

Identifying Climate Disinformation Supporters: An Exploration of University Funding and Climate Denial

Brown University Climate and Development Lab and Scholars at Brown for Climate Action

January 2023

DRAFT, COMMENTS WELCOME

Table of Contents

Executive Summary/Recommendations	1
Acknowledgements	2
How to Cite This Document	2
Supporting Faculty	2
Introduction/Background	3
Previous Studies	5
Definitions and Methods	6
Three Steps to Documenting Disinformation Supporters	10
Quantitative Findings and Sample Tiers of Association	20
Validation and Expansion: Qualitative Approaches	22
A Proposed Way Forward: A Model Policy and Screening Tool	27
References	29
Appendix	33

Executive Summary/Recommendations

Our society has failed to adequately address climate change, in large part because of a well-funded and strategic campaign to cloud understanding of the problem and its solutions. These efforts have undermined trust in science and even attacked the character of university-based scientists. Universities' missions are to uncover truth and to educate and prepare our students, so we have a unique stake in fighting disinformation, including on climate change. The struggle to advance a just solution to climate change and secure our students' futures is therefore a struggle to protect and communicate knowledge.

On April 22, 2022, Brown University's President Christina Paxson adopted a pioneering [new policy on business ethics](#): "Because science disinformation is contrary to our mission of advancing knowledge and understanding, Brown will update relevant policies and processes to reflect that, to the best extent practicable, *the University will not conduct business with individuals and organizations that directly support the creation and dissemination of science disinformation*, defined as knowingly spreading false information with the intent to deceive or mislead." But who are these actors? Committees are reviewing the university's gift acceptance policies and procedures, but the administration has informed us that Brown will not be creating or endorsing a list of organizations supporting disinformation.

The purpose of this report is to provide background research and a potential methodology for universities and other nonprofits to identify whether potential donors are supporters of climate disinformation and deniers of climate change science. It does so using a systematic review of hundreds of think tanks who advance false claims about climate change, and utilizes annual IRS 990 tax reports to understand who funds them. It provides usable materials to apply this research, with three options and example lists, and an [interactive website](#) to explore 3,237 organizations and a proposed screening tool.

To narrow the task and to pilot the effort, we focus only on disinformation about climate change science, but the effort can be expanded to other forms of disinformation, such as on climate *solutions*, COVID-19, vaccines, or other science disinformation. We review previous studies, lay out definitions, and explain the methodology we piloted. We then provide initial quantitative findings and qualitatively examine three case studies. We assess the results, and provide draft model policy and a screening tool, and offer initial thoughts on what would be needed to make this effort sustainable and impactful. Further materials are provided in appendices, online data, and a bespoke website.

This pilot screening focuses on foundations, since data is available on their contributions. It uncovers 58 foundations who fell into the category of providing over \$500,000 to organizations advancing climate disinformation in 2018, the latest year for which we have data (IRS forms are released with two years of delay). 196 foundations provided over \$100,000 to these organizations in 2018, and 641 foundations provided over \$10,000. We are developing indicators of what proportion of a foundation's portfolio has been given to climate denying information. Full lists of these foundations are provided in appendices and supplemental online materials, and the full dataset can be accessed at [DenialDenied.org](#). Universities and other nonprofits can choose which combination of indicators they choose to adopt as their cutoffs for further screening or exclusion. Quantitative measures of a foundation's funding of climate denial organizations can and should be supplemented with qualitative analyses, which we also piloted here.

Acknowledgements

The policy proposal and initial methodology delineated here was the result of three years of work by faculty, postdoctoral fellows, staff and students through Scholars at Brown for Climate Action. These included Andrew Westbrook, Baylor Fox-Kemper, Dawn King, Timmons Roberts, Brian Lander, Fulvio Domini, Timothy Herbert, and many others. We appreciate the openness of Brown’s administration, including President Christina Paxson and Provost Richard Locke, to considering this policy. Timmons Roberts and a team in Brown’s Climate and Development Lab drafted this paper, led by Grace Austin, including William Kattrup, Charlotte Marcil, and Isaac Slevin. Pilar McDonald, Callie Rabinovitz, and Ethan Drake assisted with outreach planning. The research methodology described in this proposal is adapted significantly from the pioneering work of Robert Brulle, Galen Hall, Lordeana Loy, and Kennedy Schell-Smith, with assistance from Stina Trollbäck and Ming-May Hu.

We welcome feedback on this preliminary draft methodology. Please email input to timmons@brown.edu and grace_austin@brown.edu.

How to Cite This Document

The Climate and Development Lab and Scholars at Brown for Climate Action. 2023. “Identifying Climate Disinformation Supporters: An Exploration of University Funding and Climate Denial.” Discussion Paper, January.

Supporting Faculty

This document was developed by the Climate and Development Lab and Scholars at Brown for Climate Action, and is endorsed by the following faculty: (affiliations for identification only) **[Faculty add your name if you’re comfortable]**

Name, University or Non-Profit

J. Timmons Roberts, Brown University

M. Dawn King, Brown University

Mindi Schneider, Brown University

Brian Lander, Brown University

...

Introduction/Background

The science of climate change is irrefutable, renewable energy technology is increasingly affordable, and successful policy tools are available. Yet for thirty years our society has failed to act with the urgency we know is necessary. The reasons for this failure are many, but at the core of the problem is the billions of dollars spent by the fossil fuel industry and its many allies to protect the status quo. A central part of that effort has been to undermine trust in science.

Two key tools in efforts to slow and stop action on climate are funding and disinformation. Organizations like universities that receive funding from fossil fuel corporations will be more likely to dampen their criticism of those corporations. Disinformation can be about the reality, severity, and cause of climate change, or about the viability of the solutions now being advanced. Disinformation need not be definitive, it only needs to cast doubt to be effective in stopping action.

Universities have a unique role in fighting disinformation, including on climate change. The purpose of this report is to provide research for universities to develop and adopt systems to evaluate climate denial donor influence at their respective institutions. This research is born out of a new policy at Brown University which promises to stop doing business (meaning taking grants and gifts from, and contracting) with science disinformation organizations and individuals, and the research seeks to advance the implementation of this policy.

Failing to respond adequately on climate change would constitute a grave moral lapse and a failure to fulfill our universities' missions of uncovering truth and serving our society. Many universities have "truth" in their mottos and mission statements: "Veritas" (Truth), says Harvard's shield; "Lux et Veritas" (Light and Truth), says Yale's. The struggle to advance a just solution to climate change is a struggle to protect and communicate knowledge. To educate and prepare our students for lives of purpose, we must support them in facing the defining threat of their generation. Unimpeded scientific understanding is foundational for that effort.

To understand what our university and society more broadly must do about the climate crisis, we need to understand the basic scientific and political facts about climate change. We must also understand how misinformation and climate science denial campaigns have worked to prevent the world from addressing these problems — in large part by undermining or misinterpreting research at universities like ours.

In response to a proposal by Scholars at Brown for Climate Action, university President Christina Paxson amended the university's policies on business practices in April 2022 to exclude doing business with organizations that support disinformation (Paxson, 2022). This policy reads:

1. "Because science disinformation is contrary to our mission of advancing knowledge and understanding, Brown will update relevant policies and processes to reflect that, to the best extent practicable, the University will not conduct business with individuals and organizations that directly support the creation and dissemination of science

disinformation, defined as knowingly spreading false information with the intent to deceive or mislead.”

2. “In order to increase trust and transparency within our community, Brown will enhance its processes for the acceptance of gifts and grants.”

We believe this is the first policy of its kind, and see it as an opportunity to develop a broader model policy for other universities and nonprofits seeking to avoid participation in the undermining of science. This is part of a movement across universities to address disinformation on campus. Like a group of Princeton faculty’s May 2022 report [Metrics, Principles, and Standards for Dissociation from Fossil Fuels at Princeton University](#), this report develops on recommended qualitative measures of screening disinformation. However, the next task is to develop a rigorous methodology for systematically identifying organizations who support the creation and dissemination of science disinformation.

This paper lays out a first straw man proposal for a potential methodology to identify supporters of science disinformation. To narrow the task and to pilot the effort, we focus only on disinformation, and specifically denial of the science about climate change. We first review similar previous efforts, lay out definitions, and explain the methodology we piloted. We then provide some initial quantitative findings (top ten donors by amount, percentage, etc.), and examine two case studies of private foundations and the charitable arm of one major fossil fuel corporation (ExxonMobil Foundation). We assess the results; provide a draft model policy and screening tool; and provide initial thoughts on what would be needed to make this effort sustainable and impactful. Further materials are provided in appendices, online data, and a bespoke website, [DenialDenied.org](#). Organizations, of course, can choose which indicators and combination of indicators they choose to adopt as their standards for further screening and exclusion.

This pilot screening focuses on foundations, since data is available on their giving. It uncovers 58 foundations that fell into the category of providing over \$500,000 to organizations advancing climate disinformation in 2018, the latest year for which we have data (IRS forms are released with two years of delay). 196 foundations provided over \$100,000 to these organizations in 2018, and 641 foundations provided over \$10,000. We are developing indicators to determine the proportion of a foundation’s portfolio has been given to climate denying information. Full lists of these foundations are provided in appendices and supplemental online materials, and the full dataset can be accessed at [DenialDenied.org](#). Quantitative measures of a foundation’s funding of climate denial organizations can and should be supplemented with qualitative analyses, which we also piloted here.

Previous Studies

Over the past decade, an increasing number of scholarly researchers have documented the existence of an expansive, sophisticated network of think tanks, PR firms, university programs, and political organizations that obstruct climate action in the U.S. and abroad (Brulle et al., 2014; Farrell, 2016; Hertel-Fernandez et al., 2018; Brulle et al., 2019; see also [CSSN.org](https://www.cssn.org)). Household-name corporations such as ExxonMobil have been orchestrating and funding organized climate denial efforts in the U.S since at least the 1980s (Dunlap and McCright, 2011; Supran and Oreskes, 2017; Bannerjee et al., 2021). However, as recent research has demonstrated, many influential funders of climate denial also exist outside of the fossil fuel industry and exercise their influence by donating not only to political campaigns and organizations, but think tanks, universities and university programs as well (Brulle et al., 2021).

