

Corporate Climate Policy-planning in the Global Polity: A Network Analysis

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J. P. Sapinski

Department of Sociology,

University of Victoria

sapinski@uvic.ca

www.researchgate.net/Jean_Philippe_Sapinski

Abstract

Alongside the climate change denial movement, a section of the capitalist class has been organizing to promote a project of “climate capitalism” that relies on carbon markets and other policies compatible with the neoliberal order to reduce greenhouse gas emissions. Like the denial movement, promoters of climate capitalism have constructed an extensive network of think tanks and policy-planning groups to foster adherence to their climate policy proposals. This article uses social network analysis to map out the reach of these climate and environmental policy groups within the array of interconnected NGOs, inter-governmental organizations, philanthropic foundations, and other organizations that constitute the global polity. This analysis sheds light on the position climate capitalism – understood as a project of a section of the global corporate elite – occupies among international organizations. Overall, I find that climate and environmental policy groups: (1) maintain substantial ties to key organizations of the global polity, and (2) mediate a substantial amount of relations, bridging between central organizations and more peripheral ones, as well as among those located in Europe and North

America. I thus argue that a global inter-organizational infrastructure exists that supports climate capitalism, which contributes to its dominant position in climate change politics.

Keywords

Climate change politics; Climate capitalism; Policy-planning network; Global polity; Corporate power; Social network analysis

Introduction

A long tradition of research has explored the many ways the capitalist class organizes politically to ensure the adaptation of existing political economic relations in the face of capitalism's recurrent crises (e.g., Burris, 2008; Carroll et al., 2010; Carroll and Carson, 2003; Carroll and Sapinski, 2010; Domhoff, 2014). One way capitalists organize is by creating and supporting policy-planning groups that act as hubs for the production and mobilization of knowledge. Such knowledge serves to apprehend crises, suggest means to supersede them, and foster support for implementing regime changing policies (Van der Pijl, 1998; Bonds, 2011). Hence, policy-planning groups like the International Chamber of Commerce or the World Economic Forum elaborate and disseminate policy proposals on which to found political action. As part of the same process, they also develop narratives that legitimate these proposals and help foster support from social constituencies within and outside of the capitalist class (Carroll, 2013; Domhoff, 2014).

Today, global warming is widely understood as a threat to all human societies, as well as to the majority of ecosystems (Foster et al., 2010). Many capitalists perceive climate change as one of the greatest challenges to sustained capital accumulation. Strictly from the perspective of capital, surface temperature warming reduces overall food production capacity, which in turn increases the cost of labor (Moore, 2015). As well, climate threats to workers' health and to production infrastructure create additional investment risks to be managed by capitalists (Phelan et al., 2011). Thus, climate change directly threatens capital's capacity to contain production costs. As the climate crisis unravels economically, emergent counter-movements also contribute to undermining the political legitimacy of hegemonic neoliberalism (Bond, 2012a, 2015), prompting a security response that further adds to general costs of production.

Capitalists have been organizing in response to this crisis for the last three decades. Since the issue appeared on the political agenda, the most radically conservative section of the capitalist class set up multiple organizations to foster climate change denial and try to get climate change off the political agenda (Brulle, 2014; Farrell, 2016; Jacques et al., 2008). Meanwhile climate change denial was capturing media and academic attention, a more moderate section¹ has been actively developing strategies to manage global warming within the neoliberal regime (Bonds, 2016a; Derber, 2010; Sapinski, 2015, 2016), through pricing mechanisms that purportedly create new accumulation opportunities (Bond, 2012a; Lohmann, 2006; Newell and Paterson, 2010). Because of the denial movement's outright rejection of the issue, the promoters of "green capitalism" were able to portray their option as the reasonable alternative to address climate change². They could hence capture to a large extent the international policy-making agenda

(Derber, 2010), marginalizing in the process climate justice-oriented proposals (Bullard and Müller, 2012; Lalander, 2014). Many scholars have analyzed conservative strategies to cultivate climate change denial. This article focuses instead on some of the ways in which moderate capitalists have organized to garner support for a “climate capitalist” project and its inclusion within the hegemonic neoliberal historical bloc.

The article proceeds from a broadly Gramscian understanding of the organization of consent. This framework insists on the central role of what Jessop (1990) calls hegemonic projects — ensembles of policy proposals and legitimizing narratives that draw assent from inside and outside the dominant groups. Policy groups and think tanks constitute privileged sites for organic intellectuals of the dominant groups to elaborate and disseminate hegemonic projects (Carroll and Sapinski, 2016; Van der Pijl, 1998). Research has shown that these organizations are embedded in dense webs of social relations, comprising networks of board interlocks and of collaborative links (Burris, 2008; Carroll and Carson, 2003; Carroll and Sapinski, 2010, 2013, 2017). Such networks enable them to mobilize hegemonic narratives and policy proposals across vast sectors of both the capitalist class and civil society (Carroll, 2013).

In response to climate change and following the failure of denial organizations to prevent global climate policy from being passed in the early 1990s, moderate capitalists thought it would be best to create organizations that could effectively help design international climate policy that would align with the neoliberal regime that was consolidating at the time (Newell and Paterson, 2010). Thus, over the years, a series of corporate-funded climate and environmental policy groups (CEPGs) such as the International Emissions Trading Association, the Climate Group and the

World Business Council for Sustainable Development were created for that purpose (Sapinski, 2015, 2016). The project developed by these groups is first and foremost to avoid direct state regulation of greenhouse gas (GHG) emissions. Instead, climate policy is to rely on pricing mechanisms — carbon markets and carbon taxes — to steer markets away from fossil fuels and GHG intensive production. It is said that appropriate pricing would reorient electricity generation and commodity production toward low emissions energy sources such as wind, solar, hydro, and nuclear power. A key element of this project is that energy production still takes place under corporate control, either by new firms or by existing energy sector firms that invest in low emissions energy (Adkin, 2017). Some scholars use the expression “climate capitalism” to describe the project (Adkin, 2017; Lovins and Cohen, 2011; Newell and Paterson, 2010), so as to capture this ensemble of neoliberal climate policies that together seek to reconcile capital accumulation with the reduction of GHG emissions.

