

Climate change contrarian think tanks in Europe: A network analysis

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Abstract: Drawing from network theory and previous findings from US-based analyses, we measure the structure and interconnectedness of climate contrarian think tanks in Europe. This exploratory analysis can illustrate European organizations' capacity to promote or disrupt political discourse. To this end, we use social network analysis to conduct actor-focused research. We identify the individuals bridging European think tanks, as well as their ties with the US climate change contrarian network. Our analysis reveals a discernible network structure for European climate change contrarian think tanks, with a profile connected to neoliberal organizations, including a few, but highly relevant links, with the US countermovement. We also find that the European think tanks' institutional structure is very much shaped by a strong predominance of men, which aligns with previous research on masculinity and climate contrarianism.

Keywords: climate change contrarianism, denial, Europe, gender gap, neoliberalism, network analysis, think tanks

1. Introduction: Europe's under-researched reality

Among the various forces undermining climate action in Europe, think tanks are thought to be relevant, but have not yet been sufficiently studied. Some of these organizations have promoted misguided debates about global warming and undermined climate science in the public sphere in the United States, where they are part of a larger climate change contrarian network and movement. Research on these contrarian networks has primarily focused on the United States; we build on this work by describing in an exploratory way comparable networks in Europe.

The shaping of public opinion is a complex issue that communication and policy scholars have attempted to decipher, measure, and predict since the inception of both fields. When in 1922 Walter Lippman (1991 [1922]) coined the term “manufacturing of consent”—to refer to the manipulation of public opinion by means of persuasive communication, he had already acknowledged that influence is not a straightforward process, rather an intricate one. Today, we

know much more about this process, including how vested interests manage to keep controversy alive even after scientific consensus has been reached (Oreskes and Conway, 2010). In the case of climate change, there is ample evidence that a network of corporate interests has persistently lobbied to prevent climate action in Western countries. Empirical research on these networks illustrates how this influence has been exerted, in what has been termed a “structure of obstruction” (Climate Social Science Network (CSSN), 2021), and through the creation of a knowledge–interest nexus (Plehwe, 2014). This refers to the huge corporate investment in both direct and indirect lobbying against climate policy, including systematic and intensive activity devoted to the dissemination of contrarian information via think tanks, advocacy centers designed to reach public policy and media dis- courses (Almiron and Xifra, 2020).

While the US climate change contrarian countermovement has received ample attention (e.g. Brulle, 2021; CSSN, 2021; Farrell, 2016), empirical research on the involvement of European think tanks in climate change obstructionism is still scarce (exceptions are Almiron et al., 2020; Beder, 2001; Plehwe, 2014). In contrast, there is a body of research on the connections between climate action contrarian discourses and conservatism, right populism or the far-right in Europe (i.e. Forchtner, 2019), as well as criticism of the anthropocentric and androcentric values behind it (Hultman and Pulé, 2018). In the general framework, climate change is considered as “an object of factual belief polarization because citizens are divided along partisan and ideological lines in their factual perceptions,” while the counterarguments that attack the climate emergency are “a contestation of science rather than a contestation based on science” (Rekker, 2021: 355). However, a shared difficulty per- sists regarding how to empirically assess the influence of climate counterforces on the public opinion and policymaking. Less is known about the magnitude of climate contrarian influence on public opinion, nor about the “covariates”—such as corporate funding—that might explain it (Farrell, 2016).

In this article, we begin by reviewing existing knowledge about think tank networks in the case of climate change contrarianism, the network structure and influence of the climate change countermovement in the United States, and the ideological covariates later discussed to explain climate change contrarianism. We then introduce our data and methodology before moving to our analysis. We conclude by arguing that our inquiry reveals a network structure for the European climate change contrarian think tanks, whose best-connected members share a profile aligned with neoliberal ideas and linked to the US countermovement. We have found that this European network is mostly composed of men, which adds empirical insights to the discussion on industrial masculinities and climate change contrarianism (Hultman and Pulé, 2018), although further qualitative research is needed in this regard.

2. Network structures and climate change contrarian covariates

The influence of think tanks on climate change policy is indisputable in the United States, with contrarian policy institutions staffing the Trump 2017–2021 administration (Mahler, 2018). In Europe, some work has shown that foundations and think tanks have been “strategically employed to exploit uncertainties” over the past two decades disinforming about global warming (Plehwe, 2014: 111) instead of adhering to the definition of institutions “enabling policymakers to make informed decision” provided by pluralist approaches (McGann and Shull, 2018: 36). Kelstrup (2016), for instance, defines think tanks as “an organization which claim autonomy and attempts to influence public policy by mobilizing research” (p. 10). Networking has been typically considered as a central trait of think tanks. Researchers following the elite tradition inaugurated by C. Wright Mills have depicted think tanks as an elite phenomenon characterized by performing as the intellectual machinery of a corporate-financed policy-planning network (Domhoff, 2014: 74-108).