Scholarship on climate disinformation organizations' strategies has largely focused on investigating efforts to influence members of Congress and state-level policymakers. Scholars highlight that these attempts rely primarily on undermining the credibility of scientists and policy experts from reputable colleges and universities (Jacquet, 2022). Other research illustrates how fossil fuel companies sought to influence the public by disseminating industry-sponsored curriculum questioning the scientific consensus on climate change to thousands of K-12 school science teachers across the nation (Atkin, 2017). In higher education, many of the same fossil fuel interests that fund denial efforts also fund important research across the sciences, and spend lavishly on political theory and economics departments. The widespread acceptance of these actors and the funds they offer allow them to retain public legitimacy and evade serious regulation (Mayer, 2016).

Several recent studies delve deeper into funding by climate disinformation organizations and fossil fuel interests at the university level, illustrating how philanthropic donations figure into a wider network that promotes and propagates disinformation (Brulle et al., 2021; Farrel, 2019). Benjamin Franta and Geoffrey Supran describe this phenomenon as “the fossil fuel industry's invisible colonization of academia,” highlighting how fossil fuel-associated corporations and groups have successfully (and secretly) influenced energy and climate policy research in American universities, and much of energy science (Franta and Supran, 2017). Growing public awareness of the oil and gas industry’s efforts to infiltrate the U.S education system has galvanized a handful of colleges and universities to commit to divesting from fossil fuels (Oreskes and Andrade, 2021). Although a considerable number of universities have committed to divestment, denial influence still operates in the other direction, through funding *to* universities from donor foundations. Recently, Princeton University published a report illustrating how they plan to take their commitment to divestment one step further by pledging to no longer accept funding from certain fossil fuel companies (Princeton University, 2022; Ramaswami et al., 2022). What is still needed for advancing efforts to disassociate with disinformation supporters is systematic analysis and ranking of these organizations.

Definitions and Methods

For the quantitative analysis, **climate denial** is defined as “public skepticism towards mainstream climate science,” in reference to the definition developed by the Intergovernmental Panel on Climate Change (Brulle et al., 2021). In their research and coding, Brulle et al. referred to six central discourses of denial, or the ways in which organizations deny climate change: (Table 1)

Table 1. Climate denial discourses frequently utilized in misinformation campaigns (Brulle et al. 2021)

Climate denial discourse	Explanation	Example
Climate change is not happening.	The document claims that climate change is not happening or that temperature changes fall within the range of normal variability (i.e. there is no consistent trend of increasing temperature — NB this is different from the claim that there is an upwards trend but due to orbital oscillations or other natural causes).	<ol style="list-style-type: none"> 1. “It’s time for the global-warming crowd to realize, once and for all, that civilization isn’t ending – not in 1985 and not in 2100. And those are the cold facts” (Feulner, 2018). 2. “Carbon dioxide has not caused weather to become more extreme, polar ice and sea ice to melt, or sea level rise to accelerate. These were all false alarms” (The Global Warming, 2015). 3. “Climate science does not support the theory of catastrophic human-made global warming – the alleged warming crisis does not exist” (Felix, 2018).
The science of climate change is unreliable/ unproven; there is no consensus/ false consensus on climate change science.	The document either claims that climate science does not / cannot make accurate predictions, and/or claims that there is not really a 97%+ consensus among climate scientists that anthropogenic climate change is comparing, or that this consensus is misleading, for instance because academia harshly discourages dissenting voices.	<ol style="list-style-type: none"> 1. “Indeed, the quickest way for scientists to put their careers at risk is to raise even modest questions about climate doom (see here, here and here). Scientists are under pressure to toe the party line on climate change and receive many benefits for doing so. That’s another reason for suspicion... There’s also a conspiracy of agreement, in which assumptions and interests combine to give the appearance of objectivity where none exists” (Richards, 2017).
Climate change is not caused by human activities; climate change is due to natural forces	The document claims that the climate has always been changing and any recent trends are due to natural variability, not anthropogenic emissions.	<ol style="list-style-type: none"> 1. “When Professor Carl-Otto Weiss... used spectral analysis of all long-term climate data, he found that all – all – climate change is due to natural cycles. He found no signal at all from our CO2 emissions” (Felix, 2020). 2. “Contrary to popular climate fears, over periods of a century or longer, dry areas are not becoming drier, wet areas are not becoming wetter, and deserts/jungles are not expanding or shrinking due to changes in precipitation patterns” (Lewis, 2016).

<p>Climate change will benefit humans</p>	<p>The document acknowledges that climate change is real and may be human-caused but argues that its effects (or the effects of increased CO₂) will be net positive for humans.</p>	<ol style="list-style-type: none"> 1. “Rather than global catastrophe, though, increasing CO₂ levels in the atmosphere are having a positive overall effect on the planet and its inhabitants,” he argued. Wrightstone said the evidence shows that Earth is growing greener, and temperature-related deaths are declining” (Milam, 2018). 2. “Adding more CO₂ to the atmosphere causes trees to grow faster because CO₂ is a vital food for all plants and crops. The well-documented global greening proves that plants are thriving. CO₂ also makes plants more resistant to drought. This greening of the Earth is a welcome benefit” (Frequently Asked Questions). 3. “A modest amount of global warming, should it occur, would be beneficial to the natural world and to human civilization...Warmer winters would mean longer growing seasons and less stress on most plants and wildlife, producing a substantial benefit for the global ecosystem” (Instant Expert Guide).
<p>Climate change will not have significant negative effects on humans</p>	<p>The document does not claim there will be positive effects, but it argues that any effects of climate change on humans will be small. NB this is different from allowing that there will be large impacts from climate change but that economic growth will dampen their effects on humans significantly.</p>	<ol style="list-style-type: none"> 1. “Our position has always been that if human emissions of carbon dioxide and other greenhouse gases pose a threat to the natural world and human health, then actions to avoid the threat would be necessary. But if the best-available research shows there is little danger or that there is nothing we can do to prevent climate change, then we should oppose legislation adopted in the name of ‘stopping’ global warming” (Burnett, 2020).
<p>Uses rhetoric such as "alarmism/ alarmist(s)" or "doomsday" to describe climate science-related entities</p>	<p>The document refers to climate policy advocates, climate scientists, or environmental groups as “alarmists,” “doomists,” or other disparaging labels. Vaguely disparaging language without any such label does not qualify, however this may also apply to the discussion of climate change (in addition to climate entities). If an organization refers to climate change as the “climate crisis” or “climate emergency” in quotations for added skepticism or to insinuate that climate change is an exaggerated idea not grounded in science.</p>	<ol style="list-style-type: none"> 1. “Two prominent climate scientists who adhere to United Nations climate assessments are scolding the media and alarmist scientists for claiming worst-case scenarios are the most likely climate outcome” (Alarmists Scientist Urge, 2020). 2. “If Greta Thunberg is an alarmist princess then Katherine Hayhoe is the queen of climate alarmism, at least in the U.S. and Canada” (Wojick, 2020).

There is a growing body of peer-reviewed knowledge on the extent of climate denial and disinformation. Rather than developing a new definition for disinformation and terms such as “intent” and “mislead” that play key roles in determining it, we borrow from established research by Ramaswami et al. and List and Pettit. Climate disinformation can be identified with relative ease using the six established discourses of denial, and by comparing examples of these discourses to literature published by an organization that a hypothetical donor may fund. These definitions and discourses lay the foundation for the methodology we propose to identify climate denial supporters. They provide the following definitions, which we paraphrase here:

Disinformation “comes from an agent communicating with the intent to mislead” (Ramaswami et al., 2022). It is primarily differentiated from **misinformation** on the basis of intent. To define disinformation, the terms “intent,” “mislead,” and “agent” need to be addressed and placed in context.

Intent is expressed through an agent’s behavior in context. Intent is a close relative of motivation, or the reasons behind the action taken, including but not limited to economic gain. For example, firms can engage in disinformation to mislead the public on climate science, thus preventing regulatory public policy that would reduce revenues and/or devalue fossil fuel assets. However, fossil fuel companies are not the only agents that can gain from spreading climate disinformation. Internet and media companies, political parties, and individuals (such as contrarian scientists and politicians) can reap economic and reputational gains, such as increased advertising revenue and book contracts.

Mislead “should be construed not merely as a feature of the semantic content of information, but of the way that it is deployed in communication.” A broad range of types of speech (and lack of speech) spreads disinformation— far more than simply repeating a statement that is “false by definition.” Many claims by fossil fuel companies are generally true but incomplete and thus highly misleading. While this presents an interesting standard for defining disinformation, it is this misleadingness that drives intentional deceit.

An example of this has become known as “**greenwashing**.” A firm will state something that is true, such as advertising a limited positive action that the firm has taken to address climate change, while failing to mention other facts that are also true, such as a firm’s extremely high levels of CO2 emissions, financial support of industry groups that block climate policy, or donations to groups that promote climate disinformation. Actions like greenwashing intentionally direct attention away from a firm’s contributions to climate change, instead creating the impression that their firm or sector can respond to climate change without policy intervention. This is disinformation.

For example, ‘To paraphrase a line of questioning (and cite the figures offered) by Congressman Sarbanes stated during the House Oversight Committee hearings on October 28, 2021: although BP in its 2020 shareholder report pledged to “advocate for fundamental and

rapid progress toward the Paris climate goals,” of the company's 488 reported instances of federal legislative lobbying since 2015, exactly 1 of those (0.2 percent) advanced the goals of the Paris Agreement (House Committee on Oversight and Reform 2022). The claim in the 2020 shareholder report is misleading, and counts as spreading disinformation, when judged against the company’s lobbying record.’

