

Institutionalizing delay: foundation funding and the creation of U.S. climate change counter-movement organizations

Robert J. Brulle

Received: 25 January 2013 / Accepted: 19 November 2013
© Springer Science+Business Media Dordrecht 2013

Abstract This paper conducts an analysis of the financial resource mobilization of the organizations that make up the climate change counter-movement (CCCM) in the United States. Utilizing IRS data, total annual income is compiled for a sample of CCCM organizations (including advocacy organizations, think tanks, and trade associations). These data are coupled with IRS data on philanthropic foundation funding of these CCCM organizations contained in the Foundation Center's data base. This results in a data sample that contains financial information for the time period 2003 to 2010 on the annual income of 91 CCCM organizations funded by 140 different foundations. An examination of these data shows that these 91 CCCM organizations have an annual income of just over \$900 million, with an annual average of \$64 million in identifiable foundation support. The overwhelming majority of the philanthropic support comes from conservative foundations. Additionally, there is evidence of a trend toward concealing the sources of CCCM funding through the use of donor directed philanthropies.

As 2012 ended, a series of increasingly dire predictions regarding the impacts of anthropogenic climate change were issued (International Energy Agency 2012; World Bank 2012). These warnings were amplified when the National Research Council (2012) and the National Intelligence Council (2012), both issued reports warning of the adverse political and security impacts that such levels of warming would foster. Even as the consequences of the “settled facts” (NRC 2011: 22) of anthropogenic climate change were amplified, the level of understanding of this issue in the U.S. remained low. In response to a survey question in the fall of 2012:¹ *Do scientists believe that earth is getting warmer because of human activity?* 43 % replied no, and another 12 % didn't know. Only 45 % of the U.S. public accurately reported the near unanimity of the scientific community about anthropogenic climate change. This result reflects a broad misunderstanding of climate science by the general public.

¹Pew Research Center Poll - October 2012

Electronic supplementary material The online version of this article (doi:10.1007/s10584-013-1018-7) contains supplementary material, which is available to authorized users.

R. J. Brulle (✉)
Drexel University, Philadelphia, PA, USA
e-mail: rbrulle@gmail.com

A number of analyses have shown that one major factor driving this misunderstanding and an overall lack of legislative action is a deliberate and organized effort to misdirect the public discussion and distort the public's understanding of climate change (National Research Council 2011: 35). This literature has revealed a great deal about the nature of efforts to deny and/or distort climate science. It clearly shows that a number of conservative think tanks, trade associations, and advocacy organizations are the key organizational components of a well-organized climate change counter-movement (CCCM) that has not only played a major role in confounding public understanding of climate science, but also successfully delayed meaningful government policy actions to address the issue.

In order for these ongoing efforts to continue, it is imperative that the CCCM organizations mobilize sufficient financial resources. Thus an examination of the funding sources of the CCCM can provide a deeper understanding of the institutional dimensions of this effort. To the extent that CCCM funding has been studied, the analyses have focused on the giving patterns of a few major corporate funders, primarily ExxonMobil and Koch Enterprises, and their relationships with a few highly visible CCCM organizations. The existing studies provide a provocative but limited analysis of the organizational dynamics of the denial campaign. Thus, despite the importance of the organized effort to deny climate change and thus the need to deal with it, there has yet to be a comprehensive analysis of the funding flows that maintain this campaign.

This paper initiates an analysis of the funding dynamics of the organized effort to prevent the initiation of policies designed to limit the carbon emissions that are driving anthropogenic climate change. The efforts of the CCCM span a wide range of activities, including political lobbying, contributions to political candidates, and a large number of communication and media efforts that aim at undermining climate science. This analysis focuses on the institutional building effort of the CCCM organizations that carry out these different activities. Specifically, it focuses on the financial support that enables the creation and maintenance of the organizations that constitute the core of the CCCM. This analysis centers on three questions. The first question is: *What is the climate change counter-movement?* Here I argue that an efficacious approach to defining this movement is to view it as a cultural contestation between a social movement advocating restrictions on carbon emissions and a counter-movement opposed to such action. Using this perspective, the key organizations of the U.S. CCCM are identified. This allows for an assessment of a second question, *How are these organizations financially maintained?* Utilizing the perspective of resource mobilization, this paper examines the financial structure of these organizations and identifies their sources of monetary support. Establishing these funding sources then allows for an assessment of the third question: *How do these organizations and their funders interact to form a social movement?* Utilizing network analysis, this paper traces the links between philanthropic foundations and the organizations they fund. This analysis shows the overall pattern of resource mobilization of CCCM organizations, and allows for a series of observations about the nature of the interactions between CCCM organizations and foundations.

1 The climate change counter-movement

The dispute over climate change involves a wide-ranging network of interaction among numerous different organizations, each with its own particular perspective on an appropriate response to climate change. To examine these dynamics, social movement theory has developed an approach known as field frame analysis (Fligstein and McAdam 2012: 9). Field frames are “political constructions that provide order and meaning to fields of activity by

creating a status ordering for practices that deem some practices more appropriate than others” (Lounsbury et al. 2003:76–77). The application of this perspective to public policy centers on the cultural disputes over what is the binding field frame in a particular policy area. Accordingly, at the core of social change lie cultural and political disputes to maintain or redefine a field of practice involving a number of organizational actors, including industry organizations and their trade associations, professional bodies, government actors, social movements, and counter-movements.