This study focuses on 11 major CEPGs (listed in Table 1) active in developing and promoting climate capitalism. From a Gramscian perspective on hegemony construction, these groups seek to draw support for their project from various constituencies, within the capitalist class as well as outside of it, that is, from global civil society. As transnational organizations, CEPGs form relationships with a multiplicity of other organizations — international governmental organizations (IGOs), non-governmental organizations (NGOs), philanthropic foundations, etc. — that together constitute the global polity. This article details how CEPGs’ embeddedness within this dense network of organizations might enable and constrain their activities and their capacity to promote the project of climate capitalism.

Table 1. Climate and environmental policy groups

Name	Year est.	Headquarters	Focus
Club of Rome	1972	Winterthur (Switzerland)	Global governance
Global Environmental Management Initiative (GEMI)	1990	Washington, DC (USA)	Environmental management
Business Council for Sustainable Energy (BCSE)	1992	Washington, DC (USA)	Energy security
European Business Council for a Sustainable Energy Future (e5)	1996	Karben (Germany)	Climate change and energy
World Business Council for Sustainable Development (WBCSD)	1996	Geneva (Switzerland)	Green capitalism
Center for Climate and Energy Solutions (C2ES)	1998	Arlington, VA (USA)	Energy and climate change
International Emissions Trading Association (IETA)	1999	Geneva (Switzerland)	Carbon trading
United Nations Global Compact	2000	New York (USA)	Corporate social responsibility
Global Climate Forum (GCF)	2001	Berlin (Germany)	Climate change policy
The Climate Group	2003	Woking (UK)	Energy and climate change
Copenhagen Climate Council (CCC)	2007	Copenhagen (Denmark)	Green capitalism

The next section discusses approaches to the global polity. I will then briefly present the social network analysis methodology used. The third and main section of the paper examines how CEPGs are structurally positioned within the global polity, and how their influence reaches both within the core of global governance structures and within global civil society, thereby contributing to project corporate power in each domain.

The Field of Global Politics

The global polity can be conceptualized as a field of relations between a variety of individual and organizational actors. Study of this field has been approached from multiple perspectives.

For one, a large body of literature on global civil society that considers NGOs and social movements as key political actors has been developing for many decades (e.g., Anheier et al., 2001; Keck and Sikkink, 1998; Smith, 2008). This perspective emphasizes the formation of counter-hegemonic networks and discourses that challenge existing systemic arrangements and hegemonic projects (Carroll, 2013; Carroll and Sapinski, 2013, 2017; Smith, 2008). Drawing from this approach, scholars of climate politics have studied the response of civil society to hegemonic climate policies and the emergence of alternative proposals (Bond, 2012b, 2015; Candeias, 2013). Others have looked at the organizational form of the field (Bullard and Müller, 2012) and the lines of fracture that transect it (De Lucia, 2009; Hadden, 2015). Analyzing the divisions in the climate justice movement, broadly defined, Hadden (2015) provides key insights. She finds that “social movement entrepreneurs” have promoted the similarity of the climate justice and global justice movements, which led to various climate NGOs adopting and adapting many of the more radical views and practices from the global justice movement. Yet, other groups in the movement favor negotiating with hegemonic institutions to reform capitalism, thereby consolidating the climate capitalist hegemonic bloc, and inducing the split Hadden (2015) observes in the social network of collaborations between groups.

In complement to analyses that focus on civil society, another crucial insight into hegemony formation in the global polity comes from Robinson (2004, 2014). Leaving aside his much debated functionalist-Marxist inspired view of the relationship between capital accumulation, the formation of a transnational capitalist class, and the emergence of a transnational state as such (cf. Budd, 2007; Carroll, 2012; Van der Pijl, 2005; Wallerstein, 2012), the notion of a TNS

apparatus is useful to conceptualize the global political field. Robinson asserts that economic globalization does not subsume the nation-state in “the global” but rather transforms it in both its goals and its relationship with other states and transnational organizations, hence creating a novel, emergent level of political activity superimposed over the system of nation-states. He describes the TNS apparatus not as a constituted, centralized global state, but as a decentralized *network* of IGOs, national state governments and agencies, and other organizations engaged in relations of collaboration, alliances and struggles around various projects. As part of these struggles, Robinson strongly emphasizes hegemonic organizations and processes.

Complementary to Robinson’s approach, Downey (2015) proposes a concept of “organizational, institutional and network-based inequality” that links the globalization and power structure research bodies of literatures within an environmental perspective. In this conception, inequalities of power shaping environmental politics are embedded in national and transnational organizations linked together through networks of board interlocks, collaborations and financial flows. These organizations are able to shape the institutional structures within which, on the one hand, people and other organizations make economic decisions that impact the environment, and on the other hand, governments at all levels adopt environmental and economic policies. Hence, organizations such as transnational corporations, IGOs, NGOs, and corporate funded policy-planning groups such as CEPGs – through the network connections that provide them with global influence from which ordinary citizens and non-elite politicians are excluded – manage to weigh heavily on international institutions and legal environmental

frameworks such as the UN Framework Convention on Climate Change, the Kyoto Protocol and the Paris Agreement.

The approaches described above define the global polity as a field of relations formed by and through organizations, institutions and networks active transnationally, within which hegemonic and counter-hegemonic struggles take place. First, Robinson emphasizes the role of the network of hegemonic institutions forming the transnational state apparatus, and Downey brings attention to the way these organizations actively restrain democratic participation in the global polity. Second, the global civil society perspective acknowledges NGOs and civil society organizations as an integral part of the global polity and the political debates and struggles that transect it, and thus as crucial actors as well as targets (Brem-Wilson, 2015; Edmonds, 2013; Hasan, 2013; McKeon, 2017) in the processes of hegemony formation in which CEPGs participate. Within the global polity, CEPGs work to position themselves such that they can usefully produce and mobilize knowledge which, on the one hand, appeals to neoliberal hegemonic organizations and, on the other hand, draws assent from other environmental organizations and movements. In the rest of the article, I use social network analysis to examine whether and how CEPGs are structurally positioned within the global polity to achieve this goal of inserting climate capitalism at the core of an ecologically modernized neoliberal project.