Agent: To define the agent and assign responsibility for the actions it takes, the Princeton committee borrows an existing methodology (List and Pettit, 2011). A group agent, like a corporation or non-profit organization, must fit three requirements to be held responsible for taking an action. “(1) The group agent faces a normatively significant choice, involving the possibility of doing something good or bad, right or wrong. (2) The group agent has the understanding and access to evidence required for making normative judgments about the options. (3) The group agent has the control required for choosing between options.”

This second requirement is critical for judging intent to mislead, rather than an inadvertent spread of misinformation. A firm with sufficient resources to assemble, analyze, and interpret facts “cannot be excused from spreading disinformation by claiming ignorance or error, especially where the same disinformation is repeated regularly and always erring in the same direction.” They absolutely meet the “understanding and access” threshold established by List and Pettit. If a firm can be expected to exhibit care in organizational management and finance, it is reasonable that they can be held responsible as an agent when spreading disinformation.

Three Steps to Documenting Disinformation Supporters¹

The aim of this report is to provide a methodology for identifying climate denial supporters among potential donor organizations for universities. Thus, the first part of the methodology identifies organizations that publish climate denial, and from that, we identify the donor organizations that have supported these publishing organizations through grants, and finally, we build metrics on the donor organizations grants to determine any donor organizations level of commitment to climate denial. In the following chapters, we present our methodology, how we utilize it, and the data we found from it.

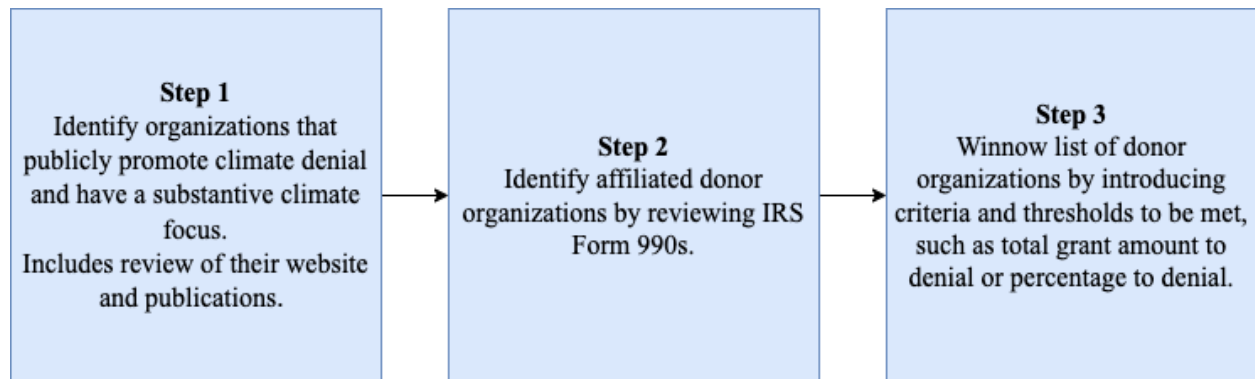
We started with an original list of candidates identified by prior research. This preliminary list of 508 potential Climate Change Countermovement² (CCCM) organizations was assembled from the CCCM censuses found in Brulle (2014), Farrell (2016), and McKie (2018). We narrowed down this preliminary list by removing inactive and irrelevant organizations. The remaining candidates were coded by a group of researchers using a census instrument, which combined several sources of information to answer two questions about each organization: 1) Does the organization have a substantive focus on climate change, and 2) Does the organization engage in climate denial? Organizations assessed as having no focus on climate change or having no engagement in denial were removed from the list. These coding categories (substantive climate focus and engagement in climate denial) served the purposes of weeding out the active but no longer relevant candidate organizations. This final list contains organizations that publish climate denial discourses and have a substantive climate focus.

To better focus the analysis, the methodology addresses only 501(c)(3) and 501(c)(4) members. This allows for financial data for each organization through IRS Tax Returns. This organizational revenues, expenses, and assets were gathered from databases of IRS 990 filings maintained by the National Center for Charitable Statistics and Guidestar, and gaps were filled in by hand from organizations' self-reported financial statements where possible. We compiled this data for all grants to CCCM members available in the Foundation Directory Online, and gaps in the records of the 95 top grantmakers by total grants to the CCCM were filled by hand. The list of flagged organizations was coupled with grant data to make connections to donor organizations to ultimately make criteria for determining any donor organization's level of commitment to the CCCM based on its grants to denial organizations. The methodology process is summarized in Figure 1.

¹This methodology is adapted from Brulle et al. 2021 supplemental online materials, focusing only on identifying supporters of climate science denial, not discourses of climate delay, or disinformation about the viability of renewables and other solutions to the climate crisis. We also add another step to the methodology for developing indicators for donor organizations' level commitment in the CCCM.

²Throughout this report, the term Climate Change Countermovement (CCCM) is used, referring to the coordinated effort to oppose climate action constructed between corporations affiliated with fossil fuels, trade associations, conservative think tanks, philanthropic foundations, and public relations firms (Brulle et al., 2021).

Figure 1. Summary of quantitative methodology.



Coding and Key Terms

The CCCM census was carried out by a team of five researchers including the project leads. The researchers performed the census through a series of *coding* rounds in which information on each potential CCCM organization was reviewed based on a census instrument, and coders then followed a set of decision procedures to determine whether to include the organization in the final list of CCCM organizations.

The coding process was divided into two stages: 1) Coders filtered organizations from the preliminary list using criteria defined in the coding instrument below, and 2) Coders categorized these organizations by their degree of focus on climate change and the nature of their public messaging about climate change.

Coding criteria:

- *Substantive focus on climate change*: For the purposes of this study, an organization with substantive focus on climate change is an organization with a sole focus on environment, climate change, and/or energy policy, or an organization with environmental, climate change, and/or energy policy listed as one of multiple central issues on its website.
- *Climate denial*: Climate denial is defined as public skepticism towards mainstream climate science as defined by the Intergovernmental Panel on Climate Change, as reflected in the coding scheme in Table 1, above.

Step 1: Preliminary List

A preliminary list of candidate organizations was compiled from the CCCM censuses found in Brulle (2014), Farrell (2016) and McKie (2018), as well as organizations listed in the database of climate misinformation actors maintained by DeSmog, all members of the State Policy Network, and all members of the Atlas Network in the United States. The last two groups, which are networks of conservative think tanks (CTTs), were included because CTTs have played central roles in publishing climate science denial and skepticism (Dunlap & Jacques, 2013; Plehwe, 2014).

The preliminary list contained 508 potential CCCM organizations. Before the full coding was conducted, two coders researched each organization to determine whether it is currently active, and whether its activities were relevant to climate change or energy policy. A third coder acted as a tiebreaker in case of disagreements. If the organization's website demonstrated recent, active engagement on the topic of climate change or emissions and energy policy (defined as ten or more pieces of relevant media of any kind produced since 2016) this was considered a sufficient condition for inclusion in the next coding step. If the organization was formed after 2016, then a minimum average of two pieces per year on these topics was considered sufficient. This filtering process removed multiple organizations included in prior censuses of the CCCM, including 59 organizations incorporated in one of the three prior academic studies which are no longer active. While a full historical study of the CCCM would also include now-defunct organizations, our intention was to capture the CCCM as it presently exists.

Third-party sources were consulted for evidence of recent activity in this area that did not appear on organizations' websites, including DeSmog, SourceWatch, and the Energy Policy Institute. Additionally, if climate or energy were mentioned specifically in the organization's mission statement, "About Us" web page, or equivalent, this was also considered a sufficient condition for inclusion.

Descriptive Coding

1. IRS metadata

All organizations which passed the filter described above were analyzed by two coders who collected standardized information describing their public stance on climate and energy issues. First, the following information was collected from their most recent submitted IRS 990 forms:

- (1) The organization's name and business name;
- (2) The tax-exempt status of the organization;
- (3) The organization's mission statement and listed website;
- (4) Descriptions of the organization's activities over the past year.

2. List of media

Lists of media for use in coding were created by using each website's search function for the following keywords: *climate change*, *global warming*, *greenhouse gas*, *fossil fuel*, *carbon*, *energy*, *environment*. If the website did not have a functional search function, a Google search of the website's contents using the keywords was utilized (`site:[website title] [keyword]`). The first ten relevant pieces that surfaced during this search were selected as the material for coding.

3. Website metadata

Coders were required to visit the official website of each organization. The mission statement and biographical section were reviewed and scanned for mentions of climate change, the environment, energy, and related matters, as well as evident stances on said topics. The biographical section was then searched for the term "grassroots" to determine whether the

organization describes themselves or its actions as grassroots.^[1] Lastly, the website was scanned for a section dedicated to climate change and global warming, the environment, energy, or closely related topics.

4. NGO database metadata

After recording all relevant information from the website, third-party sources were consulted. First, we checked whether organizations were listed in DeSmogBlog's Climate Disinformation database, a website for documenting "accurate, fact-based information regarding global warming misinformation campaigns" (DeSmog, 2022). If the organization was listed in the DeSmog database, coders recorded cited evidence of climate denial occurring 2016 and later.

Using a list gathered from DeSmog's database and released conference programs, coders marked whether the organization had sponsored any of the Heartland Institute International Conferences on Climate Change (ICCCs), notable conferences centered on climate denial, with more weight given to the four most recent conferences. These meetings gather together some of the central organizations who still publicly question the core findings of climate change science, and although their membership has declined since its early 2000's peak, it remains an important indicator of membership in the core cadre of the CCCM.

Further evidence of climate denial and delay of climate action since 2016 was gathered from the SourceWatch database and the Energy and Policy Institute's research on front groups. SourceWatch was used for its clear and concise information about corporate public relations campaigns. The Energy and Policy Institute was chosen for its work to "expose attacks on renewable energy and counter misinformation by fossil fuel and utility interests" (EPI, 2022). In each case, the coder determined whether the available evidence indicated clear climate denial activities and recorded the source(s) motivating that judgment.

