intergovernmental Panel on Climate Change affirm that CCUS will play a role in decarbonization, and it is typically recommended that CCUS be used to reduce emissions from sectors that are both critical and tricky to decarbonize, like cement or steel production.[107]

However, many researchers have warned that carbon capture should not be used to avoid a phasedown of fossil fuels. For example, the Institute for Energy Economics and Financial Analysis (IEEFA) has warned that "using carbon capture as a greenlight to extend the life of fossil fuels power plants is a significant financial and technical risk."[108] In addition, a United Nations Framework Convention on Climate Change (UNFCCC) panel stated that "Engineering-based removal activities… do not contribute to sustainable development, are not suitable for implementation in the developing countries and do not contribute to reducing the global mitigation costs."[109] It would also account for very little of the world's carbon mitigation by 2030[110] even if its full potential were realized, and not a single CCUS project[111] has ever reached its target CO2 capture rate.

Indeed, today, carbon capture technologies are often used not for capturing accumulated greenhouse gasses in the atmosphere but instead for "enhanced oil recovery," a process through which captured CO2 is injected into oil wells in order to extract more gas from the ground (this is the "utilization" part of the CCUS acronym).[112] Notably, a significant amount of carbon dioxide sequestered in this way leaks back into the atmosphere.[113]

"Out of public view, one of CMI's founders recommended that oil and gas companies like BP should 'understand the potential for CCS to enable the full use of fossil fuels across the energy transition and beyond'"

BP understands that continued reliance on gas, with no offsetting measures, is not aligned with a climate-safe future. In 2017, then-BP CEO Robert Dudley wrote, "once built, gas locks in future emissions above a level consistent with 2 degrees [of global warming]." But he added: "at least without CCUS." BP sees CCUS as the "only technology that could enable continued large-scale use of fossil fuels in a tightly carbon-limited world."[114] Therefore, BP promotes its investments in CCUS because it understands that the technology

"could help sustain gas demand growth for longer, supporting gas markets, the value of gas and potentially liquid fuels": in other words, it could protect BP's core business.[115]

If BP could convince the public that the emissions from gas could be viably captured and buried underground, then natural gas could become a "low-carbon" or even "net zero" fuel source, and thus could continue to be used in a net zero future. To promote this messaging, it has coordinated efforts to "develop CCS enabling narratives."[116]

Not only does CMI accept BP's CCUS framing, it actively encourages the company to think of the technology as a way to continue fossil fuel activities. Out of public view, one of CMI's founders recommended that oil and gas companies like BP should "understand the potential for CCS to enable the full use of fossil fuels across the energy transition and beyond" – the opposite of IEEFA's finding.[117] The founder wrote in a separate presentation to BP that CCUS is "brimming with commercial opportunity" that the company could exploit. He continues:

> The contribution of fossil fuels to a mid-century low-carbon global energy system will be severely restricted unless CCS for fossil-fuel carbon becomes routine. Fossil-fuel carbon is yours to manage: you found it. And you are the masters of the subsurface: you know best how to return your carbon to locations deep below ground and keep it there.[118]

This tacit endorsement demonstrates the close relationship that has developed between CMI's Princeton researchers and BP. The statement amounts to the researcher giving business advice to a major fossil fuel company that could allow it to continue fossil fuel "contribution" to the global energy system. The professor's recommendation sits at odds with emerging scientific skepticism that carbon capture can reliably offset the negative effects of continued fossil fuel use.

Today, CMI devotes much of its research to exploring CCUS. Three of the 13 current CMI projects investigate CCUS to some extent. Since 2017, at least eight projects have focused on CCUS research (See Appendix 6).

Finally, one of CMI's flagship research studies raises concerns around the influence of BP on the Initiative. The study, Princeton's Net Zero America Report, outlines potential decarbonization scenarios for the United States to pursue, and has been "widely cited" by the White House as it crafted national climate policy.[119] Funded by BP and Exxon, the Report outlines four pathways (out of five) that involve serious fossil fuel use paired with CCUS through 2050 and beyond. The full Report was not published in a peer-reviewed journal, but rather on a dedicated website[120] (some opinion articles written by the Report's authors about the study have been published in peer-reviewed journals, but not the Report itself).[121] [122] The fact that the full Report did not go through the rigorous peer review process raises the concern that potential partialities contained within the study may have not been caught and addressed before publication.

STRATEGY 2: PROACTIVELY ENGAGING STAKEHOLDERS

Once BP had used its connection to CMI to produce "driving" content that showed positive results for natural gas and seriousness about the problem of methane, it could move onto its second strategy: "proactively engag[ing] stakeholders." To demonstrate its purported seriousness in tackling methane emissions and leading on natural gas, BP hosted "global stakeholder events," including expert roundtables.[123] As described in the above planning

documents roundtables, BP brought together journalists, academics, energy specialists, public policy officials, NGO representatives, and other members of the media to discuss energy issues. The company used these roundtables to disseminate its vision to continue and even expand gas production.

BP leaned on CMI to boost its credibility in these roundtables. In 2017, BP conducted a workshop with leaders in the company's Upstream business and "experts from Princeton University."[124] In 2018, BP hosted a series of expert roundtables "with Princeton" in Washington, D.C. and London.[125] In one roundtable, Dr. Pacala provided a briefing on methane science to the attendees gathered in the room.[126] This demonstrates the way that BP used relationships with scientists to demonstrate its credibility in the conversations.

At one point, the company also planned a keynote speech by a BP executive, and they chose between two different locations to give it — Washington D.C. or Princeton University. Washington has clear advantages, being near the policymakers BP may have intended to influence.[127] Princeton may have been considered because of a different advantage: Princeton's reputation as a world-renowned academic institution may have been intended to boost the credibility of the insights.