Data Collection

This study uses a non-probabilistic purposive sampling approach. I identified 11 CEPGs (Table 1) from the climate politics literature, in conjunction with a search of the *Yearbook of International Organizations (YBIO)* (UIA, 2012). I selected CEPGs to be part of the sample on

the basis of three criteria: (1) They are transnational in scope, in that they aim to reach a *global constituency*, as determined on the basis of each group's membership and discourse; (2) As their main activity, selected groups *produce and mobilize knowledge* in support of the climate capitalist project, or of the green capitalist project more generally with an emphasis on climate change as one of their main areas. Overall, they develop a broad vision of how to address global warming *within a capitalist framework*; (3) They were determined to be active at the time of data collection, in the fall of 2012. I gathered the qualitative data from which I made decisions to include or exclude policy groups from two sources. First, I used each group's self-presentation available on its website, usually under the "About" section, as well as other relevant documents gathered on their websites. Second, I used *YBIO* entries for an additional description of the groups.

Network data collection used the 2012 edition of the *YBIO* as a main source of information about CEPGs' relations with other organizations, and I resorted to organizations' websites for those without a *YBIO* entry. I used an ego-centric network sampling methodology (Hanneman and Riddle, 2011): starting from the eleven initial CEPGs, I first collected data on all organizations directly linked to them, their first-order neighbors ($n=247$). In a second step, I listed the links between all first-order neighbors, so as to capture the complete ego-centric network of the initial CEPGs.

The relationships listed in the *YBIO* cover a variety of collaborations and flows between organizations. These can be of a collaborative nature, such as short-term partnerships to complete joint projects or long-term alliances; they can indicate coordination of one

organization by another through board membership or by other means; they can represent resource and financial flows, when an organization receives support in money or in kind from another one; they can also indicate information flows, when organizations participate in another organization's meetings or if they are accredited as official consultants or observers by certain IGOs; finally, these links can represent all the flows implied in relationships between umbrella organizations and their members. For the purposes of this study, I considered all relations indicated in the *YBIO* as indicative of a substantive relationship between organizations, and as such included them all in the analysis³.

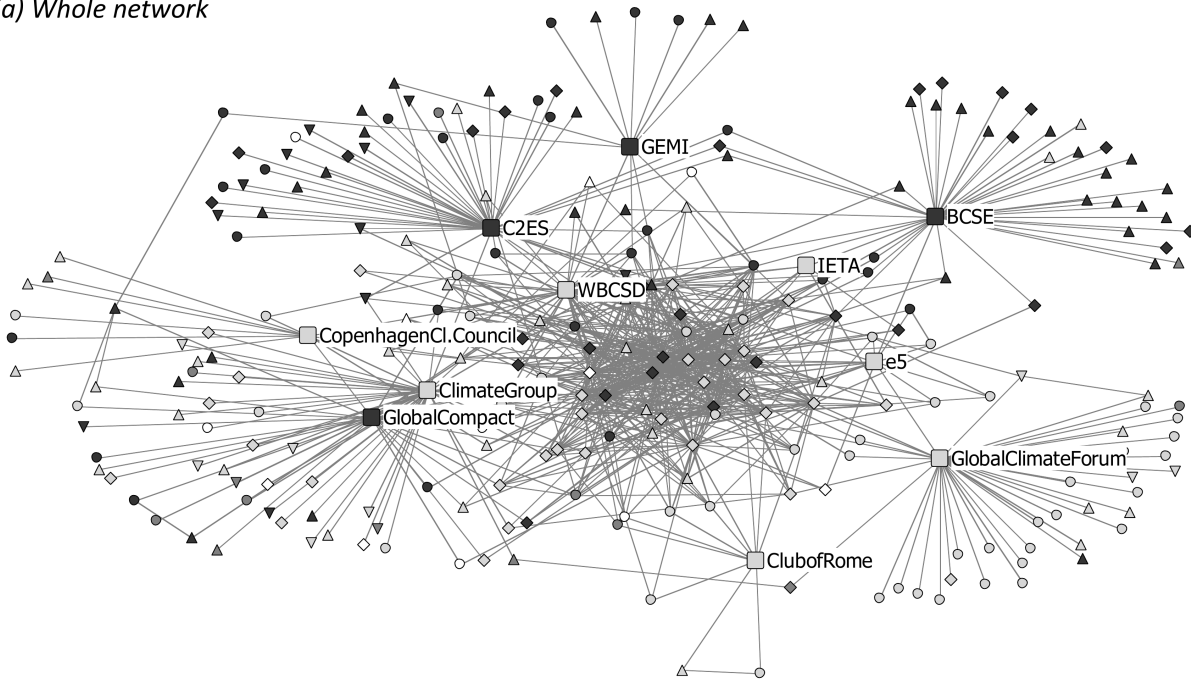
Climate Capitalism and the Field of Global Politics

In this section I examine the extent to which CEPGs are positioned to promote the climate capitalist project among the IGOs, business organizations and NGOs that together constitute the global polity. This analysis provides insight into some of the channels through which this project, elaborated by transnational capitalists and associated organic intellectuals, might reach out to and draw support from outside of the corporate community. It sheds light on the role corporate-funded CEPGs may play in the process of mobilizing support for climate capitalism.