The locus of cultural contests over the appropriate field frame centers on the interaction between social movements and counter-movements. Social movements seek to bring about change through redefining the dominant field frame, spreading familiarity and acceptance of this alternative frame, and generating political pressure to implement institutional change (Levy and Egan 2003: 805–806). Conversely, counter-movements are those organized efforts that are opposed to the objectives of social movements. Counter-movements are “networks of individuals and organizations that share many of the same objects of concern as the social movements that they oppose. They make competing claims on the state on matters of policy and politics and vie for attention from the mass media and the broader public” (Meyer and Staggenbord 1996:1632). Counter-movements seek to maintain the currently dominant field frame and thus maintain the status quo by opposing, or countering, the efforts of movements seeking change (Lo 1982: 119). Significantly, counter-movements typically originate as the change movement starts to show signs of success in influencing public policy, and threatening established interests. As noted by Gale (1986: 207), these counter-movements “typically represent economic interests directly challenged by the emergent social movement.” This process sets up a contentious political situation in which the social movement and counter-movement struggle to either change or to maintain a particular field frame (Austin 2002).

Applying this perspective to the cultural conflict over climate change enables us to view this contest as a political and cultural dispute over the appropriate field frame that governs energy policy (Knight and Greenberg 2011). McCright and Dunlap (2000: 503) conceptualized the global warming controversy in the United States as “a framing contest between the environmental establishment, and, among others, the conservative movement.” Although the climate change movement (CCM) is comprised of actors with multiple interpretations of how best to address climate change, the defining characteristic is a focus on legislative actions that would result in significant reductions of carbon emissions (Brulle 2014). Thus the CCM is centered on advocating an alternative frame in which legislative restrictions on carbon emissions sufficient to avoid dangerous anthropogenic interference in the climate system are enacted. Opposing the efforts of this movement is the CCCM, which engages in a wide variety of activities opposing any legislative attempts to enact mandatory restrictions on carbon emissions.

The CCCM first emerged in 1989, just after the formation of the Intergovernmental Panel on Climate Change (Antonio and Brulle 2011). This counter-movement was fundamentally an extension of the existing conservative movement, whose actions were centered in a number of conservative think tanks. Jacques et al. (2008: 351) argue that “Conservative think tanks—the key organizational component of the conservative movement – and their backers launched a full-scale counter-movement in response to the perceived success of the environmental movement and its supporters.” A growing body of literature has extensively documented the role of CCCM organizations in the development and promulgation of arguments designed to “support the conservatives’ advocacy of inaction” (McCright and Dunlap 2000: 510) on climate change. These arguments are promulgated by many means including the provision of Congressional testimony, publication of documents on these organizations websites, the publication of conservative anti-climate change editorials, and books critical of the need to

address climate change (McCright and Dunlap 2000, 2003; Elsasser and Dunlap 2013; Jacques et al. 2008; Dunlap and Jacques 2013).

As for the organizational makeup of the CCCM, a variety of descriptions can be found in the existing literature. Common to all of these descriptions is the inclusion of for-profit corporations and their allied trade associations, conservative think tanks, advocacy/front groups, and foundations. The different counter-movement organizations are aided in their work by sympathetic media outlets and the Republican and Tea Parties. To develop a comprehensive roster of CCCM organizations for this study, a two-step process was used. First, a consolidated list of all of the organizations identified in prior studies was created. These organizations were then individually examined to identify those that had a substantive focus on climate change. This process identified 118 CCCM organizations.²

2 Resource mobilization of the U.S. climate change counter-movement

This enumeration of the specific organizations that make up the CCCM allows for an analysis of the second question: *How are these institutions maintained?* One of the major influences on the institutional capacity of movement organizations is the level of financial resources (Jenkins 1983). An examination of both the levels and sources of financial resources available to an organization provides a means to assess its institutional capacity, and thus its potential influence within the CCCM. Additionally, an examination of the sources of funding can illuminate patterns of interaction between foundations and CCCM organizations, and the relative influence of foundations within the overall CCCM.

To determine the amount and sources of income for the CCCM organizations, IRS data were extracted from both the National Center for Charitable Statistics and the Foundation Center for the period 2003 to 2010. Out of the 118 CCCM organizations identified (see above), IRS data were available for only 91. The final sample for analysis consisted of 140 foundations making 5,299 grants totaling \$558 million to 91 organizations. This process provided a workable data set and enabled an examination of the financial income of the 91 CCCM organizations.³

To conduct an analysis of the income of CCCM organizations, the official IRS legal classification scheme is used. The legally assigned IRS designations⁴ provide a robust means to examine the structure of CCCM organizations in contrast to their arbitrary self-descriptions. There is a rough correspondence between the distribution of IRS designations and the self-descriptions of CCCM organizations. Organizations designated by the IRS as a 501 C3 or C4 organization constitute 78 % of the 91 organizations analyzed, which compares favorably with the 75 % of the distribution of advocacy and think tanks in the original sample of 118 CCCM organizations. However, the IRS distribution and the self-described distribution varied significantly in this area. Based on the IRS legal classification, the vast majority—65 % (59/91) of CCCM organizations are classified as 501 C3 organizations, 13 % (12/91) are 501 C4 organizations, and 22 % (20/91) are designated as 501 C5 or C6 organizations. So while the

² The coding sheet, procedures, and list of selected organizations are provided in the Supplemental Material, Tables S-1 to S-3, pages 2–4.

³ For a full explanation of the funding data analysis, see the [Methodological Appendix](#), page 117 in the Supplemental Material.

⁴ IRS Category Descriptions:

501(c)(3) Religious, educational, charitable, scientific, or literary organizations; testing for public safety organizations. Also, organizations preventing cruelty to children or animals, or fostering national or international amateur sports competition

501(c)(4) Civic leagues, social welfare organizations, and local associations of employees

501(c)(5) Labor, agriculture, and horticultural organizations

501(c)(6) Business leagues, chambers of commerce, and real estate boards

total distribution remains unchanged, this breakdown illustrates the arbitrary distinction between the self-descriptions of organizations and their IRS legal designation. The IRS designations constitute a consistent and government assigned legal status, and so this analysis utilizes that breakout to conduct the analysis of resource mobilization.