Also, institutionalists have focused on the structures in which think tanks are embedded to define their experts as members of “epistemic communities” (Teichler, 2007), that is, of “knowledge-based networks” (Stone, 2013: 37). Diane Stone (2013) moved the study of think tanks as knowledge networks to a transnational level, while considering elitist approaches as oversimplifying, leaving little “credence to alternative world-views and sites of intellectual resistance” since the approach of “hegemony is incomplete and partial” (p. 53). However, this does not prevent this author from noting the elitist quality of knowledge networks, which form a global agora only for “those who have the resources, patronage or expertise to enter and traverse” it (Stone, 2013: 60). Medvetz defined think tanks as “a fuzzy network of organizations, themselves divided by the opposing logics of academic, political, economic, and media production” (Medvetz, 2012: 16). In this sense, Medvetz’s work has been key to understand that the networking capacity of think tanks goes beyond creating policy networks to encompass ties with media, journalists, the academia, and funders. While Medvetz’s work is US-focused, Plehwe has addressed the networking quality of think tanks promoting neoliberal discourses in regions such as Europe and Latin America (e.g. Plehwe, 2017; Plehwe et al., 2018; Plehwe and Fischer, 2013).

The study of network structures for climate change obstructionism is of foremost importance. It has been empirically proven that networking capacity was a key element in exerting influence to delay efforts to address climate change in the United States, both through the climate change countermovement in which think tanks participated (Dunlap and McCright, 2011) and through corporate coalitions (Brulle, 2021). Labeling climate change contrarianism as a (counter)movement implies an organizational trait that points at the interconnectedness capacity

of these organizations (Dunlap and McCright, 2011). What this networking capacity means for climate change contrarianism has also been theorized by Plehwe (2014), who stressed how, in the battle over climate change policy agendas, think tank networks can be considered central because of the “combination of powerful expert, consulting and lobby/advocacy capacities” held by these organized think tank infrastructures (p. 101). Plehwe acknowledges the need for more actor-centered studies regarding the policy power and influence of interest groups, despite the difficulties in measuring both power and influence. By actor-centered studies, Plehwe refers to the need to identify the key constituencies of think tanks (including donors and academic, corporate, or normative and political supporters). This helps in identifying not only the composition of organizational networks but transnational expert, consulting, and lobby/advocacy actors. One attempt to empirically study the network structure and influence of the climate change contrarian movement is Farrell’s (2016), for the US case. Farrell uses network science and machine learning text analysis to describe the institutional and corporate structure of the US climate change countermovement and measure its influence in the news media and bureaucratic politics. His results show that the US climate change countermovement was made up of a tightly connected core of organizations, many of whom were recipients of corporate funding by firms that stood to lose out on strong climate policy.

This article neither considers think tanks as organizations that merely provide a key link between research and policy nor addresses think tank networks simply as a collaboration between independent organizations with a goal to promote and research good governance. While a number of think tanks fit this profile, the reality of these organizations is much more complex and often contradicts the overtly rosy view that pluralist theorists hold over these organizations. The case of climate change contrarian think tanks is probably one of the most prominent examples of advocacy think tanks being at odds with research for good governance. However, this article’s perspective also rejects simplistic approaches to think tanks and think tank networks as mere instruments of corporate power, despite corporate instrumentalism playing a relevant role in a number of cases. We draw on Plehwe’s (2014) approach that think tanks can also be “drawn on for general ideological and specific agenda-setting purposes” (p. 107) and that critically thinking about think tank networks requires empirical studies that address their relational capacity. Furthermore, we argue that this research cannot be done in isolation of critical covariates raised by previous research like neoliberalism and gender.

As in the United States, climate change obstructionism has also been prominently connected to neoliberalism—here understood as the form of market fundamentalism as defined by Heywood, 2012: 49-50)—and the far-right in Europe by several authors. McCright et al. (2016) found that the left-right ideological divide on climate change also existed in the European Union (EU), with

citizens on the left consistently reporting stronger belief in climate change and support for action to mitigate it than citizens on the right in 14 Western EU countries. Lockwood (2018) argued that the hostility against cosmopolitanism by right-wing populists may explain the hostility against policy prescribing action on climate change. Forchtner (2019) expanded this view by showing a convergence between the far-right, neoliberalism, and climate change contrarianism in several Western, Nordic, and Central European countries. Finally, Almiron et al. (2020) have found a relevant alignment between the contrarian arguments of the leading climate change contrarian think tanks in Europe and the rhetoric of the US countermovement, including its neoliberal ideology.

Climate action obstructionism, both in the United States and the EU, has also been linked to anthropatriarchy—anthropocentric gendered domination. Authors have unveiled the dominance of men among the conservative views skeptical with climate change (Dunlap and McCright, 2011; Krane et al., 2019). Scholars have also argued that climate change denial can be understood as being interlinked with a masculinity of industrial modernity that is in decline (Anshelm and Hultman, 2014), what has been labeled as industrial/breadwinner masculinities (Hultman and Pulé, 2018).