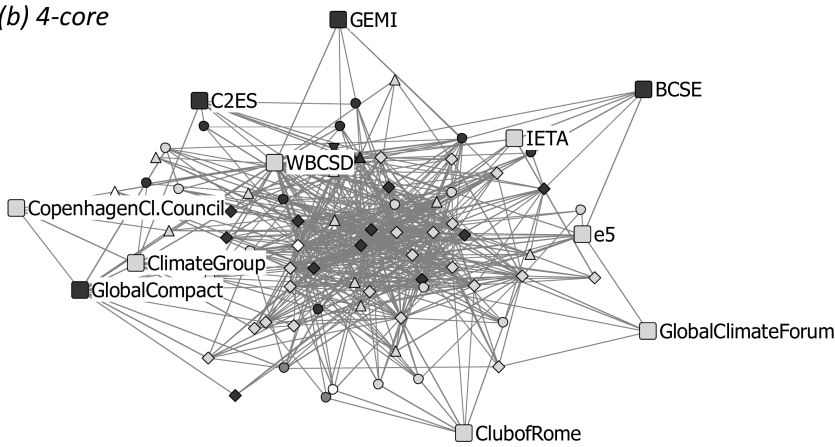
General Structure of the Network

Figure 1a is a two-dimensional representation of the organizational neighborhood of the eleven CEPGs⁴. Many tools have been developed to detect patterns of clustering within network graphs. *K*-core analysis provides a flexible method to detect clustering in a graph, in contrast with other methods with more stringent criteria (see Doreian and Woodard, 1994). Within a *k*-core, every node is connected to *k* other nodes, instead of being connected to all other nodes as

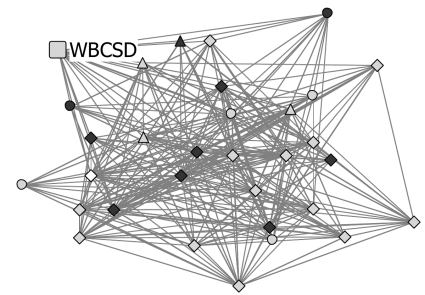
(a) Whole network



(b) 4-core



(c) 10-core



Key: Squares: CEPGs, Diamonds: IGOs, Upward triangles: Business organizations, Downward triangles: Foundations, Circles: NGOs
 Black: North America, Light grey: Core Europe, Dark grey: Core Asia/Oceania, White: Periphery

Figure 1. Structure of the climate capitalist network and k -core decomposition

in the case of a clique (Seidman, 1983). Thus, a 4-core is a region of a network in which all nodes are connected to at least four other nodes. By definition, k -cores represent zones of increasing density nested within each other, such that a 6-core exists within a 5-core, a 5-core within a 4-core, and so on⁵. In the case of the ego-centric network of CEPGs' collaborative relationships, k -core

decomposition analysis of the network reveals a heavily nested structure in which it is possible to distinguish 12 increasingly denser nested layers. Figures 1b and 1c show the 4-core and 10-core of the network, respectively.

Analyzing the nested structure of the network helps understand the position of CEPGs within it. The majority of CEPGs appear in the intermediate layers, between the densely connected core and the far periphery: all are located between the 9-core and the 4-core, with the exception of the WBCSD which is part of the densely connected 12-core (see Table 2). Thus, as it appears on Figure 1, on the one hand, most CEPGs maintain close contacts with the most connected organizations located in the 10-core (described in more detail below) even though they are not part of this dense zone of the network as such. On the other hand they connect with organizations that do not link to those in the 10-core, who do not have direct access to these key organizations. CEPGs hence occupy key positions, as I will further detail below. On the one hand, their proximity to the most connected organizations gives them a certain degree of potential influence at the highest levels of global governance. On the other hand, they have established their own networks of collaborators beyond the core of global politics, working with organizations that are rooted nationally and locally. The WBCSD stands out as embedded in a broad range of relationships, with less connected organizations but also as an integral part of the governance of the global polity – perhaps a component of the transnational state apparatus.

Table 2 lists the 32 organizations that are part of the network's 10-core, those which are the most densely networked. It shows that this zone of the network is massively occupied by IGOs, especially UN agencies. Such a configuration is not surprising, given that IGOs are large and

Table 2. Organizations at the core of the CEPGs network

Name	N links w/CEPGs	Headquarters	Field of activity
<i>Business groups</i>			
Greenhouse Gas Protocol Initiative (GHGPI)	3	Washington, DC	Global warming
International Chamber of Commerce (ICC)	1	Paris	Trade/Globalization
International Organisation of Employers (IOE)	1	Paris	Labor relations
World Business Council for Sustainable Development (WBCSD)	5	Geneva	Green capitalism
World Energy Council (WEC)	2	London	Non-renewable energy
<i>NGOs</i>			
International Union for Conservation of Nature (IUCN)	1	Gland, Switzerland	Environmental sustainability
World Resources Institute (WRI)	3	Washington, DC	Environmental sustainability
World Wide Fund for Nature (WWF)	4	Gland, Switzerland	Environmental sustainability
International Inst. for Environment and Development (IIED)	1	London	Environmental sustainability
International Institute for Sustainable Development (IISD)	1	Winnipeg, Canada	Environmental sustainability
Transparency International (TI)	1	Berlin	Corporate governance
<i>IGOs</i>			
European Union			
European Bank for Reconstruction and Development (EBRD)	1		Trade/Globalization
European Commission (EC)	1	Brussels	N/A
Inter-American Development Bank (IDB)	1	Washington, DC	Trade/Globalization
International Institute for Applied Systems Analysis (IIASA)	1	Laxenburg, Austria	Renewable energy
OECD	1	Paris	Trade/Globalization
OECD Round Table on Sustainable Development	2	Paris	Green capitalism
United Nations (UN)	1	New York	N/A
International Fund for Agricultural Development (IFAD)	1	Rome	Agriculture
International Labour Organization (ILO)	1	Geneva	Labor rights
International Trade Centre (ITC)	1	Geneva	Trade/Globalization
UN Conference on Trade and Development (UNCTAD)	1	Geneva	Trade/Globalization
UN Framework Convention on Climate Change (UNFCCC)	6	Bonn	Global warming
UN Industrial Development Organization (UNIDO)	1	Vienna	Trade/Globalization
UNESCO	1	Paris	Education
United Nations Development Programme (UNDP)	4	New York	International development
United Nations Economic and Social Council (ECOSOC)	1	New York	Trade/Globalization
United Nations Environment Programme (UNEP)	4	Nairobi	Environmental sustainability
UN Water	1	New York	Environmental sustainability
World Bank Group			
International Bank for Reconstruction and Development (IBRD)	4	Washington, DC	Trade/Globalization
International Finance Corporation (IFC)	2	Washington, DC	Trade/Globalization
World Trade Organization (WTO)	1	Geneva	Trade/Globalization