CCCM organizations have often coalesced in coalitions to increase their efficacy. These coalitions are typically short-lived and replaced by newly-created groups with similar intent. Currently, the most prominent coalition touting climate denialism is Cooler Heads Coalition, a project of the Competitive Enterprise Institute (Brulle et al., 2019). Membership in this coalition is a strong indicator that an organization should be under close scrutiny for denial of climate change, due to this coalition's record of undermining climate science. Coders were directed to the Cooler Heads Coalition official website to record whether an organization is a listed member.

5. Media

Coders then reviewed the assemblage of media for each organization to determine the degree to which denial discourses were present. Coders were asked to reference two documents, *Climate Denial Decision* and *Climate Focus Decision*, along with their corresponding flowcharts, to ensure consistency across coders' perceptions of the issues. The flowcharts are available at the end of this section.

6. Organization coding

After completing all previous steps of the coding process, coders were directed to make a final judgment of the organization’s degree of climate focus and denial status in accordance with the standards established by the aforementioned documents.

Climate Denial Decision

Coders made decisions regarding the inclusion of an organization in the CCCM. Specifically, coders decided if the organization constituted a “denial organization.” The decision process was rooted in a thorough analysis of the corpus assembled during the filtering process for each organization, as well as other relevant information obtained from the NGO databases listed above. The process is described below and has also been illustrated in Figure 2 below.

While reading through the assembled corpus for each organization, coders referred to a list of six climate denial discourses. This list can be found in the preceding “Definitions” section. Each coder noted the extent to which the organization at hand exhibits any of the denial discourses.

After gauging the degree to which these denial discourses are evident in an organization’s website material and conducting third party discovery, each coder categorized the organization based on the decision process described previously and illustrated in the flowcharts at the end of this section. This decision process incorporates evidence collected by third-party NGOs; records of organizational support for central climate denial efforts such as the Cooler Heads Coalition or the Heartland Institute’s International Conference on Climate Change, which indicate central support for climate denial; and the coders’ reading of the assembled corpus.

If the organization exhibited at least one denial discourse, this was considered a sufficient criterion for the organization to be classified as a denial organization. Even if an organization is absent of denial discourses, it can still engage in climate delay, however this is not included in this version of the methodology. List of the denial discourses is included Table 1.

Degree of Focus Decision

Coders decided if the organization had a substantive focus on climate change. The decision was based on third party records of each organization’s actions regarding climate change and an evaluation of the media assemblage and website for each organization. The process is represented in Figure 3.

Third party examination involved utilizing external sources to assess whether climate change is a primary cause for the organization. Some evidence is considered sufficient criteria for constituting substantive focus, such as sponsorship of Heartland Institute’s IPCC or membership in the Cooler Heads Coalition.

If climate change, energy, or the environment was one of the listed core issues for an organization, this automatically qualified it as “substantive focus.” If an organization did not list core/key issues on its website, coders determined how easily they could navigate to information on the organization’s stance on climate change. If information on energy, the environment, or climate change could be found within three clicks from the main page, without further searching,

this was considered a demonstration of substantive focus on climate change. Moreover, if the organization mentioned climate change in its mission statement, “About” page, or a page with equivalent purpose, this was also considered a demonstration of substantive focus on climate change. Were the organization to not have climate change, or a related issue, listed as a core/key issue or mentioned in the mission statement, “About” page, or equivalent, and if information about climate change could not easily be found by navigation from the home page, the organization was deemed to either have peripheral focus or no focus on climate change, dependent on the rhetoric used in the organization’s assembled corpus.

If the organization did not fulfill one of the strict qualifying conditions, coders were allowed to make a judgment on the organization’s degree of focus altogether considering the amount of material published on climate change since 2016, the amount of content on climate relative to other issues, and records from NGOs. This flexibility allowed coders to capture substantive engagement on climate change by e.g. organizations with a minimal online presence or a hard-to-navigate website.

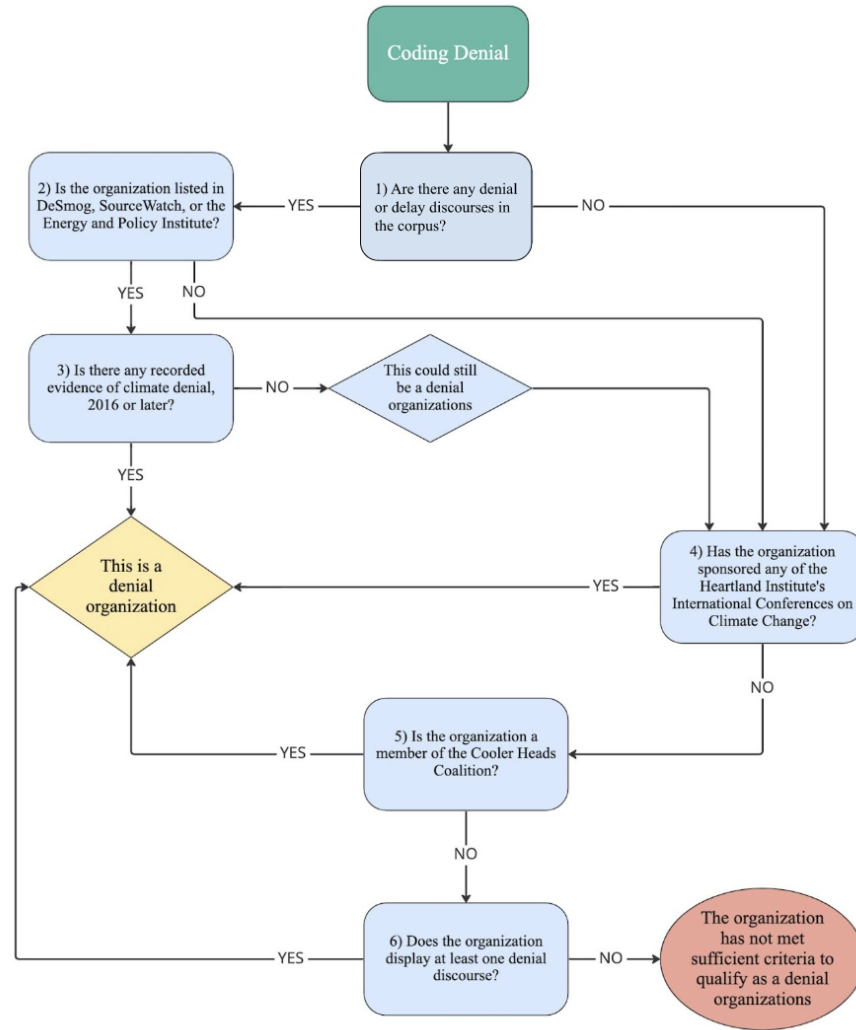


Figure 2. Climate denial decision tree (Step 1a). This flowchart illustrates the conditions sufficient for a think tank or other organization to be categorized as engaging in climate denial. Each coder followed these instructions to assign labels of climate misinformation during the coding process. “At least one denial discourse” refers to the six denial discourses defined in Table 1 (see text).

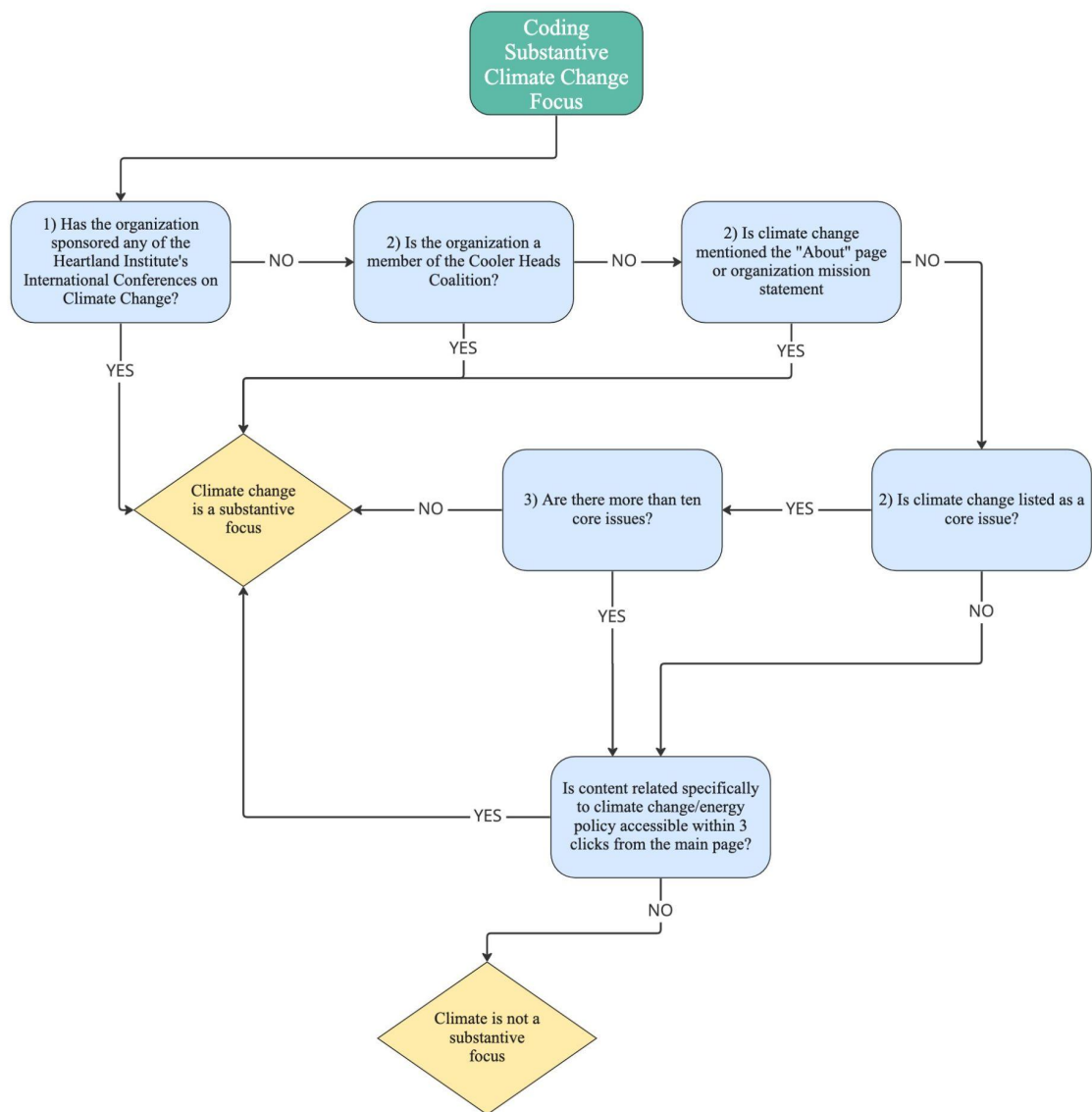


Figure 3. Climate focus decision tree (Step 1b). This flowchart illustrates the conditions sufficient to be categorized as engaging in the topics of climate change and/or energy policy. Each coder followed these instructions to assess an organization’s level of focus during the coding process.