2.1 Income analysis

Table 1 shows the income distribution by year for the different legal categories of IRS organizations. As the table shows, the 91 CCCM organizations had a total income of more than \$7 billion over the eight year period 2003–2010, with an annual average income exceeding \$900 million. There are large differences among the types of organizations. Trade associations (501 C5/C6) have the largest annual income, reaching over \$800 million for 2010. Tax deductible charitable educational organizations (501 C3) have about \$250 million in annual income, and non-tax deductible advocacy organizations (501 C4) have the least income, running between \$30 and \$60 million for 2009 and 2010. Since the majority of the organizations are multiple focus organizations, not all of this income was devoted to climate change activities. But these income breakdowns provide a measure of the sources of funding of the CCCM organizations, and thus their means of resource mobilization.

The percentage distribution of income for these three different types of organizations is presented in Figure S-1 (see Supplementary Material, page 116). For trade associations, the single largest source of income is “Membership Dues & Assessments,” providing nearly half of these funds. Foundation grants are not a relevant source of income for this type of organizations. However, for charitable organizations, foundation grants form over a quarter of their income, and for advocacy organizations, they amount to just over 14 %.

To further examine the distribution of contributions, an organization-level analysis was conducted (See Table S-5, Supplementary Material, page 36). The analysis showed that there is considerable variance in sources of income. Trade associations (501 C5/6) generally have the lowest contributions from undisclosed sources. This result is due to the primacy of membership dues as an income source in these organizations. However, the actual contributions from individual member companies is unknown. 501 C3 & C4 organizations vary widely in the amount of undisclosed contributions. A number of organizations obtain less than 30 % of their income from undisclosed sources. At the other end of the spectrum, more than one third (36 %–26/71) of 501 C3 and C4 CCCM organizations obtain more than 90 % of their income from undisclosed sources.

2.2 Foundation funding analysis

It is clear that there is substantial foundation funding of CCCM organizations. While trade associations rely primarily on member organization dues, foundation funding is a significant factor in the organizational maintenance of think tanks and advocacy organizations. It provides 25 % of the income for 501 C3 organizations, and 14 % for 501 C4 organizations. However, there is a wide variance in the level of funding for various individual organizations, as shown in Table S-5 (see Supplementary Material). The percentage ranges from zero to nearly 74 %, with a mean of 24.8 %. Thus foundation funding can be a significant source of income for individual organizations.

To determine the role of foundation funding of the CCCM, the Foundation Center data were further examined.⁵ The first step was to identify the overall distribution of foundation funding

⁵ The detailed data is provided in the [Supplemental Material](#). Table S-6 (pages 39–42) lists grant totals by year made by foundations. Table S-7 (pages 43–44) lists recipient organizations of grants by year. Table S-8 (45–78) lists foundation grants to specific organizations, and Table S-9 (pages 79–112) lists organizations that received grants by foundation.

Table 1 Climate change counter-movement income distribution by year and IRS category

Income category	2003	2004	2005	2006	2007	2008	2009	2010	Total
501 C 3									
Grant income	45,878,504	46,558,674	49,592,175	59,711,973	68,657,919	72,389,193	70,377,129	68,677,979	481,843,546
Contributions - unknown source	104,631,955	121,642,699	140,565,470	129,451,532	168,670,911	201,411,499	212,095,036	187,562,926	1,266,032,028
Program service revenue	7,574,153	8,563,721	8,447,497	8,710,106	7,429,600	8,098,018	8,313,701	8,490,179	65,626,975
Membership dues & assessments	146,565	153,206	197,623	102,932	112,800	111,087	82,981	84,883	992,077
Investment income	2,883,627	5,344,390	8,519,193	20,020,934	30,349,872	-6,385,214	2,124,654	5,056,605	67,914,061
Other income	3,114,799	4,040,891	2,492,244	2,623,709	1,595,205	1,917,233	854,204	2,620,655	19,258,940
Total income	164,229,603	186,303,581	209,814,202	220,621,186	276,816,307	277,541,816	293,847,705	272,493,227	1,901,667,627
501 C 4									
Grant income	41,000	220,500	1,651,250	1,935,300	1,580,500	3,787,000	4,986,131	9,654,411	23,856,092
Contributions - unknown source	11,966,458	8,091,730	7,235,224	15,317,340	8,738,014	15,129,448	24,677,631	47,580,282	138,736,127
Program service revenue	0	0	0	0	0	0	64,536	48,711	113,247
Membership dues & assessments	0	0	0	0	0	0	0	0	0
Investment income	2,301	31,187	3,784	34,376	67,281	45,118	184,818	2,176,654	2,545,519
Other income	17,631	137,977	394,568	366,336	711,921	308,473	314,802	162,292	2,414,000
Total income	12,027,390	8,481,394	9,284,826	17,653,352	11,097,716	19,270,039	30,227,918	59,622,350	167,664,985
501 C 5 & 6									
Grant income	60,000	47,820	149,000	118,500	122,500	1,581,006	443,000	654,850	3,176,676
Contributions - unknown source	70,146,127	88,409,206	147,137,007	144,728,060	141,060,709	187,649,338	265,166,080	241,285,304	1,285,581,831
Program service revenue	105,737,896	128,509,565	125,221,348	136,323,746	144,505,459	141,626,051	181,890,394	245,228,568	1,209,043,027
Membership dues & assessments	217,489,944	229,908,304	255,434,901	290,598,831	346,374,478	356,580,728	347,898,620	339,530,787	2,383,816,593
Investment income	8,041,360	8,065,244	11,013,699	14,453,948	18,211,627	8,006,560	6,422,108	9,124,324	83,338,870
Other income	62,499,988	15,116,867	13,448,749	13,527,438	17,016,328	19,133,814	20,520,292	29,665,724	190,929,200
Total income	463,975,315	470,057,006	552,404,704	599,750,523	667,291,101	714,577,497	822,340,494	865,489,557	5,155,886,197
All organizations									
Total income	640,232,308	664,841,981	771,503,732	838,025,061	955,205,124	1,011,389,352	1,146,416,117	1,197,605,134	7,225,218,809