STRATEGY 3: PROVIDING A DRUMBEAT OF NEWS

In addition to "managing stakeholders," BP aimed to provide a "drumbeat" of media coverage, to craft a public narrative of its leadership on natural gas as a climate solution. The company sought build "a bank of stories to support all aspects of the campaign" by targeting journalists in different reporting sections, and increasing "visibility and credibility of BP through a series of thought-pieces from high profile, respected voices."[128]

"Robert Stout, BP's then-Vice President, described the Princeton professor as "a big advocate… [for] our case for gas."

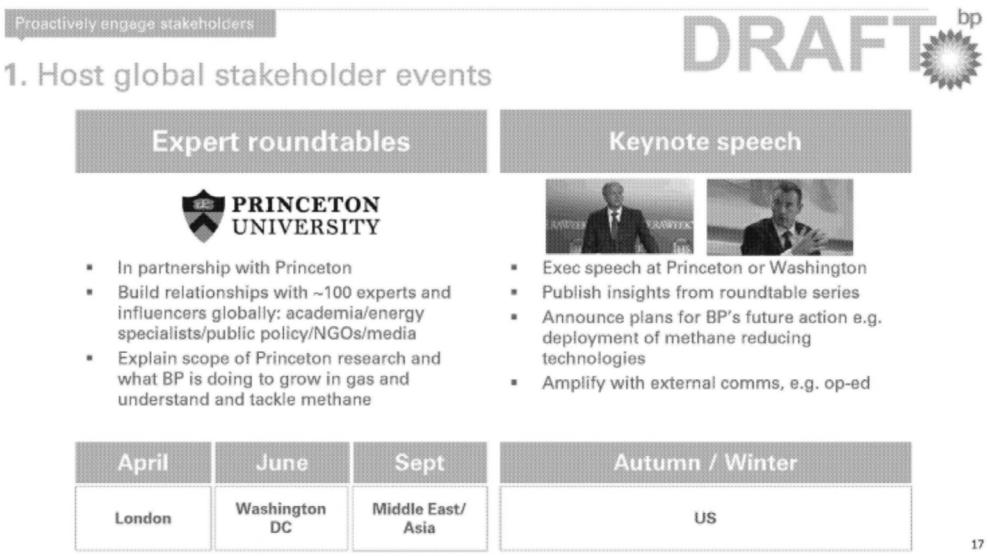

Fig. 8: A BP document highlighting the company's connection with Princeton in order to gain credibility for their expert roundtables.

Once again, CMI played a role in this strategy. One of the three core "high profile, respected voices" BP listed in its campaign plan was CMI founder and Princeton professor Stephen Pacala, because of his research on "tackling methane."[129] BP relied on Pacala's academic reputation and position at Princeton image as it sought to control the media conversation around natural gas, helping the company portray itself as one that cared about methane emissions.

Pacala has been an outspoken supporter of BP's policy since the campaign was launched, and even before the launch. Robert Stout, BP's then-Vice President, described the professor as "a big advocate… [for] our case for gas."[130] In 2018, soon after BP's campaign began, the company's Twitter team posted a tweet quoting the professor's response to BP's new methane emissions targets. The tweet lauds BP's targets and simultaneously calls for the "expanded production of natural gas in the near and intermediate terms."[131] Notably, the Tweet did not disclose that BP sponsors CMI, at which Pacala was a leading professor.

ADDITIONAL CMI BENEFITS TO BP

1) Senior professors at CMI help BP craft its public relations strategy

CMI professors have given BP tailored recommendations, including recommendations that go beyond scientific counsel based on research findings and into public relations strategy.[132] For instance, the professors suggest that BP "Identify [itself] with carbon efficiency," and cite two examples: efficient residential gas buildings/appliances, and fuel efficiency, specifically on the customer's side of the meter. While CMI professors also give other recommendations to BP (in a conversation with a journalist, one recounted a

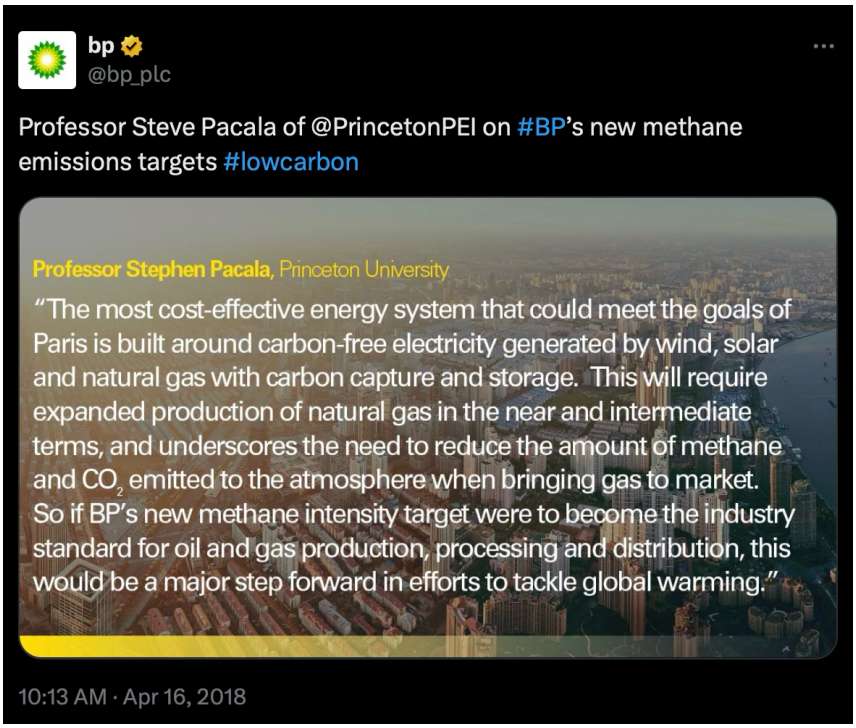

Fig. 9: BP tweets a quote from CMI's director complementing the company's natural gas policies.

time when a CMI professor pushed back on BP's methane targets for being too weak; the company raised its ambitions in response, according to the professor), this example stands out because it involves CMI explicitly recommending actions BP could take to improve its *image*.[133] The language connotes CMI suggesting public relations activities: strategies of "identification" with the image of carbon efficiency, without necessarily being complemented by more substantial action.