This article applies Farrell's network analysis approach to European think tanks, adopting a transnational gaze as recommended by Plehwe (2014). It further examines two prominent ideological covariates: neoliberalism, through the exploration of the best interconnected individuals of the network, and gender, through the analysis of the names involved in the network. The network analysis aims to add to the knowledge of climate change contrarianism in Europe by unveiling the networking capacity of the contrarian countermovement in Europe as well as its profile—US connections and the profile of the brokers in the network. By “network” we refer to the existence of relevant interconnections among the think tanks of the sample, not just the existence of organizations aligned in their aims, nor even clusters of them, but the presence of a web of contacts among the studied think tanks that can increase their social capital (Bourdieu, 1986). Social capital is one of the forms of capital claimed by Bourdieu as necessary to study to fully grasp how power relations are built in society. This form of capital is made up of connections, which at the due moment can be converted into other types of capital. For Bourdieu (1986):

The volume of the social capital possessed by a given agent thus depends on the size of the network of connections he can effectively mobilize and on the volume of the capital (economic, cultural or symbolic) possessed in his own right by each of those to whom he is connected. (p. 21)

Bourdieu's position is that of a neocapitalist conception of understanding social capital based on the benefit of the network on the individual (Sajuria et al., 2015). In contrast, a communitarian view, which understands the benefit of the network in an aggregate form and not exclusively on the individual (Putnam, 2001; Sajuria et al., 2015), is more appropriate for this work.

The metaphor of social capital has served as a basis for the methodological development of the discipline of network analysis (Burt, 2000). The literature in the field distinguishes two types of social capital (Putnam, 2001; Sajuria et al., 2015): *bonding social capital*, which refers to the function of social glue and the mutual trust held by the individuals within a group sharing common characteristics; and *bridging social capital*, which describes the networking potential of individuals who act as bridges filling gaps between clusters and can control the flow of information in a net-work. Authors such as Putnam (2001) suggest that these categories are not mutually exclusive but complement each other in the structure of a network. It is of interest to study the networks that are established within think tanks from a social capital perspective because a trait of these organizations is their networking potential. The differentiation between bonding social capital is of interest to understand the formation of the network-group, while the concept of bridging social capital is useful for the analysis of brokers in the network. The methodological setup based on this approach to social capital is discussed in more detail below.

3. Social network analysis

The empirical procedure of this study is grounded in the discipline of social network analysis (SNA) with the aim (1) to map the network structure of the most prominent climate change contrarian European think tanks; (2) to identify any links between this European sample and the US contrarian network documented by Farrell (2016); and (3) to examine the profile of the best-connected individuals in the mapped network.

To do that, the first step was to identify a list of think tanks disseminating climate change discourses in Europe ($N = 12$ organizations in Table 1). We started by selecting the eight most prominent climate change contrarian European think tanks using climate change contrarian framings in their output (for a description of these organizations, see Almiron et al., 2020). That list was built by reviewing the existing literature on think tanks and global warming denial; checking contrarian conferences in the United States; consulting conservative think tanks networks such as Atlas Network and databases like Think Tank Network Research and Think Tank Directory, and finally, by calling on experts in the field. Then, we proceeded with a literature review, databases consulting, and expert consultation to complement the list of eight climate contrarian think tanks depicted in Almiron et al. (2020). This process resulted in the addition of the Friedrich August von Hayek Institut (HI) from Austria, the Den Nya Välfärden (DNV) center

from Sweden, the Diego de Covarrubias Centre (CDC) from Spain, and the Institut für Unternehmerische Freiheit (IUF) from Germany. Some of these organizations consider themselves to be foundations or their labeling as think tanks is dubious. However, as Almiron and Xifra (2021) argue, even if their practices are not as rigorous and their contributions are not of the quality one would expect from a think tank, given their functioning, they can be studied as such.

Second, we collected the names of the individuals involved in these think tanks since their foundation until 19 January 2019 (see Table 1 for descriptive statistics on the nodes, or degree). We have followed a boundary specification criterion consistent with the second and fifth strategies described by Laumann et al. (1983), to build social networks: the settling of a nominally defined group based on nodal attributes (membership in think tanks in our sample), and the participation in events or activities (in this case, the production of content for the think tank or attendance at its events). This has allowed us to draw a large network by measuring the participation of each node in the think tanks. The rule of inclusion has been to add all the people involved in the think tank and all the people who have participated in activities in the think tank, according to the data available. All the individuals included as nodes are public characters whose names can be found in the think tanks' websites.