complex organizations that maintain an extensive variety of collaborations, with many other IGOs as well as a large number of business organizations, NGOs and other globally active organizations. As central components of the global polity – and the most salient elements of the transnational state apparatus – they are also the main targets of global lobbying and social change efforts (see Brem-Wilson, 2015; McKeon, 2017). Five corporate sector organizations are also part of the 10-core, including the WBCSD. Interestingly, five out of the six most connected NGOs focus on environmental issues, indicating that large environmental NGOs link closely with both IGOs and business groups, and suggesting that environmental degradation gets a large amount of attention in global politics. Eight IGOs and one business organization in the 10-core are dedicated to environmental issues as well. However, thirteen IGOs in the 10-core are primarily dedicated to issues related to the global trade liberalization agenda which, when added to the five business organizations, gives a large weight to trade considerations at the heart of the network.

Considering a hypothetical alternative structure helps to interpret these findings. Analysis could have revealed a completely different pattern of relationships: it could have found multiple *k*-cores aggregated by country or region, and business organizations connected together but separate from UN agencies and NGOs; there could be little or no overlap between CEPGs' neighborhoods; and CEPGs could have appeared at the periphery of the network. Such evidence would have led to the conclusion that CEPGs and the climate capitalist project they support find little traction in the global polity and have little hope of influencing its main actors. Instead, the climate policy-planning network comprises a main component in which most CEPGs occupy

positions close to a single denser region identified as a 10-core, and that includes most large IGOs, large environmental NGOs, and business organizations. This leads to the conclusion that *among CEPGs' collaborators, many organizations interested in environmental issues are densely interconnected together, as well as with others dedicated to supporting capitalist globalization*, all of whom can be considered to be part of the neoliberal historical bloc. On the one hand, this would be expected of a network of organizations supporting climate capitalism, that is, a mix of large mainstream environmental groups and pro-growth organizations. On the other hand, the close links between CEPGs and these organizations supports the assertion that climate capitalism has become integrated within the neoliberal hegemonic project. Whereas this section provided a broad, bird's eye view of the network, the ego-network analysis that follows zooms in on CEPGs to assess similarities and differences in each group's localized relations.

Ego-network Structure

Nodes located between other nodes occupy powerful structural positions, as they mediate relations between other organizations and perhaps to some degree control communications between them (Burt, 1976). *Betweenness centrality* provides information about the relations mediated in this way by each CEPG among its direct neighbors. It calculates, for each CEPG, the sum of the proportion of shortest distance paths between all pairs of nodes that pass through it (Freeman, 1979). Table 3 shows that mediation patterns vary for each CEPG, depending on neighborhood size and the interconnectedness of neighbors. Some groups mediate between multiple organizations that only sparsely interlink among each other and thus play a key brokerage role, whereas others are embedded within dense neighborhoods and uniquely mediate a

lower number of relations. Overall then, CEPGs do play a role in mediating relations among their immediate circle, thus increasing cohesion within the global polity.

Table 3. Comparison of CEPGs' neighborhoods

CEPG	Size of neighborhood	Density ^{a, b}	Links to 10-core ^c	Betweenness ^d	Heterogeneity ^e
BCSE	41	0.06	1 (2.4)	913 (55.7)	0.740
C2ES	43	1.05	4 (9.3)	1262 (69.9)	0.797
CCC	11	6.36	1 (9.1) ^f	81 (73.6)	0.314
Climate Group	46	1.79	5 (10.9)	1741 (84.1)	0.779
Club of Rome	12	15.91	3 (25.0)	88 (66.7)	0.653
e5	18	18.30	8 (44.4)	162 (53.0)	0.623
GEMI	13	2.56	3 (23.1) ^f	139 (89.1)	0.627
Global Climate Forum	39	0.54	3 (7.7)	527 (35.6)	0.625
IETA	9	31.94	6 (66.7) ^f	31 (42.8)	0.769
UN Global Compact	30	5.52	6 (20.0) ^f	611 (70.2)	0.494
WBCSD	47	14.15	20 (42.6)	1250 (57.8)	0.725

^a Ego-network density is calculated on the basis of ties among first-order neighbors excluding ties with ego.

^b Density and normalized betweenness are expressed as percentages.

^c Proportion of total neighborhood in brackets.

^d Normalized score in brackets.

^e Higher heterogeneity scores indicate a more diverse neighborhood.

^f Including a link with the WBCSD.

The number of connections each CEPG has to the dense 10-core reveals how closely each one relates to the governance of the global polity. All CEPGs but one have three or more links to the 10-core (Table 3), and the WBCSD, being part of the 10-core itself, links with 20 of the 32 nodes that make up the 10-core. Again, this illustrates that as a whole, CEPGs occupy a strategic position, collaborating closely enough with global governance organizations to relay corporate influence in their direction and thus contributing to insert climate capitalism within the hegemonic neoliberal globalization project. Conversely, they help bring into the climate capitalist sphere of influence many organizations that have no direct contact with core groups. As a special case, the WBCSD is closely embedded among institutions of global governance and

thus mediates relations between them and contributes to positioning the climate capitalist project squarely at the core of global politics. In sum, by virtue of their structural position and because they are embedded within a dense network rather than disjointed or at the margin, CEPGs contribute to create cohesion and solidarity within the global polity around the climate capitalist project.