Furthermore, CMI's recommendations to BP do not undermine the company's conception that natural gas can be their "core" business. CMI does not recommend, for instance, BP "identifying" itself with activities to allow homeowners to switch to electric appliances, which are proven to reduce emissions far more than their "efficient" gas counterparts.[134]

In another instance, Princeton researchers participated in a discussion with BP Head of Group Policy Paul Jefferiss, as well as Harvard and Tufts professors, to discuss policy strategy. This conversation centered around BP's public image: BP proposed not drilling in some areas as an action to improve its image, drawing the conclusion that "we don't have to pursue expensive-to-extract resources in the ultra-deep water," given a "general agreement by our external participants that it would be *good for our image* to draw a line somewhere" (emphasis added).[135]

2) CMI gives BP insider access to the environmental community and to powerful positions in the U.S. government

CMI's Net Zero America Project, which charts pathways for the U.S. to achieve net zero emissions by 2050, played a role in BP gaining access to the environmental community and to powerful government officials. BP and Exxon were the project's sole funders, and BP alone spent $2 million on the study. Although a CMI professor claims that the funding had no impact on the study's results, BP found that it "directly align[ed] w[ith] bp's net zero ambition and business strategy," allowing the company to use the report in the aforementioned communications campaign.[136]

Moreover, Stout noted the project's relevance to the Biden-Harris Administration's climate ambitions, which allowed its researchers to gain access to the federal government. Some were "already advising Biden's transition team," allowing BP to "leverage the study with the USG [United States Government]," Stout stated in an email.[137] Indeed, Stout enthused elsewhere that the authors of the reports, due to their advising of Biden's policy team, would be able to gain positions of power, writing, "If the Presidential elections go the way it looks now, I would not be surprised to see some of our friends in senior government policymaking roles as well!"[138] This proved to be true: one of CMI's founders was appointed to Biden's Council of Advisors on Science and Technology. In this way, BP would gain a direct line of communication as a credible partner with "senior" government officials overseeing the U.S. government's climate policy.[139]

3) Other positive public relations messaging

In addition to CMI providing expert voices to support BP's messages, CMI benefits BP's aim to demonstrate the company's seriousness on the energy transition in the language of many of its research projects. These projects include a sentence, or even a subheading, on the project's "relevance to bp," a collection of which are featured in the following table.

By describing the research in this way, the projects confer BP legitimacy. As Brunswick, the public relations firm BP hired at the beginning of its campaign, envisioned, Princeton's

PROJECT TITLE	RELEVANCE TO BP
Understanding Tropical Cyclone Frequency [137]	"bp has long been interested in tropical cyclone risk because of the vulnerability of its coastal and offshore infrastructure, and because increases in the severity or frequency of tropical cyclones is an important driver of public opinion in support of the energy transition."
Soil Uptake and Methane Feedback of Atmospheric Hydrogen [138]	"This research informs bp's aims of developing the H2 economy in a manner that minimizes adverse climate impacts."
The CMI Wetland Project [139]	"A better understanding of the factors responsible for the greatest methane emissions from wetlands is crucial to bp's actions aimed at targeting this powerful greenhouse gas and thus a vital step towards a low-emissions future."
Improving Forecasts of How Biodiversity Responds to Climate Change [140]	"Reliably gauging the impact of mitigation initiatives on biodiversity is vital to current bp efforts towards a sustainable energy world."

Table 2: A collection of certain CMI projects that declare how the projects help BP. Such statements allow BP to build support for its activities.

research has ended up helping to "authenticat[e] BP's commitment to low carbon."

CONCLUSION

CMI has served BP's gas campaign: In an internal evaluation rubric of CMI, under "Mutual values / trust alignment," BP rated the relationship as having "high" alignment.[140] The company further noted that the institution has shared a "long standing and trusted relationship." Three years into BP's campaign, Stout, the then-Vice President of BP, enthused in an email that CMI "is becoming increasingly synergistic" with BP's aims, adding, in parenthesis, "as of course we had planned!"[141] Elsewhere, Stout describes BP's relationships with CMI professors as "key" parts of the company's "long-term relationship-building and outreach to policy makers and influencers in the US and globally."[142]

In the latter half of the previous decade, BP devised a public relations strategy to protect its "core" natural gas business model in a time when many international stakeholders have called for the end of fossil fuels.[143] BP's relationship with CMI provides favorable material for the company, including for its continued fossil fuel extraction, helping it reach and persuade stakeholders in the energy and media industries of its sincerity to tackle the "climate problem," and lending expert credibility backed up by Princeton's reputation to support the messages it wants to push.

It should be noted that the Princeton CMI founder whom Stout called "a big advocate… [for] our case for gas" has defended BP's relationship with the Initiative, stating that "BP has no say over what we study. They give us the money without consultation about what it is we're going to say. We just tell them what we found out."[144] Even taking this to be true from the researchers' side, the sentiment mischaracterizes how BP approaches the

relationship. It does not rule out the first influence strategy highlighted here, directing money only to research favorable to their goals, nor does it rule out greenwashing.