Step 2: Foundation Funding and IRS Data

Donations Dataset

After the census of CCCM organizations was completed, a dataset was compiled containing all publicly available private grants to the CCCM groups. All information in this dataset comes from one of three sources: the Foundation Directory Online (FDO), IRS 990 forms filed by grantmaking institutions, and publicly reported grantee lists published on the websites of

grantmaking institutions. The sole exception is data on grants made by Donors Trust and Donors Capital Fund, which were collected from the records made public on DeSmogBlog. While the FDO maintains a proprietary database, all information collected from it ultimately sources from public charitable donation disclosures.

For each CCCM organization, a search was carried out for grantees matching all variants of the organization's name that appeared in the FDO auto-complete tab. Then all grants made to the grantees were downloaded and combined into a single sheet which was processed in OpenRefine to resolve inconsistencies in the names of donors.

The dataset of donations from FDO contained gaps in funding records from certain donors; in many instances entire years of data were left unrecorded. It was not feasible to fill gaps in funding data for all 3000+ grantmakers in the dataset. Instead, the top 100 donors by average yearly donation were selected for gap-filling. These top 100 donors represented 80% of the total recorded donations prior to gap-filling. These data gaps were filled by the following process:

1. The IRS filings for the corresponding years were searched for in each of the following sources (in order): Guidestar Pro, ProPublica, and the IRS website. If the correct IRS filing was found and it contained donation records, all grants to CCCM organizations were transferred to our dataset by hand.
2. If no IRS filing was found or if it was found but did not contain the required information, we checked the website of the donor to see if yearly grant records were self-published. If they were, those records were transferred to our database by hand.
3. If no IRS filing and no self-published grant records could be found, *total* yearly grants from each funder to the CCCM were linearly interpolated from the closest available funding years before and after the target year. This step was only performed once all possible gaps were filled with methods (1) or (2), to ensure that the funding years used for linear interpolation were as close together as possible. Grants to individual grantees were not linearly interpolated because grantmakers frequently change the distribution of their grants within the CCCM even if their total grantmaking to the CCCM remains similar year-over-year.

Organization Metadata from IRS

A rich array of metadata on each CCCM organization was collected from GuidestarPro. Guidestar transcribes the fields available on IRS 990 filings from the past two decades onto web pages corresponding to each nonprofit in their database. All but 10 of the CCCM organizations had records in the Guidestar database. For every available organization, the expenses, revenue, and assets were scraped from the Guidestar web pages and assembled into a set of spreadsheets. These fields include yearly revenue and expenses broken down into source categories for every year. Furthermore, from IRS 990 filings, we collected the total amount each grantmaking organization had spent on any "Contributions, gifts, grants" in 2018, which was used to calculate the percentage each donor organization spent on grants to denial organizations proportional to

their overall grant amount. This proved valuable in determining donor organizations' level of commitment to climate disinformation.

Data analysis

Data analysis was carried out in Python primarily using the Pandas package (Reback et al., 2020). The analysis treated organizations with the same board or parent organization identified on 990 filings — for instance, Heritage Action and the Heritage Foundation — as single institutions. Where applicable, financial data from these organizations, such as contributions or grants, were summed and labeled with the name of the parent organization. Isolated gaps in organizations' financial records were interpolated linearly from the nearest available years. Datasets from different sources (e.g. FDO and IRS 990 filings) were cleaned to ensure that all identifiers were consistent across files.

Step 3: Relationship Between Donor and Recipient Organizations

With its emphasis on publicly available statements on climate change, this *coding* procedure flags organizations that publish climate disinformation themselves but does not identify which donor organizations can be classified as denial organizations. Coupling the coded recipient organizations with our data on where their grants come from, opportunities for creating criteria for donor organizations to be classified as denial organizations emerge. For each donor organizations, we aggregated all its grants given to climate denial organizations which gave us data on each donor organization's number of grants to climate denial organizations, total amount given to climate denial organizations, and percentage of grant amount to climate denial organization proportional to the total amount given to any kind of organizations. This grant data can be utilized as indicators and criteria for determining a donor organizations level of commitment to the CCCM. Later in the report, we develop metrics on these indicators to determine any donor organization's level of commitment to climate denial.

Quantitative Findings and Sample Tiers of Association

The process above conducted by Brulle et al. (2021) yielded a list of organizations that have a substantive climate focus and engage in climate denial, as well as the donor groups that are tied to these organizations through gifts and grants. In this section, we re-analyze their data alongside indicators for determining donor organizations' level of commitment to climate denial. The indicators we piloted include: **donor organizations' total grant amount given to denial organizations in 2018; number of grants given in 2018; percentage of donation portfolio given to denial organizations in 2018; and average percentage change in grant spending to denial organizations in the years 2003-2018.**

This section ends with a discussion of how these indicators can be used in combination to determine a donor organization's level of commitment to climate denial. Universities and other stakeholders interested in dissociating from climate denial organizations may use the data we present in the following section or they might use our methodology to scrutinize their own organizations in question.

The grant data presented in this section is from 2018, however, the broader dataset contains all our recorded grants in the time period 2003-2018. We focus on 2018 in this section to identify donor organizations that have recently contributed to denial organizations. However, we include all the data for the time period 2003-2018 in the Appendix, and at denialdenied.org, for those interested.

A total of 86 publishing organizations were found to be involved in climate denial with a substantive climate focus. Subsequently, we found 1,257 donor organizations involved with these organizations through grants in 2018, and a total of 3,126 organizations involved through grants at some point between 2003 and 2018. Table 2 shows the top lines of data on organizations coded as having substantive climate focus and promoting climate denial.

Table 2. Example of Climate Change Counter Movement member organizations that published climate denial content during the period reviewed by Brulle et al. 2021 (2003-2018).

Organization	Nonprofit type	EIN	Substantive climate focus	Climate denial
Accuracy in Academia	501(c)(3)	521400302	1	1
Accuracy in Media	501(c)(3)	237135837	1	1
Acton Institute for The Study of Religion And Liberty	501(c)(3)	382926822	1	1
Advocates for Self Government	501(c)(3)	770099744	1	1
Allegheny Institute for Public Policy	501(c)(3)	251704173	1	1
America's Future Foundation	501(c)(3)	521928321	1	1
American Coal Council	501(c)(6)	840912828	1	1

As mentioned, having these flagged organizations along with their received grants allows for universities and other organizations to make connections to donor organizations and identify any donor organization's level of commitment to the CCCM. These indicators include the donor organization's absolute amount given to denial organizations in 2018, the number of grants given

to denial organizations in 2018, the percentage of the donor organization's overall grant amount given to denial in 2018, and the average annual change in grants to denial organizations through the years 2003-2018. Taken together, these indicators can give a broad view of a donor organization's absolute contribution to the denial movement, relative commitment, and consistency in support since 2003.

Table 3 shows the top ten donor organizations ranked by their absolute grant amount given to climate denial organizations. The other indicators: number of grants, percentage to denial organizations, and average annual change are included as well.

Table 3. Top ten donors by grant amount given to denial organizations in 2018, by total funding, percent of portfolio, and change from 2010 to 2018 (three year averages).

Donor Organization	No. Grants, 2018	Grant Amount, 2018	% grants to denial organizations, 2018	Change 2010-2018
Donors Trust	65	\$27,568,461	24.99%	TBD
Charles Koch Foundation	48	\$15,796,900	12.38%	
Sarah Scaife Foundation, Inc.	40	\$11,070,000	28.53%	
National Christian Charitable Foundation Inc	31	\$6,557,410	0.50%	
Searle Freedom Trust	30	\$6,331,800	28.53%	
Lynde And Harry Bradley Foundation, Inc. The	54	\$5,471,600	14.34%	
Kern Family Foundation	2	\$4,964,050	10.74%	
John Templeton Foundation	2	\$4,507,871	3.77%	
Orange Crimson Foundation	1	\$4,000,000	19.48%	
Thomas W Smith Foundation Inc	17	\$3,761,974	26.96%	

We have presented donor organizations and various data on their grants to denial organizations, which includes: grant amount, number of grants, percentage of their total grant amount going to denial organizations, and their average annual grant amount percentage change. These indicators can be used in combination to set criteria thresholds for flagging a donor organization as committed to supporting denial organizations. For example, to meet the criteria as a supporting donor organizations a threshold might be set, *or* a certain percentage of their overall grant portfolio in dollars. Criteria can be made narrower by increasing thresholds or adding other conditions, such as a threshold for average annual percentage increase. What indicators and threshold are chosen depends on where the emphases lie: the absolute and/or relative contribution to denial organizations, the consistency of commitment over time, and the strictness desired.

We propose a model policy and screening tool in which we present appropriate thresholds. In Table 4, we provide a three-tiered model for how institutions might categorize potential donors based on their contributions to climate denial organizations in 2018. These thresholds include, **Tier 1:** annual contributions to climate denial exceed \$500,000 or 10% of total donations. Organizations in Tier 1 include Donors Trust, the Charles Koch Foundation, and the Sarah Scaife Foundation. **Tier 2:** annual contributions to climate denial between \$100,000

and \$499,999 or at least 5% of total donations. **Tier 3:** between \$10,000 and \$99,999 or at least 1% of total donations given. Full lists of funders are provided in the Appendix and [website](#).