The first node we have collected is from April 1966 and belongs to Institute of Economic Affairs (IEA) but most of the nodes have been collected since the early 2000s, as 7 of the 12 organizations were founded in this decade. We examined think tank's websites in their different sections: board, staff, events, publications, and blogs. We collected names of people involved in the operation of the center, but also of people that signed reports, joined events, or wrote in the think tank's blog. In this gathering, we differentiated three categories depending on their involvement in the think tank. First, key positions such as president, vice-president, director, vice-director, and managing board members. Second, people involved in the think tank but not in power positions such as staff, fellows, academic fellows, assistants, auditors, secretaries, associates, researchers, and board of advisors. And third, external contributors such as attendants to events, authors of blog posts, reports, or papers, among others. While the first and second categories of individuals are more specific and consistent with the profile of the organizations, the third is broader. This category includes a wide range of people that have participated in some activities related with the think tank. The total number of nodes, that is, individuals whose ties are analyzed, collected for our sample of think tanks is 5039. Of these, 92.26% are in Category 3; 5.85% in Category 2, and 1.88% in Category 1. We examined variation in gender in the data by categorizing with the platform Gender API, which compares first names with large databases of names of associated gender. Cases with an accuracy below 85% were manually revised. The main aim for the gender

gap examination was to examine our hypothesis—based on previous studies—that climate contrarianism may be correlated with industrial masculinity.

Our methodological approach is limited by the fact that the nodes collected may not be fully aligned with the think tank’s vision. Although it is not the norm, there may be cases of participation in events or content of the think tank by people who do not assume the ideological tendency of the think tank, such as opponents in a debate or neutral reporters. However, in the construction of this network we have assumed the homophily principle of network analysis, which states that contact between similar people is more likely than between different people due to the ethnicity, sex, age, religion, education, occupation, position, behavior, and values of the individuals involved in a network (McPherson et al., 2001). This homophily, moreover, is related to the formation of bonding social capital (Sajuria et al., 2015).

The third step was to apply SNA to our list of nodes by building a two-mode network (also known as affiliation or bipartite network). In society, individuals are tied to each other depending on their social relations and the activities they perform. SNA is the study of these ties to describe social structures (Scott, 1988). SNA characterizes networked structures in terms of nodes (individual actors, people, or things within the network) and the ties, edges, or links (relationships or interactions) that connect them. Network analysis has been a powerful tool for research on global warming discourse dynamics (i.e. Walter et al., 2019) and, specifically, for research on the role of think tanks and their participation in climate change contrarian discourse coalitions (i.e.: Farrell, 2016). We utilize SNA to map the network of climate change contrarian European think tanks. Because the bulk of the nodes are located in the first two decades of the twentieth century and these think tanks have climate change contrarian discourses that are maintained over time (Almiron et al., 2020), we have woven a network by aggregating all the nodes collected. Aided by Gephi graph tool, we observed the formation of clusters in the network, that is, nodes connected with each other forming groups; density, that is the proportion of direct ties in a network relative to the total number possible, and measure centrality. Concretely, we measured betweenness centrality, which describes control and power in a network, because it measures the influence of a node according to its ability to reach other nodes by the shortest path; closeness centrality, which indicates access, ability to link nodes, and influence in a sense of efficiency by acting as an intermediary; and eigen- vector centrality, which measures the relevance of a node according to the importance of the nodes to which it is connected (Brandes et al., 2016).

We next compared this European network with Farrell’s (2016) findings for the US case in order to identify edges (links) between the nodes of both networks. The relevance of studying the links between the network constructed here and Farrell’s (2016) US network lies in the scarcity of knowledge on the connections between the US and European climate countermovement, despite

the existing similarity between their discourses (see Almiron et al., 2020). Moreover, different pieces of investigative journalism point to the existence of connections between US organizations and some of the think tanks analyzed here (e.g. Hope, 2018; Huth and Peters, 2020).

Finally, we perform an aggregate analysis of the network brokers. A node acting as a broker can be a gatekeeper by bridging gaps in the network, thus connecting clusters and having the ability to control information and opportunities in the network (Burt, 2007). Brokerage is related with the measure of betweenness centrality in network analysis (Freeman, 1977). Thus, we selected a sample of the 60 individuals with the highest betweenness centrality scores to explore their professional profiles and their positioning with respect to climate change.

4. Mapping and profiling the European case

Unveiling the European network of climate action opposition

Our analysis confirms the existence of a network structure among the climate change contrarian European think tanks (Figure 1). A relevant number of the names of individuals collected appear in more than one center, depicting a network with a considerable average density of 0.758. These people are considered, from Putnam's point of view, as individuals who accumulate bonding social capital through networking. Table 1 shows that the British IEA and German Europäisches Institut für Klima und Energie (EIKE) are the centers with the highest degree, that is, those with more nodes involved with the think tank. These think tanks are prominent because EIKE has a high number of blog articles and publications (consistent with the amount of contrarian output it generates, see Almiron et al., 2020), while IEA stands out for its high volume of events, this activity being the one originating most nodes. For its part, Austrian Economics Center (AEC) stands out for its networking capacity, which allows for a privileged position in the network, with the highest closeness and betweenness centrality scores. EIKE stands out in eigenvector centrality. Thus, in the network structure we drew, the IEA and EIKE have the greatest number of nodes; AEC has the best potential to connect people within this network, and that EIKE has the most influential connections.