CEPGs collaborate with a wide variety of international organizations. *Heterogeneity* is a measure of the diversity of groups within a node's ego-network which summarizes the organizational composition of each CEPGs' neighborhood. It is calculated as one minus the sum of the squares of the proportions of neighbors in each category of a pre-determined attribute (Blau, 1977). The heterogeneity scores presented in Table 3 show that most groups collaborate with a diversity of organizations, with some amount of variation in CEPGs' networking strategies. A diversified pattern of linkages is consistent with the activity of CEPGs as producers and mobilizers of knowledge, which leads them to establish connections with, on the one hand, other knowledge producers who also "make the case" for climate capitalism, and on the other hand IGOs, NGOs and foundations who provide capacity to implement the climate capitalist project. The majority of CEPGs link with other knowledge producing organizations as well as with IGOs: *they are as a consequence positioned very close to the global policy process*. As well, most CEPGs collaborate with NGOs, suggesting that *their efforts to promote the climate capitalist project have led to seek collaborators in global civil society*.

Regional Scope

As the world-system is regionally differentiated, it is useful to explore how CEPGs' reach extends in space. Figure 2 shows the geographical extent of CEPGs' collaboration network. As is apparent on the figure, organizations linking to CEPGs are highly concentrated in the North Atlantic region, with very few of them headquartered in other regions. The United States are by far the most represented country, although many core European countries enjoy a large representation as well, and the overall representation of core Europe is slightly higher than that of North America (Table 4). Organizations' headquarters tend to be located in a small number of global cities: Washington, DC, New York City and to a lesser extent Boston in the US, and London, Paris, Geneva, Brussels and Berlin in Europe. China is the only country outside of

Table 4. Location of headquarters of organizations directly linked to CEPGs

Country	Whole network		10-core only	
	N	%	N	%
<i>Core North America</i>				
USA	103	41.7%	11	30.6%
Canada	2	0.8%	1	2.8%
<i>Core Europe</i>				
UK	29	11.7%	3	8.3%
Germany	17	6.9%	2	5.6%
France	13	5.3%	6	16.7%
Other core Europe	54	21.9%	12	33.3%
<i>Core Asia/Oceania</i>				
China	8	3.2%	0	0.0%
Australia	5	2.0%	0	0.0%
Japan	1	0.4%	0	0.0%
<i>Non-core countries</i>	11	4.5%	1	2.8%
Missing or multiple locations	4	1.6%	0	0.0%
<i>Total</i>	247	100.0%	36	100.0%

North America and core Europe that has any substantial representation, with most organizations located in Beijing.