BP may not "consult" with CMI on what its research "is going to say," but instead, understanding that CMI's senior leaders are "big advocate[s]" for a vision of natural gas that aligns with the company's own vision, BP devotes money to that relationship and uplifts the research that CMI produces as a component of its own public relations campaign. Indeed, when another research initiative BP funded at Harvard became less "synergistic" and "relevant" to the company, it decided to curtail the relationship. In other words, BP's support may be conditional on the researchers it funds focusing on research questions that align with company aims and advance company campaigns.

CMI helps BP sell natural gas to the public. The relationship raises alarming questions about not only the Initiative's academic independence, but also the University's impartial, truth-seeking mission.

Spotlight: The Fund for Energy Research with Corporate Partners

Following partial dissociation in 2022, Princeton established an Energy Research Fund, offering $2 million in annual funding for projects to replace some of the funding no longer available after dissociation.[146] Operated through the Andlinger Center for Energy and the Environment (ACEE), part of this Fund is devoted to the Fund for Energy Research with Corporate Partners. Funds are disbursed as either Energy Research grants, which fund up to $250,000 for three years of a research project in collaboration with an industry partner contributing at least 25% of the project cost, or as Energy Seed grants, which fund $150,000 one-year projects to help jumpstart collaboration between a researcher and an industry partner.[147]

The Energy Research Fund proves that Princeton has the means and will to blunt the negative impact of dissociation in the short term, offsetting the funding opportunities lost because of cutting ties with fossil fuel companies. Indeed, the maximum total annual spending from the top four fossil fuel company funders from which Princeton has since dissociated does not exceed $2.5 million. Therefore, Princeton has already made up for approximately 80% of the money lost from dissociation through the Fund. Moreover, because corporate partners in one of the Fund's programs must contribute up to 25% of the cost of the research project they sponsor, the offset may come closer to 90%.

To be sure, a corporate partner may be involved in fossil fuel activities at a similar level to companies from which Princeton has dissociated, effectively weakening the potential of the Fund. This outcome may only be preempted by the University widening its dissociation scope, as described above. Nevertheless, the Fund acts as a stopgap measure, providing researchers with the means to continue their work without having to rely directly on the fossil fuel industry for support, and there is no public evidence that they must justify their work in terms of "relevance" to the industry (as CMI's researchers do). As researchers find alternative funding sources with fewer potential conflicts of interest, the Energy Research Fund may become less necessary. However, because the fossil fuel industry dominates the energy research funding landscape today, the Fund plays a critical role in ensuring energy research can continue despite dissociation.

Although the corporate partners Fund may attenuate the withdrawal of energy research funding due to partial dissociation, the current structure of the Fund continues to allow for fossil fuel companies to fund research. For instance, the corporate partner of one of the Energy Seed projects awarded in 2023 was the International Group of Liquified Natural Gas Importers (GIIGNL).[148] The Group consists of 94 members, including ExxonMobil, from which Princeton dissociated in 2022. Its website does not publicize any plan for the Group to advance sustainability goals, such as achieving net-zero emissions by 2050, in a potential violation of University values.

Fossil Fuel Investments

Introduction

Decreasing (if not eliminating) oil and gas investments is essential to avoid the worst of the climate crisis. The Intergovernmental Panel on Climate Change (IPCC) wrote in 2014 that "substantial reductions in emissions would require large changes in investment patterns," including a decrease of approximately $30 billion in investments in fossil fuel-based electricity generation from 2010 to 2029.[149]

Many universities and other institutions have opted to decrease or eliminate investments in the fossil fuel industry in order to stop funding planet-warming emissions and to signal rejection of profiting off of continued extraction.[150] These institutions have proved what studies have shown: that divestment is fully compatible with fiduciary responsibility,[151] and does not harm financial investors.[152] Moreover, the movement to divest from the fossil fuel industry has already achieved some measurable success in this effort: one study estimates that divestment has reduced new capital flows into the oil and gas sector.[153] Indeed, Peabody Energy, the largest U.S. coal company, called out divestment as a pressuring force when it filed for bankruptcy in 2016;[154] Shell's 2017 Annual Report stated that divestment could have a "material adverse effect" on its performance.[155]

Another study suggests that these direct effects "pale in comparison" to the broader stigmatization of the industry that may advance a shift to renewable alternatives.[156]

Princeton, too, has noted that it intends to "[reduce] the aggregate harmful climate impact of the entirety of the University's direct and indirect endowment holdings."[157] It took a step toward doing so when it partially divested from the fossil fuel industry in 2022, withdrawing approximately $1 billion from direct and indirect holdings in publicly traded fossil fuel companies. However, this effort to reduce harmful climate impact remains insufficient, as the following section details. First, Princeton financially supports the fossil fuel industry with approximately $700 million in investments in privately held companies. Second, the University owns at least one fossil fuel company, which is called Petrotiger, and earns tens of millions of dollars in investment income and direct contributions from the company. The University directly holds interests in oil and gas extraction, earning tens of millions of dollars from such extraction. Finally, its retirement funds heavily invest in oil and gas activities. This continued financial support violates core University values.

Princeton's Fossil Fuel Divestment Process

Princeton has a stringent policy when it comes to addressing social or political issues through endowment investments, which has played out in the fossil fuel divestment movement on campus. The fossil fuel divestment process has been different from the dissociation process described above (even though Princeton has insisted these actions must be taken together). Princeton's Board of Trustees takes an approach that can be defined by these quotations taken from existing Board policy statements:

1. "There is a strong presumption against the University as an institution taking a position or playing an active role with respect to external issues of a political, economic, social, moral or legal character."