to CCCM organizations. Figure 1 shows the overall amount and percentage distribution of foundation funding of CCCM organizations. The single largest funders are the combined foundations Donors Trust/Donors Capital Fund. Over the 2003–2010 period, they provided more than \$78 million in funding to CCCM organizations. The other major funders are the combined Scaife and Koch Affiliated Foundations, and the Bradley, Howard, Pope, Searle and Templeton foundations, all giving more than \$20 million from 2003–2010.

Of special interest in this regard is that Donors Trust and Donors Capital are both “donor directed” foundations. In this type of foundation, individuals or other foundations contribute money to the donor directed foundation, and it then makes grants based on the stated preferences of the original contributor. This process ensures that the intent of the contributor is met while also hiding that contributor’s identity. Because contributions to a donor directed foundation are not required to be made public, their existence provides a way for individuals or corporations to make anonymous contributions. In effect, these two philanthropic foundations form a black box that conceals the identity of contributors to various CCCM organizations.

The second step in understanding the role of foundation funding in CCCM organizations was to examine the overall distribution of funding among different CCCM organizations. Figure 2 illustrates the overall sum of foundation funding received by the 69 CCCM organizations listed in the Foundation Center Date Base. As this figure shows, conservative think tanks were the largest recipients of foundation support. These think tanks, including the

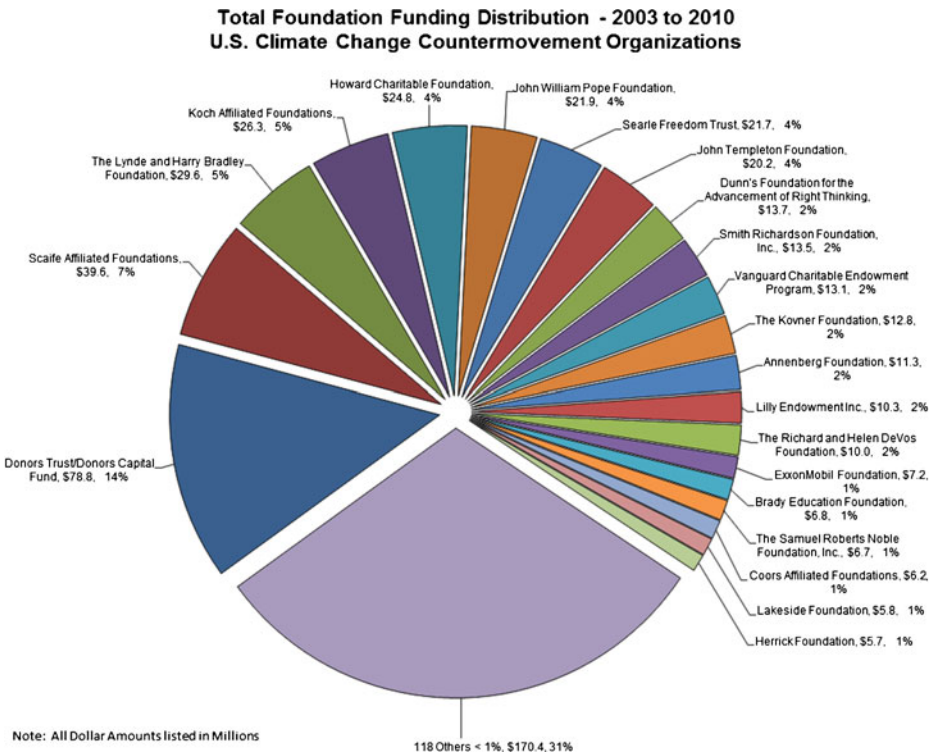


Fig. 1 Total foundation funding distribution - 2003 to 2010 U.S. climate change countermovement organizations

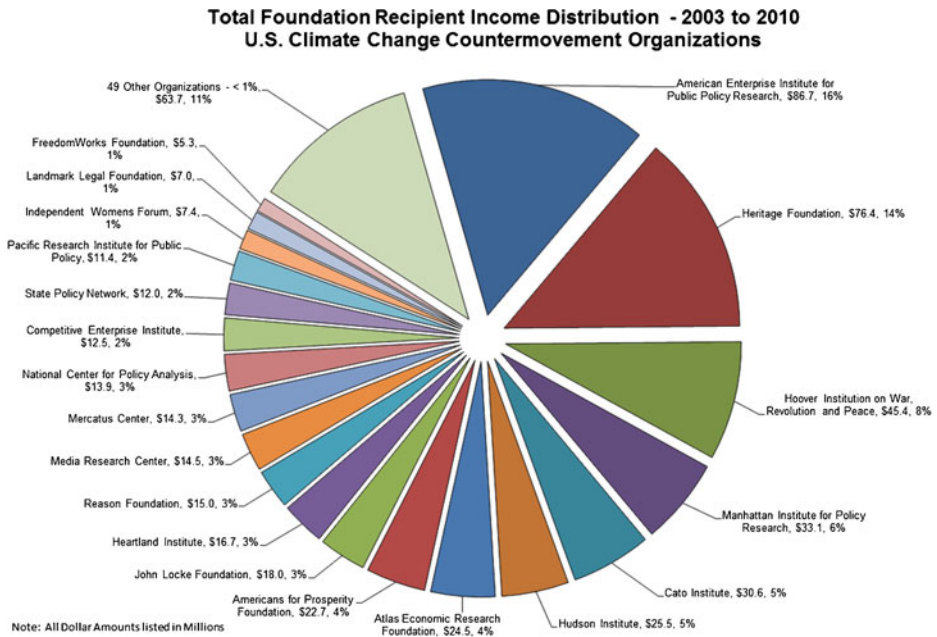


Fig. 2 Total foundation recipient income distribution - 2003 to 2010 U.S. climate change countermovement organizations