In Figure 1, the AEC acquires a central role because all other centers can be reached from it. The IEA remains important, given that the highest number of mutual names are shared among this center, Center for Policy Studies (CPS), AEC, and HI. The network has four clusters, that is, four groups of centers attending to the distribution of the individuals and their connections: AEC, HI, Institut Économique Molinari (IEM), Liberal Institute (LI), and IUF, which represent a heterogeneous group from different countries and with different languages in Central Europe; IEA and CPS, a strongly connected cluster consistent with their British location and language;

EIKE, GWPF, the only two think tanks not multidisciplinary and focused on climate change issues, connected with DNV, an outsider in the network; and, finally, IJM and CDC, forming a Spanish cluster. This cluster formation indicates that in establishing connections between think tanks there are no clear generalizations but that geographical, linguistic, and thematic criteria do matter.

The gender analysis reveals a large gender gap in the climate change contrarian European think tanks. After discarding names whose gender was not recognizable ($n = 119$, reducing the sample to $n = 4920$), the percentage of men represented is 86.6% whereas the percentage of women is 13.43%. This general trend is present in all the think tanks analyzed, within a range frame between 5.61% of female names in Spanish Centro Diego de Covarrubias and 25% in Swedish Den Nya Välfärden. The absence of women in these think tanks is in general consistent across the three participation categories.

Influential men reluctant about climate action

The aggregate study of the profile of the most influential individuals in the network, those 60 with greater betweenness centrality, has allowed us to draw a profile with common features (Table 2). Out of the 60 names, 55 are male and 5 are female. The average age is 65 years (of the 45 people who are alive and of whom we know their age). Their countries of origin are the United Kingdom (16), the United States (12), Germany (10), Switzerland (5), Sweden (3), Spain (3), Canada (2), France (1), Denmark (1), Czech Republic (1), Hungary (1), Mexico (1), Peru (1), Austria (1), India (1), and Israel (1). As shown in Table 2, most are journalists, professors, or economists, with a considerable presence of politicians and consultants, and a few climate scientists. Three-quarters of these individuals were actively involved in communication on current affairs, including speaking on a television show, writing columns for newspapers, collaborating in any other media, or maintaining popular social media accounts or blogs.

Finally, these people have had access to the policymaking process: 23 out of 60 participated in politics. Some of them held political positions, and others participated in international bodies in developing regulations or were part of government cabinets. Regarding the political positions some of these influencers have had, these include: a member of Thatcher's cabinet; a couple of members of the UK Parliament; a Conservative deputy at the European Parliament for more than 20 years (until Brexit); an ex-president of Czech Republic; a couple of members of the Bundestag, and a former liberal deputy in the Spanish Parliament. We identified some political campaigners against political integration such as five Brexiter politicians and journalists, a non-British Eurosceptic political leader, as well as several economists and professors against EU interventionism. This information reveals that nodes with high betweenness centrality in the

network have occupied high-level political positions, and thus not only have had access to the political decision-making sphere but very likely have retained some influence later on.

For most of these 60 network influencers, it is possible to document some climate action contrarian statement or comment—ranging from strong stated affiliations with the climate change countermovement to lower-profile positions. Some of these individuals carried on activities such as publishing books, participating in climate change skeptic events, or undermining climate science or policies in their blogs. For others, it is possible to trace contrarian arguments in social media, interviews, or other forums. Twenty individuals collaborated with the Heartland Institute as advisors, content creators, or guest speakers. Heartland is an American conservative think tank known for the dissemination of contrarian views of climate change during the past two decades. Heartland created in 2008 the Nongovernmental International Panel on Climate Change (NIPCC), a group of scientists focused on discrediting the IPCC reports, whose leader is in this sample. In this respect, the three scientists who appear in this sample are among the well-known contrarians who fueled doubt on climate science and consensus. Some influential conservative journalists who disseminated contrarian ideas in the media have been found here, as well as politicians who have promoted an anti-climate action agenda. In short, opposition to climate action is a feature that intersects the profile of this group of almost all men, who have different occupations but are united by a rejection of climate change mitigation policies.

A neoliberal network linked with the United States

There are a small number of links between the European network depicted here and the network described by Farrell (2016). Only 190 individuals are in both lists, accounting for around 3.77% of all individuals in the European network. Most of these cross-network individuals are connected across the Atlantic but not connected to other individuals in the United States and Europe, respectively. From those 190, there are 37 people who are in more than one think tank and maintain links with other nodes. Finally, of those 37, just 11 appear in both networks, maintaining links in US and European think tanks. But even though this quantitative result is sparse in connections, a more qualitative exploration is worthwhile.