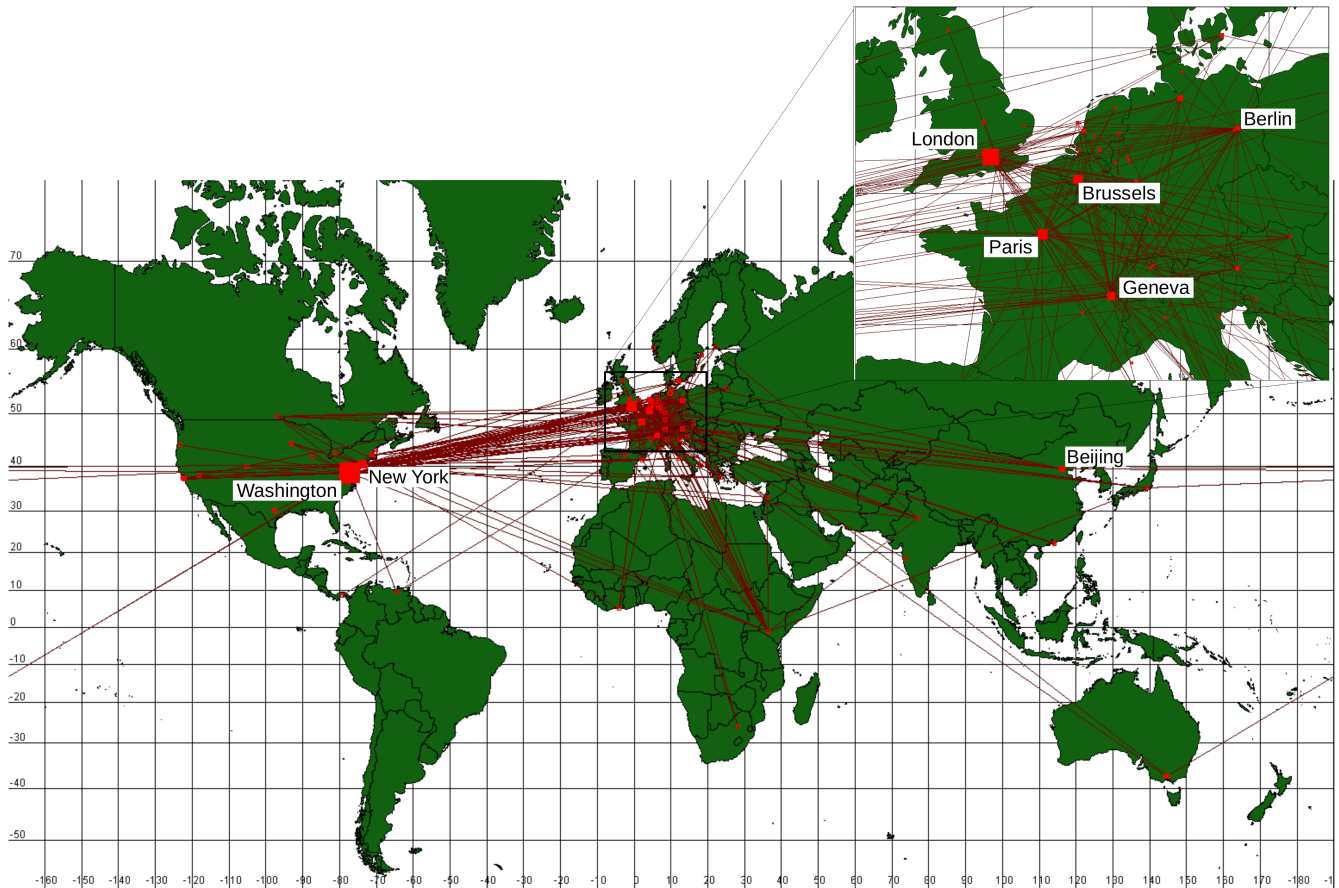


Figure 2. Geographical scope of CEPGs' collaboration network

This over-representation of Europe and North America is similar to that found in the intercorporate network described in Sapinski (2016), and likewise suggests that the climate capitalist project is strongly tied to the North Atlantic core – the heart of global capitalism (Van der Pijl, 1984). Yet, the presence of organizations from the United States nearly equaling that of European ones indicates that, contrary to the intercorporate network, CEPGs' network of collaboration is equally well developed in both regions. Links with China are less developed than

might be expected given the major role China plays in global climate politics (see Chen, 2012; Malm, 2012)⁶. Other major players that are nearly absent are India, Japan and South Africa; no organizations are located in Brazil or Russia. In its social base, the climate capitalist project thus appears to be almost exclusively North Atlantic, reaching in a very limited way to the growing economies of the BRICS, whose GHG emissions are fast rising (Jorgenson, 2012).

For its part, the densely connected 10-core is composed almost exclusively of organizations located in the North Atlantic⁷ (Table 4). European organizations make up two-thirds of the 10-core, and North-American ones make up the remainder. In general, groups located in core Europe are significantly more likely to be located in the 10-core than those from any other region ($t=4.769$, $p=0.0364$, 10,000 permutations).

Looking at CEPGs individually, analysis finds variation in regional linkages patterns, as shown in Table 5. The external minus internal (E-I) index provides a measure of whether and how much each node's links are directed within its own region (introverted) or to other regions (extraverted). It indicates the extent to which external links (E) predominate relative to internal links (I), and varies between 1 and -1⁸. Positive values thus indicate extraversion, and negative values indicate introversion (Krackhardt and Stern, 1988). According to their respective E-I indices shown in Table 5⁹, all CEPGs but two maintain a greater number of links with organizations located in their region than in other regions. Six of them are deeply anchored within their own region, where over 70% of their collaborators are also based. Nonetheless, the Climate Group, e5, the IETA and the WBCSD, all located in Europe, reach out in a large proportion to the other side of the Atlantic, although they still maintain around half of their

collaborations in their home region. For their part, North American groups are almost totally introverted, linking with other North American organizations 85% of the time or more. The only exception is the Global Compact, which though it is headquartered in New York City is in reality a global organization. As such, it reaches out mostly to Europe, where many IGO collaborators are located. The Global Compact and the Climate Group are the only CEPGs that maintain any substantial links to core Asia, with three and five links respectively. These two groups as well as the WBCSD also have a small number of links to organizations located outside the capitalist core.

Table 5. Regional composition of CEPGs' collaboration ego-network

CEPG	Size	North America ^a	Western Europe ^a	Core Asia/Oceania ^a	Non-core countries ^a	Heterogeneity ^b	E-I index
<i>North America</i>							
BCSE	41	36 (88)	4 (10)	1 (2)	0 (0)	0.219	-0.756
C2ES	42	36 (86)	5 (12)	1 (2)	0 (0)	0.251	-0.714
GEMI	13	11 (85)	2 (15)	0 (0)	0 (0)	0.260	-0.692
Global Compact	30	8 (27)	16 (53)	3 (10)	3 (9)	0.626	0.467
<i>Western Europe</i>							
CCC	11	2 (18)	8 (73)	1 (9)	0 (0)	0.430	-0.455
Climate Group	46	12 (26)	25 (54)	5 (11)	4 (8)	0.618	-0.087
Club of Rome	12	0 (0)	10 (83)	1 (8)	1 (8)	0.293	-0.667
e5	18	7 (39)	9 (50)	0 (0)	2 (10)	0.589	0.000
Global Climate Forum	39	1 (3)	36 (92)	2 (5)	0 (0)	0.145	-0.846
IETA	9	4 (44)	5 (56)	0 (0)	0 (0)	0.494	-0.111
WBCSD	47	18 (38)	25 (53)	0 (0)	4 (8)	0.564	-0.064

^a Row percentages in brackets.

^b Higher heterogeneity scores represent a more regionally diverse neighborhood.

In sum, several CEPGs spread their links across both North America and Europe and thus can play a role in building solidarity around climate capitalism in the two regions. Other groups are solidly anchored within their regional networks and thus may contribute to creating regional cohesion around the project. Only three groups, the Climate Group, the Global Compact and

the WBCSD, have any substantial collaborations outside Europe and North America, suggesting *a specifically North Atlantic character of climate capitalism and a limited reach of the project into the global South*. These three groups can be said to play a key role in fostering support from the rest of the world for the project, including among NGOs and civil society organizations in China, a country that weighs heavily in the field of global climate politics (see Held et al., 2013; Roberts, 2011).

Discussion and Conclusion

In this paper, I considered the global polity as a network comprising a broad variety of organizations. Some organizations within this network participate in a system of global governance — what Robinson (2004, 2014) describes as an emergent transnational state apparatus that exerts diffuse authority over the whole of the earth. CEPGs are positioned at key articulation points in the global polity. First, they link closely within the denser sector of the network where global hegemonic power is concentrated. Such a position allows them to insert their project of climate capitalism at the heart of global governance. By virtue of their geographical reach across the North Atlantic, they are also positioned to mediate potential disagreements among hegemonic centers of power. Second, their reach extends in the other direction, to organizations that are further removed from the governing heights of the global polity but nonetheless play an important role in global politics. CEPGs' relationships with these organizations are varied. Some of them are foundations that mobilize corporate wealth in support of climate capitalism. Others are business associations or research institutes that work with CEPGs to co-produce climate capitalist knowledge. Still others are civil society

organizations that choose to join into the climate capitalist project, at least to some degree, as described by Hadden (2015).