American Enterprise Institute, the Heritage Foundation, and the Cato Institute, are among the best known conservative think tanks in the United States. The American Enterprise Institute received 16 % of the total grants made to organizations that are active in the CCCM. The Heritage Foundation was a close second, receiving 14 %. The majority of foundation funding goes to multiple focus conservative think tanks. As previous analyses have shown (Jacques et al. 2008; Dunlap and Jacques 2013), these multiple focus think tanks are highly active in the CCCM.

This distribution of funding shows that both conservative foundations and the recipient organizations are core actors in the larger conservative movement. The foundations that play a major role in funding the CCCM are all well-known and prominent conservative funders (Stefanic and Delgado 1996). Thus it is clear that the most prominent funding foundations and the organizations receiving this funding are identical to those constituting the larger conservative movement, indicating that the CCCM is a subsidiary movement of the larger conservative movement, as numerous analyses have argued previously (McCright and Dunlap 2000, 2003; Dunlap and McCright 2011; Jacques et al. 2008, and Oreskes and Conway 2010).

These findings are significant because funding has important impacts on organizations. The level of financial support provided by private foundations and individual patrons exerts a powerful influence on the capabilities of non-profit organizations, whether conservative or progressive (Walker 1991). Private foundations gain their influence over social movement organizations through their financial power and constitute a system of power and influence. This limits the range of organizational forms and goals for movement organizations (McCarthy et al. 1991:69–70). Movement organizations depend on foundations for programmatic ideas, occasional technical support, and the sense of legitimacy and prestige that comes with foundation grants. Well-funded organizations gain the attention of policymakers simply by virtue of the recognition they have received from national grant makers (Snow 1992: 65). In

addition, foundations are not passive actors, but carefully select from the grant proposals they receive. Foundations have increasingly taken a more activist role in the development of social movement organizations, including forming their own organizations (Ylvisaker 1987:363). For example, the Cato Institute was founded by the Koch Brothers, and continues to receive funding from the Koch affiliated foundations. Additionally, foundations can sometimes gain additional influence over the organizations they fund through direct participation on the board of directors (Colwell 1993: 105).

Thus, external funding creates a dynamic that can be seen as financial steering of social movement organizations. Accordingly, the funding links illustrate the power relationships within a social movement, or in this case, counter-movement. Conservative foundations have long played a major role in the development of conservative ideas (Hoplin and Robinson 2008: 15–33). Anheier and Daly (2005: 159) note that: “Foundations are among the most independent institutions of modern society. They are not subject to market forces or consumer preferences, nor do they have a membership or some electorate to oversee decisions and performance.” This legal status has allowed conservative foundations to take a very active role in the creation and maintenance of think tanks and advocacy organizations that, in turn, play a major role in the CCCM (Minkoff and Agnone 2010: 367, NCRP 1997).

3 Network analysis of funding relationships

Given the prominent role of foundations in funding the CCCM, the final question addressed is: *How do the CCCM organizations and foundations interact to form a cohesive movement?* The use of network analysis can lend a number of insights to this question. Network analysis is predicated on the belief that social ties exert a powerful influence over organizational activities (Knoke 1990). By channeling resources, communications, influence, and legitimacy, social networks create shared identities and collective interests, and thus promote the acceptance of a common field frame within a social movement (Knoke and Yang 2008: 6). As the exchange of information increases, organizations form stable relationships with other organizations based on their knowledge of the specific competencies and reliability of one another. These relationships solidify over time, and future behavioral actions become regularized and routinized, forming a stable social network (Gulati and Gargiulo 1999: 1440). Thus the network of interactions creates a shared set of beliefs and expectations that creates and maintains a collective effort to advocate for a specific field frame (Fuchs 2001: 272–275).

The ability to control funding within the network is a crucial component of influence and power (Brass 1992). Organizational positions are stratified according to funding relationships. Most inter-organizational networks are made up of a core group of centrally located organizations that controls the majority of resources (Cook and Whitmeyer 1992). Research shows that centrality creates legitimacy, influence and access to important resources (Knoke 1990). Thus network analysis can capture the structures that underpin the dynamics of the relations between foundations and movement organizations.

Utilizing the foundation funding information on CCCM organizations, a network analysis was conducted utilizing UCINET (Borgatti et al. 2002). The overall dimensions of the network between foundations and CCCM organizations for the 2003 to 2010 period are shown in Table S 10 (Supplementary Material, page 113). This table shows the overall size of the network by year based on the number of organizations and foundations engaged in funding relationships. It is important to note that there is only one unified network between foundations and CCCM organizations. There are no specific factions or isolated groups. Thus this network is well defined and continuous. Additionally, this network has been remarkably stable over the

2003–2010 period. The number of foundations and organizations varied less than 5 % over the entire time frame, and the network density showed no significant variance. This finding is indicative of a network of well-established and stable social interactions.