An examination of the curriculums of the 60 individuals with greater betweenness centrality shows that they are all in a neoliberal spectrum, many of them retaining some connection with the US neoliberal landscape. Most are followers of the Austrian School of Economics, some of them are declared as libertarians, and a smaller number declared themselves as anarcho-capitalists. However, what unites them is a common goal of promoting market power and opposing to state interventionism that could shape market forces in forms such as taxes or commerce restrictions. There are 16 people who participated in Mont Pelerin Society, whereof

four were presidents of this association. This organization was founded in 1947 in Switzerland by Friedrich von Hayek and other economists to promote the neoliberal doctrine. Also, 21 people participated in CATO Institute as fellows, speakers, authors, or advisors. CATO is one of the top US think tanks discussing economic issues, promoting a libertarian economic stance. Moreover, 11 individuals were linked to the Mises Institute, a network of neoliberal think tanks spread worldwide with a US origin. There are also a few advisors of the Competitive Enterprise Institute, a free-market US think tank, and a few members of the conservative US think tank the Hoover Institution, among other organizations.

Overall, what these connections show, together with the fact that the second most present nationality in the sample is the United States, is that the United States plays an important role in the European network against climate action. This network has a marked neoliberal character, tangible not only from the profile of the people involved in it, but also from the connections with international neoliberal associations in which the United States has strong influence such as the Mises network. In addition, seven of the centers analyzed (AEC, LI, HI, CPS, IEA, IJM, and IEM) are part of the Atlas Network, which brings together more than 500 neoliberal organizations around the world. Although it is beyond the scope of this research to analyze the inter-organizational collaboration of these think tanks, it is pertinent to recall that the US countermovement is in contact with European organizations. A paradigmatic example of this collaboration is the synergy between the Heartland Institute and EIKE, which together organized the Climate Reality Forum in December 2019 in Madrid to confront the COP25. Therefore, although quantitatively there may not be as much of a connection with Farrell's (2016) network, there are multiple connections to be drawn, especially at the level of individuals and their affiliations, and at the organizational level and their collaborations.

5. The social capital of the climate countermovement in Europe

In this section, we discuss our findings and present our limitations. In summary, our inquiry reveals a network structure for the European climate change contrarian think tanks, including a profile of mostly-men influential individuals very much connected to neoliberalism and the US counter-movement and opposed to climate action.

First, this study shows that think tanks that have disseminated discourses contrary to climate action in Europe (Almiron et al., 2020) form a network through the individuals who participate in them. The European network of climate change contrarian think tanks might not be as densely populated as the US one, as compared with Farrell (2016) findings and considering the limitations of our sample. We did not map all European think tanks but only the most relevant publishing in five languages in seven European countries. For this reason, and despite our sample including the

most relevant organizations of this type in Europe, the real network might be larger and denser than what our analysis reveals. We thus consider this analysis as an exploratory study, rather than an exhaustive or experimental network analysis. Think tanks are not organizations situated outside decision processes but enmeshed with those making policy through a chaotic or opportunistic process (Stone, 2013). It follows then that the network of climate change contrarian think tanks we have examined in this article is not simply a group of isolated, even if interconnected, climate action obstructionists, but relevant actors within an entanglement of interests that may not be of the US magnitude but still problematic for the adoption of climate policies. In this respect, our results point to anti-reflexive interactions of actors in Europe reinforcing each other, with climate change contrarianism tied, for instance, to the anti-integrationist efforts in the EU and to conservative and pro free-market forces. Because of these entanglements, the climate contrarian think tanks may represent a more relevant force than its size reflects. An example of the wide reach of these net- works is the entanglement between climate action contrarians and Brexiters (i.e. Farand et al., 2019), some of them present among the network brokers analyzed in this article.

Second, we have found that, quantitatively, the connections between the European network and the US network woven by Farrell (2016) are scarce. The SNA applied here shares the usual barriers of quantitative methods. To counteract this, we generated a sample for a qualitative study. Thus, we have explored brokers in the network to provide an aggregate qualitative profile that complements the network mapping and allows us to better understand its composition. We have found that the individuals with the best betweenness centrality are neoliberal men with positions of influence in academic institutions, in politics, or in the media, among other spheres. Among these individuals are quite a few US citizens or connections to the US countermovement, with the participation of many of these brokers in Heartland Institute. The participation also in think tanks such as CATO Institute or the Mont Pelerin Society reveals both the ideological profile of these individuals and their networking capacity. The networking reality of the European contrarian think tanks is also evidence of the superior ability observed in neoliberal think tanks to build network coalitions (Brulle, 2021; Farrell, 2016) compared with other organizations. It is of interest, therefore, to further explore in future research these neoliberal networks in relation to their capacity to disseminate anti-climate action discourses, as is the case, for example, with the Mises Institute network (Plehwe et al., 2021).