2. "At the same time, the Trustees have recognized that there may be very unusual situations in which the University simply does not wish to be associated with a particular company through ownership of its securities or acceptance of its gifts or grants."[158]

Princeton identifies these "very unusual situations" that trigger divestment from a company when it believes that company violates a core University value. Indeed, the Board holds as "longstanding policy" that Princeton undertakes divestment "only" when "a company's behavior conflicts substantially with the central values of the University," suggesting that it is possible to divest (and that there is precedent of divesting) on the basis of values, rather than to make a political statement.[159] A few other conditions are often necessary for the Board to consider divestment. The Board has adopted guidelines such that it considers divestment from a company or industry when there is "considerable, thoughtful, and sustained campus interest" in the actions of that company or industry, and when there is a "consensus on how the University should respond."

Multiple University bodies have outlined what central values are at stake with fossil fuel divestment. The Resources Committee, when evaluating fossil fuel divestment, found that "fossil fuel companies that spread disinformation about climate change and/or refuse to acknowledge and commit to global targets for greenhouse gas reductions potentially violate core University values; and that there is broad campus support to assess Princeton's partnerships with fossil fuel companies within the context of its broader sustainability goals." Specifically, "The behavior of some fossil fuel companies, in particular those that… do not acknowledge the scientific consensus for the need to transition towards science-based emissions targets, is in conflict with the values that guide the University's commitment to greenhouse gas reductions." The Faculty Panel convened by the Board affirmed this sentiment, writing that core values were at stake with fossil fuel divestment, as fossil fuel companies identified for dissociation do in fact "contraven[e]" University values of truth seeking and sustainability.[160]

Informed by the Resources Committee and the Faculty Panel, the Board chose to divest from all publicly traded companies, that

is, companies with tradable shares on the stock market in 2022. It did so at the same time as it announced partial dissociation. At the time, Princeton held $1.7 billion in fossil fuel companies, or nearly 5% of the University's $35.8 billion endowment in 2022.[161] The $1.7 billion figure included both direct investment and indirect holdings rolled into investment vehicles. Of this total, approximately $1 billion was invested in public fossil fuel companies, as one of the authors of this report learned through correspondence with University officials.[162] Therefore, at the time of the University's partial divestment, it still invested approximately $700 million in privately held fossil fuel companies. These companies are not listed on the stock market, and therefore are not obligated to file the same kind of public disclosures as their publicly traded counterparts.

The current amount of Princeton's privately held fossil fuel investments is unknown because the University has not provided an updated figure since 2022. Indeed, Princeton's investment company, Princeton University Investment Company (PRINCO), keeps information about the endowment's composition opaque beyond a general description of its investment portfolio. [163]

The Board did not give a clear explanation for its decision to limit divestment to only public companies, nor has it provided one since. Given its "longstanding policy" is to only divest when a core University value is at stake, the Board's decision can be understood in one of two ways.

First, the Board may have followed its policy and divested because it agreed with the Resources Committee and Faculty Panel that financial investment in fossil fuel companies contravened University values. If so, then its decision to divest *solely* from publicly traded fossil fuel companies while retaining approximately $700 million in privately held fossil fuel companies lacks justification. If publicly traded fossil fuel companies presented a significant enough violation of University values to warrant divestment, then it is difficult to see why privately held fossil fuel companies do not present a similar violation nor provoke a similar response. Indeed, given that privately held companies have been found to be even more polluting and less accountable than their public counterparts, these companies may represent a more significant violation of central University values, such as the University's commitment to sustainability, than their publicly traded counterparts.[164] The same reasoning that the Board used to divest from one set of companies seems applicable to other, but was not applied as such. Therefore, a violation of central University values may still exist by continued investment in privately held fossil fuel companies.

Second, the Board may have found that this partial divestment was a unique circumstance in which it simply does not wish to be associated with particular companies, breaking from what it stated as its longstanding policy in 2021.[165] This scenario is possible because the Board has not publicly explained its divestiture from publicly traded fossil fuel companies as a response to a contravention of central University values. If the Board divested based on this reasoning, it has not acknowledged a change in "longstanding policy." This departure from precedent, if it indeed occurred, may have implications for future divestment efforts.

From this analysis, the Board's decision to not divest from privately held fossil fuel companies appears either inconsistent with values that it already used to divest from publicly traded fossil fuel companies, or more generally with both "longstand-

ing policy" on divestment and the core values that its expert bodies have invoked.

It should be noted that expanding the scope of divestment to include privately traded fossil fuel companies would advance the Board's stated commitment to achieve net zero emissions on its endowment. This commitment guided the Board when it announced partial divestment.

Spotlight: Petrotiger

Included in Princeton's continued investments in privately traded fossil fuel companies is an oil and gas enterprise that all evidence suggests Princeton owns. The enterprise is named Petrotiger, and consists of Petrotiger I, III, and IV, LTD., all of which have been listed in Princeton's Form 990 tax filings as "related organizations" to the University. (For the purposes of this report, "Petrotiger" will refer to Petrotiger I, Petrotiger III, and Petrotiger IV collectively).[166]

Petrotiger actively profits from fossil fuel extraction. Each Petrotiger company is affiliated with a company now called Posse Resources, a "family-owned private oil & gas company" that seeks to "actively acquir[e] and manag[e] natural resource properties."[167] Peter Currie, a Texas A&M graduate, manages both Posse and Petrotiger, which are both registered at the same address in Houston, Texas. Posse's website states that the company actively manages investments in six companies spanning from the Delaware Basin in Texas to the Bakken oilfield in North Dakota, yet Posse likely manages interests in far more than six areas. For example, in Texas alone, Posse has filed mineral interests that likely include fossil fuel projects in 78 projects in 21 counties, according to a Texas database.[168] Where Petrotiger in particular operates is less clear. A 2020 document filed by Petrotiger IV in a bankruptcy case reveals that the company owns an "interest in the mineral estate" covering three properties in Kingfisher County, Oklahoma, land on which certain companies "operate existing and/or proposed oil and gas wells."[169] Other properties in which Petrotiger owns interest cannot be immediately located at the time of publication.