Any university or other stakeholder is of course free to use the thresholds we set or adapt our metrics and set their own thresholds based on their areas of concern. We encourage universities and stakeholders to adapt our screening tool or use our online available data with their own appropriate conditions and thresholds.

Table 4: Sample Tiers of Association between foundations and climate disinformation groups.

Tiers	Number of foundations identified	Examples
Tier 1a: 10% of contributions	In progress	The Precourt Foundation, Balance for Freedom Inc., Sarah Scaife Foundation Inc.,
Tier 1b: \$500,000+	58	Donors Trust, Charles Koch Foundation, Sarah Scaife Foundation.
Tier 2a: 5%	In progress	Grover Hermann Foundation Inc., The Kovner Foundation, Dick and Betsy DeVos Family Foundation.
Tier 2b: \$100,000-\$499,999	138	The Chase Foundation of Virginia, The Armstrong Foundation, The Roe Foundation
Tier 3a: 1%	In progress	Diana Davis Spencer Foundation, Smith Richardson Foundation, Triad Foundation Inc.
Tier 3b: \$10,000-\$99,999	445	The Chicago Community Trust, The Woodford Foundation, The Minneapolis Foundation

Validation and Expansion: Qualitative Approaches

To build a comprehensive and holistic screening process, we outline qualitative tools for evaluating an organization's role in climate disinformation. This serves as supplemental processes in addition to quantitative analysis. Since data on corporate giving is more difficult to obtain than foundation portfolios, qualitative analyses and case studies will be increasingly required in the future. Universities are not expected to review every organization qualitatively, however examples of corporations, like ExxonMobil, that have not been screened within the quantitative measures deserve further investigation. These qualitative measures serve as a framework in the case that an organization is flagged as an entity worthy of further investigation and consideration.

We will outline donations based on the data offered in the above section, before reviewing qualitative measures offered in Princeton University's report *Metrics, Principles, and Standards for Dissociation from Fossil Fuels at Princeton University* (Ramaswami et al. 2022). The report identifies four evidence bases and modes of climate disinformation used when assessing whether an organization is affiliated with climate disinformation through qualitative measures. The modes include:

1. Membership in organizations that spread disinformation.
2. A company's internal vs. external communications.
3. A company's public statements.
4. Ads, social media, and other sources.

While we use Princeton's measures as a reference, we have built upon these approaches through piloting the review of several foundations. Princeton assesses companies, however this research focuses on foundations (for data reasons), therefore the language has been changed to address foundations. Below are revised measures used to screen organizations:

1. Membership in organizations that spread disinformation. Using lists produced by Brulle 2013/2014, Farrell 2015, Brulle et al. 2021, and Brulle 2022, if a member of an organization is affiliated with any identified disinformation group, they will be flagged as connected with climate disinformation organizations (Ramaswami et al. 2022). Princeton's report outlines two viewpoints when considering whether an individual is a member. One view states that if a disinformation supporter is a passive participant and does not donate a significant amount, that should not be considered as a substantive screening measure. A contrasting view is that any affiliation as a member, regardless of the extent to which they participate, is still involved in the campaign, and therefore is a factor to consider in assessing an organization's role in propagating climate disinformation (Ramaswami et al. 2022). This report commits to the latter view in assessing qualitative measures of climate denial and disinformation.

2. A Foundation’s internal vs. external communications. This is measured as internal communications between members of a firm compared to outward facing messaging to the public. This measure was not revised further from Princeton’s definition (Ramaswami et al. 2022).
3. A Foundation’s Public Statements. Princeton lists public communication as a method of identifying climate disinformation. Specifically, they state that climate action plans should be considered as material to review, citing Climate Action 100 as a database for climate action plans published by some of the biggest contributors to greenhouse gas emissions (Climate Action 100+, 2022).
4. Ads, social media, and other sources. Climate denial tactics messaged through advertisements and social media. This measure was not revised further from Princeton’s definition (Ramaswami et al. 2022).

Case Studies

To apply qualitative measures as a supplementary tool in identifying a foundation as a climate disinformation affiliate, these case studies provide three different applications for qualitative analysis in screening a foundation. With that, quantitative designations will be presented to explain how each foundation represents a different tier of potential donors. The tier designations refer to a proposed screening tool presented in the subsequent section of this report (see “A Proposed Way Forward”). Then, we will provide qualitative measurements using the indicators above to assess foundations’ affiliations with climate disinformation and denial. Emphasis is placed on Tier 2 organizations to utilize qualitative measures in screening a potential donor; quantitative measures are strong indicators of the extent to which an organization is affiliated with climate disinformation for Tier 1 and Tier 3, with Tier 1 proving to be strongly affiliated and Tier 3 being loosely affiliated. Regardless, the four measures are offered as a recommended supplementary material for any donor evaluation.

In developing this research beyond funding from foundations beyond this report, qualitative screenings will be more applicable to other entities (i.e. corporations) which have more of an outward facing messaging presence. Princeton University’s recommendations focus on companies and corporations, in which case qualitative measures may produce more substantive results for a broader range of donation amounts and affiliated donors. As determined in the case studies below, these qualitative measures are most useful in evaluating donors identified as Tier 2 funders.

The Dunn Foundation (Tier 1)

Donations: The Dunn Foundation can be identified as a Tier 1 organization based on the proposed screening tool of this report. Before assessing qualitative indicators of climate disinformation affiliation, we will present a quantitative context to explain its placement in the Tier 1 category. Based on tax forms and trustee affiliations, The Dunn Foundation is closely

affiliated with climate disinformation campaigns. 990 forms from 2017, 2018, and 2019 reveal ties to organizations with direct missions related to propagating climate disinformation. In 2017, The Dunn Foundation donated \$70,000 to the Atlas Network, \$50,000 to the Cato Institute, and another \$50,000 to Heritage Foundation. These donations were identified as “general and unrestricted” gifts. The foundation also gave to the Institute for Humane Studies in 2017, however they did not in 2018 or 2019 (The Dunn Foundation, 2017). Instead, they began giving to the Mercatus Center at George Mason University. In 2018, they gave \$20,000 with no specific purpose, and in 2019 they gave \$10,000 to the Center (The Dunn Foundation, 2018). Both the Mercatus Center and the Institute for Humane Studies have affiliations with Charles Koch, and have been documented as participants with Koch’s “secret donor summits,” (UnKoch My Campus, n.d.). In 2018, continued donations to the same institutions reveal more explicit intentions for funding. While the foundation gave \$100,000 to the Atlas Network for “general and unrestricted” funds, they also gave a total of \$200,000 to the same organization “to support development differently,” (The Dunn Foundation, 2018). The Cato Institute and Heritage Foundation have been identified as “central conservative institutions” and are noted as top grant makers to CCCM organizations (Fisher, 2021).

Membership affiliations: Beyond tax forms, it is important to acknowledge trustees of The Dunn Foundation and their ties to climate disinformation. Bill Dunn, the Trustee Emeritus of the foundation, includes in his profile on The Dunn Foundation website that he is a “longtime supporter and board member of free market policy organizations such as Reason Foundation, Cato Institute, Competitive Enterprise Institute, Institute for Justice, and the Property and Environment Research Center, Bill's thoughtful perspective has helped lay the intellectual groundwork necessary for a free society,” (*Bill Dunn*, n.d.). Thomas Beach is also a trustee with The Dunn Foundation, along with serving as a board member for the Commonwealth Foundation, DonorsTrust, and Pennsylvania Lumberman’s Mutual Insurance Company (Dunn Foundation, n.d.). Brulle et al. identifies 219 donors to the Commonwealth Foundation where funds were affiliated with climate denial through language around climate change (Brulle et al. 2021). The Reason Foundation received 999 donations for work that included climate denial between 2003-2018 (Brulle et al. 2021).

The Dunn Foundation’s public statements: The DeSmog database states that there are no official public statements on climate change, however they similarly emphasize their direct funding to various organizations such as the Cato Institute, the Heartland Institute, and the Reason Foundation (Fisher, 2021). While public communication does not explicitly address climate change, both board affiliations and funding streams to organizations that have consistently propagated climate denial corroborate the quantitative proof of the Dunn Foundation’s significant connection to networks of climate disinformation.

The ExxonMobil Foundation (Tier 2)

Donations: Many major corporations set up foundations for their tax exempt donations. Educational support from the ExxonMobil Foundation is evident through 990 tax forms. In 2018 alone, the total donations for Educational Matching Gifts as recorded in “appropriation per books” equals \$36,503,257.77 of a total of \$64,500,230.74 in donations. Higher Education gifts were reported as \$800,000 in 2018 (ExxonMobil Foundation, 2018).

The ExxonMobil Foundation’s internal vs. external communications: ExxonMobil has substantial discrepancies between internal and external communications on anthropogenic global warming (AGW) and climate science. Inside Climate News broke the #ExxonKnew story in 2015, revealing over 40 years of internal records from the company documenting how Exxon not only was aware of the consequences of AGW, but was spearheading research on the issue. The company knew about climate change beginning in 1977, producing their own peer-reviewed research on it, but by 1988, made an intentional decision to publicly frame science on climate change as controversial (Banerjee et al., 2015). Geoffrey Supran and Naomi Oreskes examine ExxonMobil’s communications between 1977-2014 further. Supran and Oreskes analyze external communications from both Exxon and Mobil, proving that prior to merging in 1999, Mobil followed mainstream climate science *and* both companies ran advertorial campaigns rooted in climate denial (Supran and Oreskes, 2017). Analysis of advertorials following the ExxonMobil merger reveal that production of external climate denial communications has continued. This research reveals that Exxon, Mobil, and ExxonMobil Corporation all participated in merchandising doubt around climate change. This took three forms: Exxon and ExxonMobil Corporation misled the public by producing discrepant communications, propagating direct and indirect climate denial, and finally Exxon, Mobil, and ExxonMobil all produced advertorials and non-peer-reviewed publications founded in misinformation (Supran and Oreskes, 2017).