Third, we have shown that the aggregate profile of the network brokers is neoliberal, influential in their fields of action, mostly masculine and overtly opposed to climate action. We found influential individuals in the field of communication, which reveals the message dissemination skills of the network actors. We also found individuals with established positions in the academic

world, which suggests that the study of research centers and universities may be a fruitful pathway for continued study. Perhaps the most notable finding is the role of actors engaged in policymaking. Climate action contrarians are part of an elite knowledge network connected to the political agora, as defined by Stone (2013). In this sense, it is worth reflecting on whether the think tanks analyzed have the capacity to function as platforms for policy circulation. We understand here the circulation of policies from a sociology of elites perspective, in which influential individuals—such as the brokers analyzed in this network—circulate through different arenas such as institutions, media, think tanks, and other spaces, translating policies from one place to another, generating appropriation processes (Porto de Oliveira, 2021).

The neoliberal, male-dominated profile of the network brokers is consistent with what the latest literature has shown in this respect, when addressing the convergence of far-right and neoliberal thought (Plehwe et al., 2020): the alignment between corporate interests and fake climate action that actually supports inaction (Almiron and Xifra, 2020) and, especially, the enmeshment between denial of climate change and conservative White males in the United States (Krange et al., 2019; McCright and Dunlap, 2011). The already high proportion of males in these think tanks is even higher among brokers, results that suggest possible lines of interest on male networking regarding climate inaction in light of approaches such as that of Hultman and Pulé (2018).

Since this research only addresses the formation of social capital in the European climate countermovement, further research in this approach could address the processes of economic and cultural capital accumulation (Bourdieu, 1986) in this network. In this sense, an analysis of the political economy of these individuals and the organizations in which they participate would be worthy of study. For the organizations studied here, the absence of consistent and accessible funding data in Europe prevented us from attempting to establish the links between funders and think tank's resources and capacity of influence. However, Farrell (2016) did not find that an organization's total assets had a significant impact on its centrality within the network.

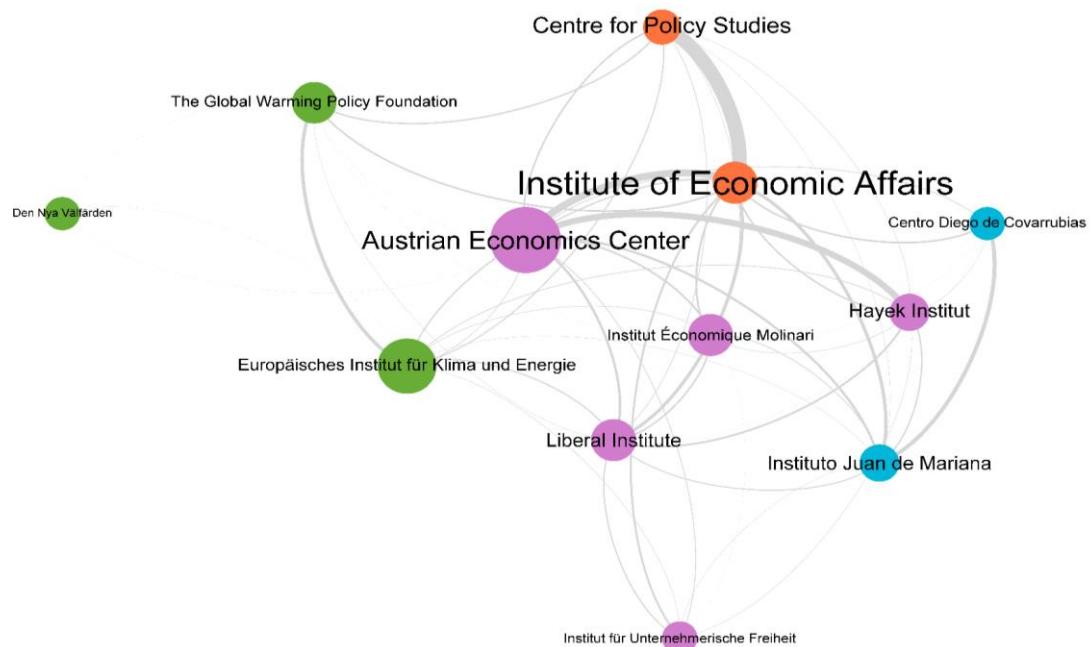
What our results bring to this line of study is the existence of high social capital in the network of think tanks opposed to climate action in Europe. Social capital should not be underestimated, as it explains the better performance of some or other actors in the public arena based on their connections (Burt, 2007). These connections are an asset in themselves, since having a good network result in support, trust, and opportunities (Burt, 2007), fundamental aspects for the dissemination of discourses capable of penetrating the public, political, and media agendas. This article shows both the existence of an ideological network based on connections drawn through participation in think tanks (bonding social capital), and the presence of brokers in the network who have better connections and influence capacity (bridging social capital). Our exploratory analysis shows that this network is primarily neoliberal, male-controlled, and anti-reflexive,