"At the time, Princeton reported that it held a 99% ownership interest in Petrotiger III; in effect, Princeton owned Petrotiger."

The activities of both Petrotiger and Posse Resources may run counter to Princeton's sustainability commitment, one of the core University values that the Faculty Panel identifies is at stake with fossil fuel industry associations: Princeton's core environmental values. The Panel notes that "the alignment of prospective actions of fossil fuel companies with Princeton's core environmental values can be assessed by examining the company's public commitments to achieve net-zero emissions by 2050, along with credible milestones to track progress." For the oil industry in particular, the Panel recommends that a company have commitments consistent with Princeton's commitments for itself, for instance, to "decarbonize operational energy use… emissions by 2050," and to track progress with "reduced wells-to-refinery-gate GHG emission intensities and investments in technologies that achieve net-zero carbon goals for industry Operations." As far as the authors of this report have found, neither Petrotiger nor Posse Resources publicize a plan to reach net-zero emissions by 2050 or include credible metrics like the ones cited by the Faculty Panel, suggesting that the companies contravene one of Princeton's core values.

It appears that Petrotiger is far more closely connected to the University than many, if not most, other fossil fuel companies. One news source states that a chairman of Posse, formerly known as Peter Paul Petroleum Co., "manages energy-related assets for Princeton University," suggesting that the compa-

nies' existence is intimately connected with Princeton's energy holdings.[170] Evidence in Princeton's Form 990 reports elucidates this connection. Princeton started to report its connection with Petrotiger in the University's 2005 filing.[171] At the time, Princeton reported that it held a 99% ownership interest in Petrotiger III; in effect, Princeton owned Petrotiger**.** Over the next 14 years, Princeton's ownership of Petrotiger III remained the same; its stake in Petrotiger I and IV never fell below 84.830 and 82.6 percent respectively. Because the University has consistently held over 50 percent ownership interest in Petrotigers I, III, and IV, it likely counts as a parent company to Petrotiger in the eyes of the Internal Revenue Service (IRS).[172]

Princeton's current ownership stake in each Petrotiger company is unclear, because after the University's 2018 filing, it ceased to report ownership figures for all companies in the relevant part of the filing. Nevertheless, Princeton's report continues to list each company as a "related organization" to the University, meaning that the relationship has either continued (with Princeton being a parent or other type of controlling entity to Petrotiger), or has changed to another relationship, such as a brother/sister relationship or supporting/supported organization relationship. Given that recent IRS fillings do not show that the income stream from Petrotiger to Princeton has changed qualitatively or quantitatively (besides an increase in come from the company), and that the only change in filings is that Princeton has ceased to report its ownership interest in the company, it is likely that ownership continues to fall in the above 50% range. Kenneth Molinaro, Princeton's Controller, declined to provide further information about the University's connection to Petrotiger, stating in an email to one of the report's authors that "the university generally does not discuss individual investments" (see Appendix 11 for a copy of the email).

Princeton benefits from its relationship to Petrotiger by earning investment returns and receiving direct transactions with the company. The bankruptcy proceeding document that Petrotiger IV filed confirmed that the University earns revenue through "overriding royalty interests,"[173] meaning that the University holds the right to a proportional share of the sale of oil and gas that is produced on relevant properties.[174] The document does not exclude the possibility that Princeton also earns revenue through other financial arrangements related to oil and gas extraction.

From filing years 2013 through 2023, the University made over $68.6 million from its investments in Petrotiger. During this period, yearly income increased by 144%, from $9.1 million in 2013 to $22.5 million in 2023–averaging $6.2 million per year. This occurred even as Princeton's share in Petrotiger assets fell from a total of $41.6 million to just under $10 million, a 77% drop. Princeton's share of assets in Petrotiger III and IV decreased to zero by the end of 2021, but that wind-down was mirrored by a ramp-up of assets in Petrotiger I. As a result, the University's sole remaining Petrotiger relationship is with Petrotiger I, from which it earns more income than ever.

Princeton's Form 990 indicates that the University also gave contributions to Petrotiger.

In addition to investment income, Princeton receives money from transactions with Petrotiger. Under the "transactions with related organizations" section of the University's Form 990 reports, from reporting years 2013 to 2023, Princeton reported receiving a total of $69 million in cash from Petrotiger. While such transactions have been increasing since 2017, the largest increase

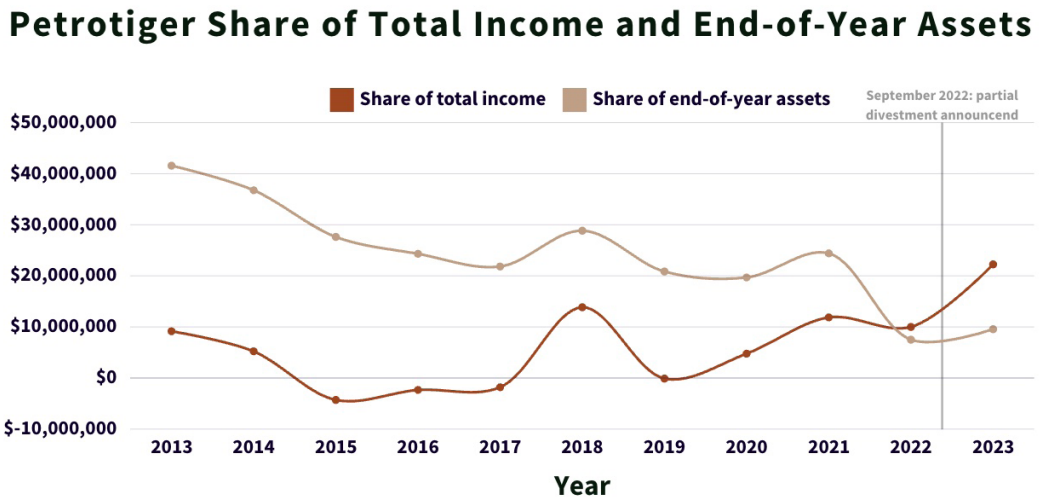

Fig. 10: Princeton's share of total income from and share of end-of-year assets in Petrotiger.