To further examine the development of the funding network, the percentage of overall funding by each foundation was calculated by year. This fraction, technically known as relative node strength, measures the overall influence of any specific foundation within the network, based on the assumption that a foundation's influence in the funding network is a function of its overall grant-making levels. Table S-11 (Supplementary Material, page 114) shows the relative node strength for those foundations that provided more than 1 % of the funding across the time period 2003–2010. An examination of the relative node strength shows that the Brady Education Foundation's giving occurred only in 2003. ExxonMobil Foundation giving peaked at 4.7 % of total foundation funding of CCCM organizations in 2003 and declined to zero by 2008. Donor Trust/Capital increased dramatically from only 3.3 % in 2003 to 23.7 % in 2010. Several foundations maintained a relatively stable level of influence within the overall network, including the Bradley, Scaife, Pope and Dunn foundations. What is striking is the remarkable growth of Donors Trust/Donors Capital as the central component in the overall network.

Five individual trends in foundation giving are displayed in Fig. 3. As this graph shows, the overall percentage contribution of Donors Trust/Capital rapidly increased from 2007 to 2010. At the same time, the Koch Affiliated Foundations, which peaked at 9 % in 2006, declined to 2 %. The ExxonMobil Foundation effectively stopped publicly funding CCCM organizations in 2007. Additionally, funding by the Scaife Affiliated Foundations, the second largest funder of CCCM organizations, also declined from 14 % in 2003 to just under 6 % in 2010. Finally, Bradley Foundation funding slightly declined over this time period. The rapid increase in the percentage of funding of the CCCM by Donors Trust/Capital and the decline in both Koch and ExxonMobil corresponds to the initiation of campaigns by the Union of Concerned Scientists and Greenpeace publicizing and criticizing both ExxonMobil and Koch Corporations as funders of climate denial. Although the correspondence is suggestive of an effort to conceal funding of the CCCM by these foundations, it is impossible to determine for certain whether or not ExxonMobil and the Koch Foundations continue to fund CCCM organizations via Donors Trust/Capital or direct corporate contributions. However, it is important to note that a Koch run foundation, the Knowledge and Progress Fund, initiated a pattern of making large grants to Donors Trust in 2008.

The influence of each foundation within the network is reflected in its relative node degree, which is the percentage of the overall number of ties to organizations with which the foundation is involved. Basically, this is a measure of the number of organizations funded by a specific foundation as a percentage of the total number of funding links in the entire network. Here the logic stipulates that the more ties to different organizations a foundation has, the more power that the foundation exerts in directing the overall activities of the network. Data on the relative node degree for each major foundation is provided in Table S-12 (See Supplementary Material page 115). An examination of these data presents a slightly different picture of influence within the overall network. The rapid increase in the relative node strength of Donors is muted; its relative node degree increases only slightly over the time period 2006 to 2010. Many of the other foundations maintain a relatively stable node degree. This trend indicates that the increased influence of Donors Trust/Capital within the network as reflected by its growing share of overall funding was accomplished by increasing the amount of each grant, and not by increasing the number of grants. Nonetheless, it is abundantly clear that Donors Trust/Capital has risen to become the predominant funder of the CCCM.

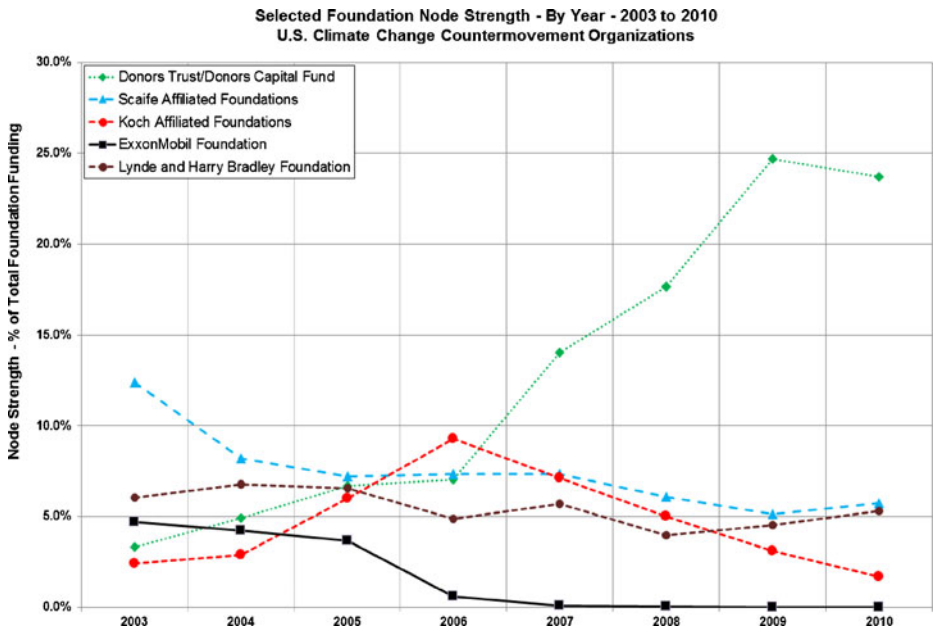


Fig. 3 Selected foundation node strength - by year - 2003 to 2010 U.S. climate change countermovement organizations

The overall structure of the network for 2010 is shown below in Fig. 4, which provides a sociogram of the network structure. To simplify the sociogram, only those foundations that contributed 1 % or more of the total foundation funding for that year are shown. These twenty-two foundations provided 77.4 % of the total funding. In Fig. 4, foundations are designated as diamonds, and recipient CCCM organizations as circles. The overall size of the symbol represents the total flow of foundation funding by each foundation and the total amount of