disseminating climate action contrarian discourses in Europe, which stresses the need of intersectional approaches to climate change contrarianism anywhere. In the case of Europe, the need is for more intersected analysis of the counterforces trying to obstruct policy integration, cosmopolitanism, multiculturalism, feminism, and other social justice efforts—as connected with the view of climate action as a threat. Such an approach would need to go beyond think tanks to include other stakeholders potentially involved in what would shape the European contrarian countermovement—the constellation of foundations, private corporations, political parties, and other members of the larger network.

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Figure 1. Climate change contrarian European think tanks network



Source: the authors. Representation of the network based on the connections between the different centers. Size of the dots represents betweenness centrality. Size of the labels indicates weighted degree. Size of the lines indicates the number of nodes in common. The colors reflect the number of clusters, in this case, four, based on the modularity of the network. Multigravity Force Atlas 2 was used to depict the network given its qualities in showing clusters.

Table 1. List of climate change contrarian European think tanks analyzed

Center / Founded in	Closeness centrality	Degree (weighted)	Betweenness centrality	Eigenvector centrality
Austrian Economics Center (AEC) / Austria, 2006	1	484 (205)	0,095627706	0,285147591
Europäisches Institut für Klima und Energie (EIKE) / Germany, 2007	0,916666667	919 (80)	0,063809524	0,623992111
Institut Économique Molinari (IEM) / Belgium, 2003	0,916666667	160 (64)	0,025930736	0,072966494
Institute of Economic Affairs (IEA) / UK, 1955	0,916666667	1164 (322)	0,025930736	1
Liberal Institute (LI) / Switzerland, 1979	0,916666667	554 (113)	0,025930736	0,305157956
Hayek Institut (HI) / Austria, 1993	0,846153846	234 (113)	0,011688312	0,114592402
Instituto Juan de Mariana (IJM) / Spain, 2005	0,846153846	496 (113)	0,011688312	0,260353487
Centre for Policy Studies (CPS) / UK, 1974	0,785714286	661 (169)	0,006060606	0,440124922
Institut für Unternehmerische Freiheit (IUF) / Germany, 2006	0,733333333	49 (41)	0	0,028760739
The Global Warming Policy Foundation (GWPF) / UK, 2009	0,733333333	85 (60)	0,024242424	0,049892703
Centro Diego de Covarrubias (CDC) / Spain, 2010	0,6875	109 (57)	0	0,05104062
Den Nya Välfärden (DNV) / Sweden, 1988	0,578947368	124 (3)	0	0,040692475

Source: Almiron et al. 2020. Nodes are individuals involved in the organizations; there are 5039 nodes in this network. Centers ordered by closeness centrality.

Table 2. Profile of the influential individuals in the network

	Category 1	Category 2	Category 3	Total
Gender				
Male	7%	28%	57%	92%
Female	2%	3%	3%	8%
Job				
Journalist	2%	8%	17%	27%
Professor	5%	10%	10%	25%
Economist	0%	12%	8%	20%
Politician	2%	0%	12%	13%
Consultant	0%	2%	8%	10%
Climatologist	0%	0%	5%	5%
Mont Pelerin				
Category 1	2%	7%	0%	8%
Category 2	0%	5%	10%	15%
Category 3	0%	0%	3%	3%
No	7%	20%	47%	73%
Mises Institute				
Category 1	0%	2%	0%	2%
Category 2	0%	5%	2%	7%
Category 3	0%	8%	2%	10%
No	8%	17%	57%	82%
CATO				
Category 2	0%	7%	7%	13%
Category 3	0%	5%	17%	22%
No	8%	20%	37%	65%
Heartland				
Category 2	0%	7%	7%	13%
Category 3	2%	3%	15%	20%
No	7%	22%	38%	67%
Communication				
Yes	7%	25%	43%	75%
No	2%	7%	17%	25%
Policymaking				
Yes	2%	12%	25%	38%
No	7%	20%	35%	62%
Climate contrarian				
Yes	7%	25%	50%	82%
No	2%	7%	10%	18%

Source: own elaboration. N = 60 people. Categories refer to the three possible areas of participation (simplified: power positions, membership, and external contributions) as described in the methodology. The division into categories 1, 2 and 3 in the U.S. think tanks mentioned here corresponds to the same typology as that used in the analysis. It is also possible to fall into a category in a US think tank without doing so in our sample. So, for example, two Category 1 individuals in our sample have also been Category 1 at Mont Pelerin; however, there are two Category 1s at Mises Institute, but neither are classified as Category 1 in our sample.

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