The ExxonMobil Foundation’s public statements: The ExxonMobil Foundation’s public statements can be characterized as verbally supporting climate action, coupled with messaging that cautions against the need for massive reductions in emissions or regulation, particularly as it pertains to the core of their business being a key contributor to anthropogenic climate change. In addressing climate change and greenhouse gas emissions, ExxonMobil emphasizes what they characterize as “The Dual Challenge,” (ExxonMobil, 2019). This challenge is framed as a balance between accommodating the growing demand for energy as populations increase, while simultaneously mitigating climate change risks. Within “The Dual Challenge” Carbon Capture and Sequestration (CCS) is listed as the primary mode of addressing climate change (ExxonMobil, 2019). Though possibly an important part of reaching net zero, after decades of research, CCS remains energy intensive and remains largely financially unviable (see e.g. sources in Drugmand and Muffett 2021). Focusing on CCS also can provide justification for delay of taking other more immediate and proven actions such as energy efficiency and conservation, adopting standards, regulation and pricing, and developing adequate incentives for installation of renewable energy sources.

While ExxonMobil has expertly shifted messaging to addressing and explicitly mentioning climate change and the need to reduce greenhouse gas emissions, they have done little in practice to shift the course of their business. In 2021 alone, they spent only 0.16% of capital investments on low carbon activities (Greenberg, 2021). What they do offer is mitigation strategies to “reduce emissions while creating more efficient fuels,” (ExxonMobil, n.d.). This answers everything but how the oil and gas industry itself is a principal factor in perpetuating climate change and constructing the climate change disinformation movement.

Smaller Donation Amounts

Example: Omaha Community Foundation

The Omaha Community Foundation falls into the third category of smallest donations based on our proposed screening (see “A Proposed Way Forward,” below). In 2018 alone, the Omaha Community Foundation gave 21 grants to organizations advancing climate denial, totalling \$60,225 (Brulle et al., 2021). However this made up only 0.11% of the foundation’s total giving for that year (Omaha Community Foundation, 2018). In examining these four qualitative measures, the Omaha Community Foundation, along with several other organizations that fell into the Tier 3 category, did not produce any evidence of significant affiliations with climate disinformation and denial. This exemplifies the adjustable use of these measures and the emphasized application of qualitative analysis for Tier 2 foundation funders that we recommend. As stated earlier in this section, applying these measures to companies rather than foundations may yield more substantive analysis across funding tiers with the assumption that companies produce more prolific public messaging.

A Proposed Way Forward: A Model Policy and Screening Tool

The above sections do not apply a policy process, but rather present usable data and methods to identify the extent to which donors are affiliated with climate disinformation in the form of climate denial. Building from these quantitative and qualitative measures, we propose a novel screening process to aid the university in its decision to accept, reject, or conduct further review of a gift, grant, or contract.

The quantitative data used in this methodology is compiled in a searchable, web-based tool to provide administration, development staff, and faculty with access to information on potential donors’ contributions to climate disinformation organizations ([Denialdenied.org](https://denialdenied.org), developed by Brown University’s Climate and Development Lab). With that information, institutions can adopt their own criteria for screening donors.

In Table 4, we provide a three-tiered model for how institutions might categorize potential donors based on their contributions to climate denial organizations in 2018. We prebased indicative numbers of foundations identified with different thresholds of support for climate denial organizations. These thresholds include, **Tier 1:** annual contributions to climate denial exceed \$500,000 or 10% of total donations; **Tier 2:** annual contributions to climate denial between \$100,000 and \$499,999 or at least 5% of total donations; and **Tier 3:** between \$10,000 and \$99,999 or at least 1% of total donations given. To further illustrate the application of this tiered approach, Table 4 highlights organizations that meet the criteria specified within each tier. For example, organizations in Tier 1 include Donors Trust, the Charles Koch Foundation, and the Sarah Scaife Foundation. The list of donor organizations in tier 1a is provided in the Appendix, and the full list of donor organizations are available online (Denialdenied.org.)

We suggest that the thresholds and tiers within this model could be adapted to fit different criteria based on a university's policy. Additionally, the narrow focus on organizations that support climate change *denial* could be expanded to include organizations that enable climate action *delay*, or groups producing disinformation about *solutions* to climate change, not just the science of the *problem* of climate change. This screening tool could also be applied to other types of disinformation organizations, such as those spreading COVID-19 or other health-related disinformation. Universities could, of course, add or remove organizations from these lists.

Ideally, with time, a national or international clearinghouse of “potential offender” organizations could be created to develop more rigorous methods for determining what organizations belong on their lists. That is essentially how many universities treat their logo products: nonprofits were created after the sweatshop movement to investigate firms and help universities make informed decisions. However, no such clearinghouses exist for science disinformation organizations: it is a case where there is the potential for a university or consortium to be a national or international leader. Such a university or group of universities will have a leading role in defining those lists and the development of such a clearinghouse.

After review by this faculty consortium (or eventually a national nonprofit), foundations and companies could be informed that they have been placed on a list of suspected disinformation supporters. They could be offered the opportunity to prove that they have not, or have ceased to support science disinformation. Organizations could be given 1 or 2 years to address the issue, and could be re-reviewed. If capacity was developed, organizations should be allowed the opportunity to document that they do not knowingly undermine science or science-based policy, nor support organizations which advance disinformation. If an organization provided documentation showing they had ceased supporting organizations which advance disinformation, or never had, they could be removed from a list.

If an organization decided not to cease such support for organizations which advance climate disinformation, or continued to knowingly undermine science or science-based policy, after a final warning, universities could refuse funding or not consider their contracting bids from consideration. In the cases of essential contractors, a university can make an exception, but seek replacement firms. In the case of donors, universities would be acting according to their core

values by rejecting funding from individuals or organizations who knowingly undermine climate science or support organizations which advance climate disinformation. Finding substitute funders for important research is a crucial next step, as Princeton's trustees promised to undertake.

References

- American Enterprise Institute. (n.d.). *Board of Trustees*. Retrieved October 26th, 2022, from <https://www.aei.org/about/board-of-trustees/>
- Atkin, E. (2020, March 4). The fossil fuel industry's public school takeover. Retrieved October 20, 2022, from <https://heated.world/p/the-fossil-fuel-industrys-public>
- Banerjee, N., Song, L., Hasemyer, D., & Cushman, J. H. (2015). *Exxon: The Road not Taken*. InsideClimate News.
- Bulle, R. J. (2014). Institutionalizing delay: Foundation funding and the creation of U.S. climate change counter-movement organizations. *Climatic Change*, 122(4), 681–694.
- Bulle, R. J. (2019). Networks of Opposition: A Structural Analysis of U.S. Climate Change Countermovement Coalitions 1989–2015. *Sociological Inquiry*. <https://doi.org/10.1111/soin.12333>
- Bulle, R. J., Hall, G., Loy, L., & Schell-Smith, K. (2021). Obstructing action: Foundation funding and US Climate Change counter-movement organizations. *Climatic Change*, 166(1-2). <https://doi.org/10.1007/s10584-021-03117-w>
- Climate Action 100+. (2022, October 24). Retrieved October 24, 2022, from <https://www.climateaction100.org/>
- DeSmog. (2022, October 5). *About Us*. Retrieved October 21, 2022, from <https://www.desmog.com/about/>
- Dick and Betsy DeVos Foundation. (2018). *Return of private foundation exempt from income tax* [Form 990-PF]. Retrieved from https://projects.propublica.org/nonprofits/display_990/456659303/01_2020_prefixes_45-46%2F456659303_201812_990PF_2020011517034866
- Drugmand, D., & Muffett, C. 2021. “Confronting the myth of carbon-free fossil fuels: Why carbon capture is not a climate solution.” Center for International Environmental Law (CIEL). Online <https://www.ciel.org/wp-content/uploads/2021/07/Confronting-the-Myth-of-Carbon-Free-Fossil-Fuels.pdf>
- Dunlap, R. E., & Jacques, P. J. (2013). Climate Change Denial Books and Conservative Think Tanks: Exploring the Connection. *American Behavioral Scientist*, 57(6), 699–731. <https://doi.org/10.1177/0002764213477096>
- Dunlap, R. E., & McCright, A. M. (2011). Organized climate change denial. *The Oxford handbook of climate change and society*, 1, 144-160.
- Dunn Foundation. (n.d.). *Bill Dunn: A Life of Innovation, Entrepreneurship, and Service*. Retrieved October 31, 2022, from <https://www.dunnfoundation.org/about.html>

Dunn Foundation. (2017). *Return of private foundation exempt from income tax* [Form 990-PF]. Retrieved from https://projects.propublica.org/nonprofits/display_990/650415977/02_2019_prefixes_65-73%2F650415977_201712_990PF_2019021416095565

Dunn Foundation. (2018). *Return of private foundation exempt from income tax* [Form 990-PF]. Retrieved from https://projects.propublica.org/nonprofits/display_990/650415977/06_2019_prefixes_62-75%2F650415977_201812_990PF_2019061816421974

Dunn Foundation. (2019). *Return of private foundation exempt from income tax* [Form 990-PF]. Retrieved from https://projects.propublica.org/nonprofits/display_990/650415977/06_2021_prefixes_63-72%2F650415977_201912_990PF_2021061018312161

Energy and Policy Institute. (2020, June 17). *Our Mission*. Retrieved October 21, 2022, from <https://www.energyandpolicy.org/about/our-mission/>

ExxonMobil. (n.d.). Retrieved October 24, 2022, from <https://corporate.exxonmobil.com/>

ExxonMobil. (2022). *Advancing Climate Solutions - 2022 Progress Report*. Exxon Mobil Corporation. <https://corporate.exxonmobil.com/-/media/Global/Files/Advancing-Climate-Solutions-Progress-Report/2022-July-update/ExxonMobil-Advancing-Climate-Solutions-2022-Progress-Report.pdf>

ExxonMobil. (2022). *Worldwide Giving*. Retrieved October 25, 2022, from <https://corporate.exxonmobil.com/sustainability/community-engagement/worldwide-giving>