The regional linkage patterns uncovered, with the vast majority of links staying within the North Atlantic, only a small number of links to China and minimal connections to other regions, sheds light on hegemonic processes in two respects. First, several CEPGs, all of them based in Europe, maintain links to organizations both in North America and Europe, which can enable them to build class solidarity across the Atlantic. Other groups are anchored in regional networks, within which they can create cohesion on a smaller scale. Second, only a few groups link at all with organizations based in the global South, in a very small volume. This might have to do with the greater militancy and more acute critique developed by groups based in the Global South (see, e.g., Bond, 2012b; Satgar, 2015), in the sense that due to political economic relations and the greatly skewed impacts of global warming, climate capitalism begets much less support outside of core countries. Further research in this area would be useful to understand these dynamics. In all, this finding is consistent with van der Pijl's (1984, 1998) identification of the North Atlantic region as the "heartland" of global capitalism. In this perspective, the project of climate capitalism may strengthen North Atlantic rule in the global order (cf. Lohmann, 2006, 2008; Martínez-Alier, 2002). Yet, climate politics are shifting rapidly, and the denialist orientation of the newly elected US administration led by president Donald Trump casts much uncertainty on the geopolitical configuration that will ultimately carry forward the project. At the time of writing, it thus appears to strengthen instead the Europe-China axis – thus emphasizing the unevenness of hegemonic processes.

In this paper, I sought to bring to light the inter-organizational basis that exists for climate capitalism to expand within the network of IGOs, corporate organizations and NGOs that constitute the global polity understood as a field of relations. Relating back to the main question of this paper, *the moderate conservative faction of the capitalist class appears to have developed an organizational infrastructure of its own, that parallels that behind the denial movement and that supports the expansion of the climate capitalist project*, in the form of a network of collaborations between various organizations. From a climate justice perspective, such a conclusion is not necessarily reassuring. Extensive research strongly suggests that climate capitalism's main policy instruments, carbon markets and carbon taxes, cannot bring forth a "low carbon" regime, let alone a regime founded on climate justice principles (Böhm and Dabhi, 2009; Bumpus, 2015; Lin and Li, 2011; Lohmann, 2006, 2008, 2011, 2014; Spash and Lo, 2012; Vlachou, 2014). Rather, these accounts argue that climate capitalism functions as a means to delay a deep reduction of GHG emissions to an undetermined future and thus constitutes a form of climate change denial in its own right (Derber, 2010; see also Lohmann, 2008). From this perspective, the rise to hegemonic status of climate capitalism would not be effective to avoid the most catastrophic consequences of climate change¹⁰.

In closing, I must note a few limitations inherent to the data. First, information about the actual content of the relations observed is limited, and even though the data indicate that substantive linkages between organizations do exist, the strength of these links is not known precisely. As such, more precise data would be needed to ascertain the exact level of cohesion in the network, which would help uncover areas of greater and lesser cohesion. Second, the *YBIO* is

not exhaustive and various links go unreported, especially for smaller organizations, as noted at the beginning of the paper, with the consequence of underestimating certain linkages. Third, and maybe more importantly, the ego-network methodology does not allow to estimate quantitatively the place that organizations collaborating with CEPGs themselves occupy in the field of global politics as a whole, although inferences can be made in the case of organizations such as UN agencies or the international financial institutions who are known to be key players. In sum though, a social architecture that regroups organizations involved in constructing a regime of climate capitalism is in the making, and CEPGs representing moderate capitalist class interests play a key role constructing it. Looking more broadly at the struggles taking place in the field, the main question that remains and that is not addressed in this work is that of the relative power of the climate capitalist project in the face of opposing forces – on the one hand, the conservative elements regrouped into the denial movement, now strongly represented in the US government, as well as on the other hand, the variegated groups that make up the climate justice movement.

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Notes

- 1 On the distinction between radical and moderate capitalists, see Domhoff (2014), Robinson and Harris (2000).

- 2 As Bonds (2016a, 2016b) suggests, lines between the two projects are not necessarily clear cut, and many corporations are best qualified as “climate opportunists”. Among them, fossil fuel companies plan to profit from new opportunities for oil exploration in the Arctic opened up by the warming climate (Bonds, 2016b), at the same time as they invest in renewable energy projects and hope to profit from carbon markets.
- 3 See Katz (2006) and Carroll and Sapinski (2013, 2017) for examples of a similar use of *YBIO* data.
- 4 The figure was produced using the social network visualization tool Netdraw (Borgatti, 2002). It uses a spring embedder algorithm that approximates on the graph the positions of nodes relative to each other in social space (see Freeman, 2000).
- 5 This does not however imply a core-periphery structure, as multiple higher order k -cores can appear alongside each other. It is also important to emphasize that in the context of an ego-network design, k -core decomposition is used to identify zones of greater density, and not the most central nodes in the network, which is only meaningful in the case of a whole network design.
- 6 This is perhaps unsurprising, given China’s political economy. However, many authors report an increase in NGO presence and greater civil society activity in the recent years, especially regarding growing environmental issues (see Geall, 2013). More linkages would be expected to appear, especially given the recent adoption of a climate capitalist policy outlook by Chinese leadership.
- 7 The only exception is the UN Environment Programme (UNEP) based in Kenya.

8 In equation form, $(E-I)/(E+I)$.

9 Calculated on the basis of the four categories typology of regions used in Table 4.

10 That is, unless climate geoengineering strategies to modify the global climate system become part of the climate capitalist portfolio, which now appears increasingly likely (Anderson and Peters, 2016).

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