in transaction quantity occurred between reporting years 2022 and 2023, when transactions more than doubled from a total of $8.5 million to $18.1 million: Princeton thus recorded its largest earning from Petrotiger just last year at the time of publication.

Princeton's Form 990 indicates that the University also gave contributions to Petrotiger. Between reporting years 2018 and 2020, the University reported just under $750,000 in type B transactions, which the IRS defines on the Form 990 as involving a "gift, grant, or capital contribution to related organization(s)." In other words, these are transactions from Princeton to Petrotiger. The transactions to Petrotiger only occurred during this three-year interval.

While the exact details of Princeton's relationship with Petrotiger remain unclear, four provisional conclusions can be drawn from the

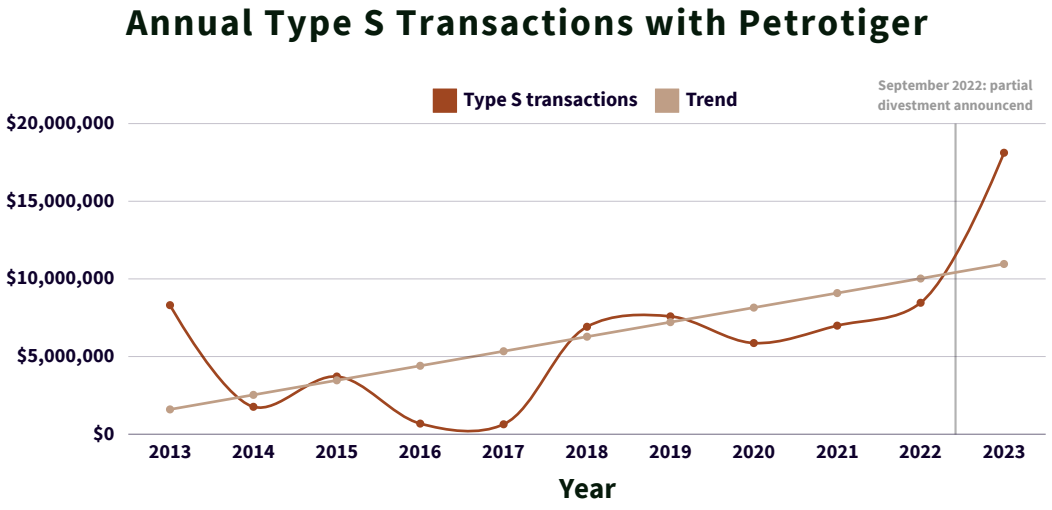

Fig 11: Annual type S transactions, detailing money contributed from Petrotiger to Princeton.

University's Form 990 reports. First, that the University has likely owned, and may continue to own, a private and relatively anonymous fossil fuel company. Second, that it has earned nearly $140 million in the last 10 years from this company, from both investment earnings and cash transactions. Third, that its relationship is only becoming more profitable, as the income from both earnings from and transactions with Petrotiger has increased since 2017, and dramatically so since 2022, to a record high in the latest reporting year. Fourth, this connection with Petrotiger may contravene University values expressed by the Faculty Panel, because neither it nor Posse Resources has listed a credible plan to achieve net-zero emissions by 2050.

While some universities lease land for fossil fuel activities or engage in other relationships with fossil fuel companies, the authors of this report have found no equivalent relationship between a university and a fossil fuel company.

Current Activities in the Oil and Gas Sector

In addition to earning income from its investments in privately held fossil fuel companies, Princeton generates revenue directly from fossil fuel extraction. In Part VIII of the University's Form 990 reports, the University discloses its annual revenue from the fossil fuel industry under Business Code 211110, which is the IRS' Principal Business Activity Code signifying oil and gas extraction.[175] It is unclear where this revenue originates from, as the line item is the only location in the Form 990 referencing direct fossil fuel extraction activities. As this revenue is listed as a separate item from investment income, it can be concluded that the revenue is separate from earnings on the University's endowment. Furthermore, the line item is separate from Princeton's revenues from the sale of land, mineral rights, or another source that was originally donated to Princeton, royalty interests from licensing others to do oil and gas extraction on land it owns, or other non-cash contributions to the University.

According to University Form 990 reports, Princeton earned just under $352.5 million in revenue from the oil and gas extraction sector between reporting years 2013 and 2023 (see Appendix 8). In Princeton's most recent filing, the University disclosed that it earned just under $33 million from the sector, an increase from the $13 million earned in 2013 but a 16% decrease from $39 million reported in 2022.[176]

Once again, the source of this revenue is not known. However, given that it is explicitly generated by oil and gas extraction activities, a violation of Princeton's commitment to sustainability may indeed be taking place. Further investigation into this revenue stream ought to be conducted to determine if a violation of University values exists, and if so, what the best response to this finding ought to be.