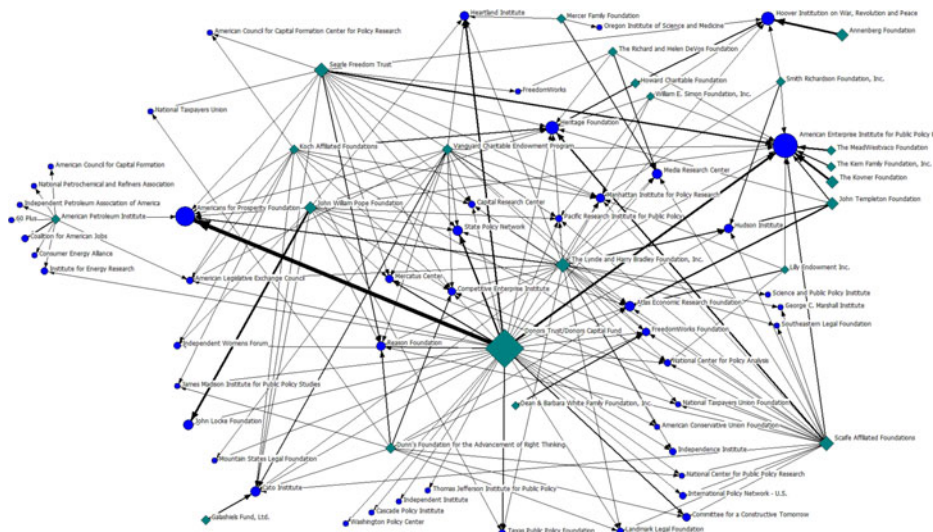


Fig. 4 Sociogram of CCCM organizations by funding foundation - 2010

funding received by each CCCM organization respectively. The width of the connecting lines between the foundations and the organizations represents the overall funding amount of that particular link.

An examination of this sociogram reveals the overwhelming dominance of Donors Trust/Donors Capital in the overall network. It occupies a central position in the network: Out of the 51 CCCM organizations that received foundation funding from the top 22 foundations, Donors funded 35, or nearly 70 % of them. The other leading funders include the affiliated Scaife and Koch Foundations, as well as the Bradley, Pope, and Searle foundations. The pattern of recipients of funding shows that the traditional conservative think tanks receive the largest sums of foundation funding. Especially prominent are the Hoover Institute, the American Enterprise Institute, the Heritage Foundation, and the Cato Institute. Additionally, an unusually large amount of funding was provided to the Americans for Prosperity Foundation. This was due to a large grant of \$7.7 million dollars from Donors Trust.

The overall finding of this network analysis of the funding patterns shows that both the organizations that receive the funding and the foundations that provide the funds are core components of the larger conservative movement. The organizational structure of the CCCM is thus fundamentally identical to that of the overall conservative movement, making it legitimate to view the former as a component of the latter. This lends increased empirical verification to previous analyses of the CCCM (McCright and Dunlap 2000).

4 Conclusion

The debate over climate change involves a political and cultural dispute contest over the appropriate field frame that governs energy policy. The CCCM efforts focus on maintaining a field frame that justifies unlimited use of fossil fuels by attempting to delegitimize the science that supports the necessity of mandatory limits on carbon emissions. To accomplish this goal in the face of massive scientific evidence of anthropogenic climate change has meant the development of an active campaign to manipulate and mislead the public over the nature of climate science and the threat posed by climate change. This counter-movement involves a large number of organizations, including conservative think tanks, advocacy groups, trade associations and conservative foundations, with strong links to sympathetic media outlets and conservative politicians.

It is without question that conservative foundations play a major role in the creation and maintenance of the CCCM. All of the available information illustrates strong links between these foundations and organizations in the CCCM, even despite efforts such as the creation of Donors Trust/Capital to conceal these funding flows. The largest and most consistent funders of organizations orchestrating efforts to defeat efforts to mitigate climate change are a number of well-known conservative foundations. These foundations promote neoliberal free-market ideas in many realms, and have extended their funding of conservative causes to encompass climate change.

The available data indicates that the Koch and ExxonMobil Foundations have recently pulled back from publicly funding CCCM organizations. From 2003 to 2007, the Koch Affiliated Foundations and the ExxonMobil Foundation were heavily involved in funding CCCM organizations. But since 2008, they are no longer making publicly traceable contributions to CCCM organizations. Instead, funding has shifted to pass through untraceable sources. Coinciding with the decline in traceable funding, the amount of funding given to CCCM organizations by Donors Trust/Capital has risen dramatically.

A large portion of funding for CCCM organizations is untraceable. Despite extensive data compilation and analyses, only a fraction of the contributions to CCCM organizations can be specifically accounted for from public records. The sizable amount of undisclosed funding, or

“dark money” involved in the CCCM obscures the resource mobilization practices of the CCCM. However, enough information is available to document that a number of major conservative foundations have clearly played a crucial role in the development and maintenance of the CCCM.

With delay and obfuscation as their goals, the U.S. CCCM has been quite successful in recent decades. However, the key actors in this cultural and political conflict are not just the “experts” who appear in the media spotlight. The roots of climate-change denial go deeper, because individuals’ efforts have been bankrolled and directed by organizations that receive sustained support from foundations and funders known for their overall commitments to conservative causes. Thus to fully understand the opposition to climate change legislation, we need to focus on the institutionalized efforts that have built and maintain this organized campaign. Just as in a theatrical show, there are stars in the spotlight. In the drama of climate change, these are often prominent contrarian scientists or conservative politicians, such as Senator James Inhofe. However, they are only the most visible and transparent parts of a larger production. Supporting this effort are directors, script writers, and, most importantly, a series of producers, in the form of conservative foundations. Clarifying the institutional dynamics of the CCCM can aid our understanding of how anthropogenic climate change has been turned into a controversy rather than a scientific fact in the U.S.