ExxonMobil Chemicals (2019). *2019 Outlook for Energy: A Perspective to 2040*. ExxonMobil Corporation https://www.exxonmobilchemical.com/-/media/project/wep/exxonmobil-chemicals/chemicals/chemical-pdf/2019-outlook-for-energy_v4.pdf

ExxonMobil Foundation. (2018). *Return of private foundation exempt from income tax* [Form 990-PF]. Retrieved from https://projects.propublica.org/nonprofits/display_990/136082357/06_2019_prefixes_06-16%2F136082357_201812_990PF_2019061116401924

Farrell, J. (2016). Network structure and influence of the climate change counter-movement. *Nature Climate Change*, 6(4), 370–374. <https://doi.org/10.1038/nclimate2875>

Farrell, J. (2019). The growth of climate change misinformation in US philanthropy: evidence from natural language processing. *Environmental Research Letters*, 14(3), 034013. <https://doi.org/10.1088/1748-9326/aaf939>

Fisher, M. (2021, June 29). *Dunn's foundation for the Advancement of Right Thinking*. DeSmog. Retrieved October 24, 2022, from <https://www.desmog.com/dunn-s-foundation-advancement-right-thinking/>

Fossil Fuel Dissociation. (n.d.). Retrieved October 21, 2022, from <https://fossilfueldissociation.princeton.edu/>

Franta, B., & Supran, G. (2021, August 25). The fossil fuel industry's invisible colonization of academia. *The Guardian*. Retrieved October 20, 2022, from <https://www.theguardian.com/environment/climate-consensus-97-per-cent/2017/mar/13/the-fossil-fuel-industrys-invisible-colonization-of-academia>

Greenberg, J. (2021, November 8). Oil companies talk about low-carbon projects. How much do they spend on them? *Politifact*. Retrieved October 24, 2022, from <https://www.politifact.com/article/2021/nov/08/oil-companies-talk-about-low-carbon-projects-how-m/>

Hertel-Fernandez, A., Skocpol, T., & Sclar, J. (2018). When political mega-donors join forces: How the koch network and the democracy alliance influence organized U.S. politics on the right and left. *Studies in American Political Development*, 32(2), 127–165. <https://doi.org/10.1017/s0898588x18000081>

House Committee on Oversight and Reform. (2022). “Fueling the Climate Crisis: Examining Big Oil’s Prices, Profits, and Pledges.” 117th Cong. <https://oversight.house.gov/legislation/hearings/fueling-the-climate-crisis-examining-big-oil-s-prices-profits-and-pledges>

Influence Watch (n.d.). Dunn Foundation. Retrieved October 31, 2022, from <https://www.influencewatch.org/non-profit/dunns-foundation-for-the-advancement-of-right-thinking/>

Jacquet, J. (2022). *The Playbook: How to Deny Science, Sell Lies, and Make a Killing in the Corporate World*. Van Haren Publishing.

Lee, J., & Bannerjee, N. (2020, December 5). *Science teachers respond to climate materials sent by Heartland Institute*. Inside Climate News. Retrieved October 20, 2022, from <https://insideclimatenews.org/news/22122017/science-teachers-heartland-institute-anti-climate-booklet-survey/>

List, C., & Pettit, P. (2011). Group agency: The possibility, design, and status of corporate agents. *Oxford University Press*. <https://doi.org/10.1093/acprof:oso/9780199591565.001.0001>

Mayer, J. (2016, January 19). *Dark Money: The Hidden History of the Billionaires Behind the Rise of the Radical Right* (1st ed.). Doubleday.

McKie, R. E. (2018). Climate Change Counter Movement Neutralization Techniques: A Typology to Examine the Climate Change Counter Movement. *Sociological Inquiry*, 89(2), 288–316. <https://doi.org/10.1111/soin.12246>

- Omaha Community Foundation. (2018). *Return of private foundation exempt from income tax* [Form 990]. Retrieved from https://projects.propublica.org/nonprofits/display_990/470645958/06_2020_prefixes_46-51%2F470645958_201812_990_2020060417175385
- Oreskes, N., & Andrade, S. (2021, October 2). Harvard and Other Schools Make a Choice on Fossil Fuels. *New York Times*. Retrieved October 19, 2022, from <https://www.nytimes.com/2021/10/02/opinion/divestment-fossil-fuels-harvard.html>.
- Paxson, C. H. (2022, April 22). *Updates to Brown's business ethics policies and practices*. Brown University Office of the President. Retrieved December 19, 2022, from <https://www.brown.edu/about/administration/president/statements/updates-brown%E2%80%99s-business-ethics-policies-and-practices>
- Plehwe, D. (2014). Think tank networks and the knowledge–interest nexus: the case of climate change. *Critical Policy Studies*, 8(1), 101–115. <https://doi.org/10.1080/19460171.2014.883859>
- Ramaswami et al. (2022). *Metrics, Principles, and Standards for Dissociation from Fossil Fuels at Princeton University*. Princeton University. https://fossilfueldissociation.princeton.edu/sites/g/files/toruqf2696/files/documents/Princeton_Faculty%20Panel%20Report%20on%20Dissociation%20from%20Fossil%20Fuels_Final_May%2031%202022%5B3%5D%5B97%5D.pdf
- Reback, J., McKinney, W., Jbrockmendel, Bossche, J. V. D., Augspurger, T., Cloud, P., Gfyoung, Hawkins, S., Sinhrks, Roeschke, M., Klein, A., Terji Petersen, Tratner, J., She, C., Ayd, W., Naveh, S., Garcia, M., Schendel, J., Hayden, A., ... Gorelli, M. (2020). pandas-dev/pandas: Pandas 1.2.0 (v1.2.0) [Computer software]. Zenodo. <https://doi.org/10.5281/ZENODO.3509134>
- Richard and Helen DeVos Foundation. (2018). *Return of private foundation exempt from income tax* [Form 990-PF]. Retrieved from https://projects.propublica.org/nonprofits/display_990/456659303/01_2020_prefixes_45-46%2F456659303_201812_990PF_2020011517034866
- Supran, G., & Oreskes, N. (2017). Assessing ExxonMobil's Climate Change Communications (1977–2014). *Environmental Research Letters*, 12(8), 084019. <https://doi.org/10.1088/1748-9326/aa815f>
- Supran, G., & Oreskes, N. (2021, May 21). *Rhetoric and frame analysis of ExxonMobil's climate change communications*. ScienceDirect. Retrieved December 19, 2022, from <https://doi.org/10.1016/j.oneear.2021.04.014>
- UnKoch My Campus. (n.d.). *Part 3: The Programs*. UnKoch My Campus. Retrieved October 24, 2022, from <http://www.unkochmycampus.org/los-ch2-part-3-the-programs>

Appendix

Table A1: Full table of tier 1a donor organizations along with their number of grants and grant amount given to denial organizations

Grantmaker	Number of Grants	Grant Amount
Donors Trust	65	\$27,568,461
Charles Koch Foundation	48	\$15,796,900
Sarah Scaife Foundation, Inc.	40	\$11,070,000
National Christian Charitable Foundation Inc	31	\$6,557,410
Searle Freedom Trust	30	\$6,331,800
Lynde And Harry Bradley Foundation, Inc. The	54	\$5,471,600
Kern Family Foundation	2	\$4,964,050
John Templeton Foundation	2	\$4,507,871
Orange Crimson Foundation	1	\$4,000,000
Thomas W Smith Foundation Inc	17	\$3,761,974
John William Pope Foundation	22	\$3,186,250
National Philanthropic Trust	18	\$2,816,550
Laura And John Arnold Foundation	9	\$2,425,942
Walton Family Foundation	9	\$2,073,065
Marcus Foundation, Inc. The	6	\$2,029,650
Precourt Foundation The	1	\$2,010,000
Dunn Foundation The	16	\$1,870,000
Diana Davis Spencer Foundation	9	\$1,810,000
Grover Hermann Foundation The	2	\$1,500,000
Balance For Freedom, Inc.	3	\$1,499,763
Ed Uihlein Family Foundation	16	\$1,403,000
Kovner Foundation The	2	\$1,300,000
Lilly Endowment Inc.	6	\$1,175,000
Daniels Fund	3	\$1,150,000
Douglas And Maria Devos Foundation	3	\$1,128,500
Dick And Betsy Devos Family Foundation	5	\$1,125,000
Smith Richardson Foundation	10	\$1,080,800
Donors Capital Fund	14	\$1,039,000
Herrick Foundation	1	\$1,000,000
Roberts Foundation The	1	\$1,000,000
Bradley Impact Fund	20	\$975,159
Silicon Valley Community Foundation	9	\$971,000
Claws Foundation	6	\$960,000
E. L. Craig Foundation	6	\$935,000

Martino Family Foundation The	6	\$900,000
Adolph Coors Foundation	14	\$875,000
Malott Family Foundation	3	\$866,902
Denver Foundation The	2	\$845,500
Richard And Barbara Gaby Foundation	5	\$752,000
Challenge Foundation The	6	\$700,670
William K. Bowes, Jr. Foundation	3	\$700,000
Hintz Family Fund, Inc.	4	\$675,000
Greater Houston Community Foundation	44	\$642,050
Bellevue Foundation	7	\$642,000
Triad Foundation, Inc.	38	\$627,950
Prometheus Foundation	4	\$619,400
Allegheny Foundation	4	\$560,000
J. P. Humphreys Foundation	9	\$556,000
Combined Jewish Philanthropies Of Greater Boston	1	\$550,000
Jean Perkins Foundation	1	\$550,000
Pharmaceutical Research And Manufacturers Of America	9	\$538,250
George M. Yeager Foundation	3	\$525,000
Ladera Foundation	4	\$516,450
Beth And Ravenel Curry Foundation	4	\$516,000
Gleason Family Foundation	5	\$515,000
Cl Werner Foundation	1	\$507,065
Lillian S. Wells Foundation, Inc.	1	\$500,000
Paul E. Singer Foundation The	1	\$500,000