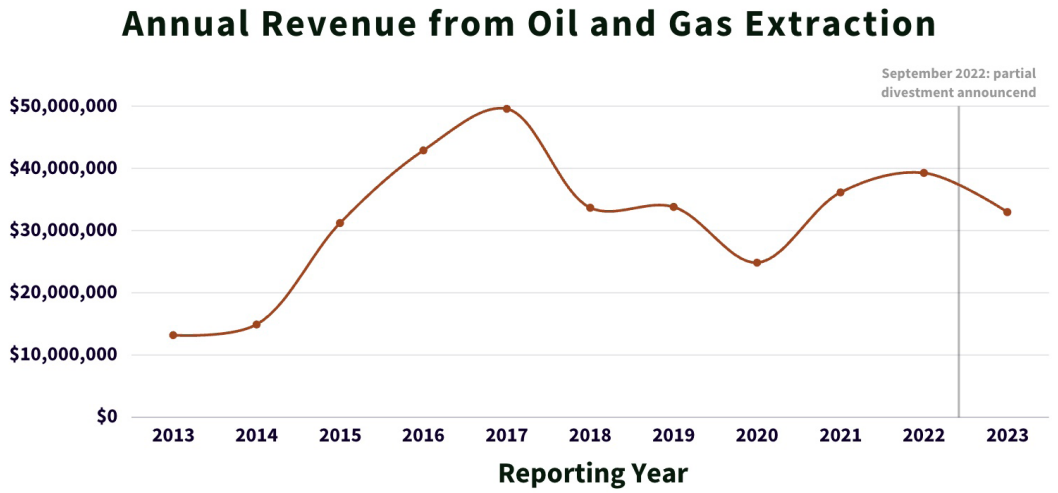

Fig. 12: Annual revenue reported under row 11a, oil and gas extraction, in Princeton's Form 990 reports.

Retirement Funds

The same logic of divesting the endowment from fossil fuels should apply to the University's retirement plan options for its faculty and staff. Just as investing in fossil fuel companies may contravene core University values, so too may offering retirement portfolios that invest in fossil fuel companies. Investments in these companies fund oil exploration, pipeline construction, political lobbying, and other harmful practices.

The Princeton University Retirement Plan (PURP) offers more than thirty investment options, using TIAA as the plan's recordkeeper.[177] In May 2023, a group of Princeton faculty published an open letter calling on the University to advocate for TIAA to divest all its funds from fossil fuel companies.[178] The professors noted that out of a $1.4 trillion portfolio, TIAA's investment in fossil fuels has been estimated at more than $78 billion.[179] Additionally, TIAA is the fourth-largest holder of coal-related bonds.[180] They further argued that "Princeton should supplement the available options in its retirement plan with a broad selection of fossil fuel-free funds."

Despite changes to PURP's offerings since the publication of the open letter, the University has not made progress toward more sustainable investment options. The open letter states that, as of April 2023, the average grade of available funds was D among those rated by As You Sow, a shareholder advocacy organization which evaluates investments based on their fossil fuel exposure. The plan's fee disclosure, published by Princeton's Office of Human Resources and dated November 1, 2023, revealed that of the 13 funds currently rated by As You Sow, there was one B, four Cs, five Ds, and three Fs – again with a D average (see Appendix 9).[181]

Additionally, the letter notes that "of well over 100 funds that TIAA manages, only seven are marketed as 'ESG-focused.' The University's retirement plan offers just one, the CREF Social Choice R3 (QCSCIX)." This fund, which changed its name and investment objective in 2024, is still heavily invested in oil, gas, and related industries. Its holdings include Targa Resources Corp, an oil and gas company; LyondellBasell Industries NV, which operates an oil refinery; Baker Hughes Co and Emerson Electric Co, companies providing technology for the oil and gas industries; Oneok, an oil and gas utility; and Exelon Corp and Consolidated Edison Inc, which operate gas and electrical utilities.[182] Furthermore, TIAA still lists QCSCIX on its website, detailing that the fund remains invested in fossil fuel companies, including bonds in ConocoPhillips and TotalEnergies, as of September 2024.[183]

The University lacks an established process for determining whether dissociation is appropriate for retirement funds. However, the oil and gas investments contained within the funds it offers may very well contravene core University values, and so dissociation may be an appropriate step. Regardless, the University could offer alternative retirement funds that do not contain exposure to fossil fuel activities to reduce the negative climate impact of its retirement planning in line with its plan to mitigate the environmental harm of its endowment.[184]

Recommendations

In order to achieve full divestment and dissociation from fossil fuel companies, we recommend that Princeton follows this list of actionable items.

RESEARCH

1. Prohibit all research funding from the fossil fuel industry, expanding the scope of dissociation to the entire industry. As a step toward this goal, follow through on the recommendation to dissociate from fossil fuel companies that lack credible decarbonization plans as recommended by the Resources Committee and the Faculty Panel, and that engage in disinformation campaigns.

2. In the short-term, expand the size of the Energy Fund to allow researchers to continue their scholarship while other partners that do not contravene core University values are identified.

FOSSIL FUEL INVESTMENTS

1. Complete divestment by withdrawing funds from all privately held fossil fuel companies and follow through on the commitment to a net zero endowment.

2. Sell off all assets and agreements that contribute to oil and gas extraction revenues, and cut ties with Petrotiger.

3. Require all retirement options to include and promote plan options without fossil fuels.

These recommendations are all within Princeton's power to achieve. The University must act upon these items with the urgency that the climate crisis demands.

Acknowledgements

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We thank all the students, faculty, and staff of yesterday and today who have mobilized around divestment, including at Princeton. Finally, we give our thanks to the next generation of organizers, who we are confident will finish the job of fossil fuel dissociation at Princeton in the years to come.

Appendix

A spreadsheet containing the appendices cited above can be accessed at this link. Each Appendix is labeled as a tab within the spreadsheet.

Please contact sunrisemvmtprinceton@gmail.com with any further questions.

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