References

- Anheier H, Daly S (2005) Philanthropic foundations; a new global force? In: Anheier J, Glasius M, Kaldor M (eds) *Global civil society 2004/5*. Sage, Thousand Oaks, pp 158–176
- Antonio RJ, Brulle RJ (2011) The unbearable lightness of politics: climate change denial & political polarization. *Sociol Q* 52:195–202
- Austin A (2002) Advancing accumulation and managing its discontents: the U.S. antienvironmental counter-movement. *Sociol Spectr* 22:71–105
- Borgatti SP, Everett MG, Freeman LC (2002) UCINET for windows: software for social network analysis. Analytic Technologies, Harvard
- Brass D (1992) Power in organizations: a social network perspective. *Res Polit Soc* 4:295–323
- Brulle RJ (2014) The development, structure, and influence of the U.S. national climate change movement. In: Wolinsky Y (ed) *Climate change policy and civil society*. Congressional Quarterly Press, Washington DC
- Colwell MAC (1993) *Private foundations and public policy: the political role of philanthropy*. Garland Publishing Inc., New York
- Cook KS, Whitmeyer JM (1992) Two approaches to social structure: exchange theory and network analysis. *Annu Rev Sociol* 18:109–27
- Dunlap RE, Jacques PJ (2013) Climate change denial books and conservative think tanks: exploring the connection. *Am Behav Sci* 57
- Dunlap RE, McCright AM (2011) Organized climate change denial. In: Dryzek J, Norgaard R, Schlosberg D (eds) *The oxford handbook of climate change and society*. Oxford University Press, Oxford, pp 144–160
- Elsasser S, Dunlap RE (2013) Leading voices in the Denier Choir: conservative columnists’ dismissal of global warming and denigration of climate science. *Am Behav Sci* 57
- Fligstein N, McAdam D (2012) *A theory of fields*. Oxford University Press, New York
- Fuchs S (2001) *Against essentialism: a theory of culture and society*. Harvard University Press, Cambridge
- Gale R (1986) Social Movements and the state: the environmental movement, countermovement, and government agencies. *Sociol Perspect* 29(2)
- Gulati R, Gargiulo M (1999) Where do interorganizational networks come from? *Am J Sociol* 104(5):1439–93
- Hoplin M, Robinson R (2008) *Funding fathers: the unsung heroes of the conservative movement*. Regnery Publishing, Washington DC
- International Energy Agency (2012) *World energy outlook 2012*. International Energy Agency, Paris
- Jacques PJ, Dunlap RE, Freeman M (2008) The organization of denial: conservative think tanks and environmental skepticism. *Env Polit* 17(3):349–385

- Jenkins JC (1983) Resource mobilization theory and the study of social movements. *Annu Rev Sociol* 9:527–53
- Knight G, Greenberg J (2011) Talk of the enemy: adversarial framing and climate change discourse. *Soc Mov Stud* 10(4):323–340
- Knocke D (1990) *Political networks: the structural perspective*. Cambridge University Press
- Knocke D, Yang S (2008) *Social network analysis*. Sage, Los Angeles
- Levy D, Egan D (2003) A Neo-Gramscian approach to corporate political strategy: conflict and accommodation in the climate change negotiations. *J Manag Stud* 40:4
- Lo CYH (1982) Countermovements and conservative movements in the contemporary U.S. *Annu Rev Sociol* 8: 107–134
- Lounsbury M, Ventresca MJ, Hirsch PM (2003) Social movements, field frames and industry emergence: a cultural-political perspective on U.S. recycling. *Soc Econ Rev* 1:71–104
- McCarthy J, Britt D, Wolfson M (1991) The institutional channeling of social movements in the United States. *Res Soc Mov Confl Chang* 13:45–76
- McCright AM, Dunlap RE (2000) Challenging global warming as a social problem: an analysis of the conservative movement's counter-claims. *Soc Probl* 47(4):499–522
- McCright AM, Dunlap RE (2003) Defeating Kyoto: the conservative movement's impact on U.S. climate change policy. *Soc Probl* 50(3):348–373
- Meyer DS, Staggenbord S (1996) Movements, countermovements, and the structure of political opportunity. *Am J Sociol* 101(6)
- Minkoff D, Agnone J (2010) Consolidating social change: the consequences of foundation funding for developing social movement infrastructures. In: Anheier H, Hammack D (eds) *American foundations: roles and contributions*. Brookings Press, Washington, pp 347–367
- National Intelligence Council (2012) *Global trends 2030: alternative worlds*. Central Intelligence Agency, Washington
- National Research Council (2012) *Climate and social stress; implications for security analysis*. National Academy of Sciences, Washington
- National Research Council (NRC) (2011) *America's climate choices*. National Academies Press, Washington
- National Committee for Responsive Philanthropy (NCRP) (1997) *Moving a Public Policy Agenda: The Strategic Philanthropy of Conservative Foundations*, Washington DC
- Oreskes N, Conway EM (2010) *Merchants of doubt*. Bloomsbury Press, New York
- Snow D (1992) *Inside the environmental movement: meeting the leadership challenge*. Island Press, Washington
- Stefanic J, Delgado R (1996) *No mercy: how conservative think tanks and foundations changed America's social agenda*. Temple University Press, Philadelphia
- Walker JL (1991) *Mobilizing interest groups in America: patrons, professions, and social movements*. University of Michigan Press, Ann Arbor
- World Bank (2012) *Turn down the heat: why a 4°C world must be avoided*. World Bank, Washington
- Ylvisaker N (1987) Foundations and nonprofit organizations. In: Powell WW (ed) *The nonprofit sector: a research handbook*. Yale University Press, New Haven