

# Climate Change, Security and the Role of Transnational Corporations

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*Climate change has become a prominent part of the global security discussion. At the same time private organizations have been increasingly providing a substantial contribution to the implementation of climate adaptation and mitigation. Traditionally, security has been understood in state-centric terms, while global issues such as climate change have belonged under the terrain of international negotiations. With climate change, however, the governance mechanisms used today, are taking on a variety of forms beyond multilateral agreements. By providing significant expertise in technology and service delivery, and committing to even more ambitious greenhouse gas emission reductions than agreed by their governments, private organizations have become active players in the climate change policy arena. Together with the securitization of climate change, the growing significance of private organizations in climate policy and action is raising questions about their role as security providers. This article focuses on the role of transnational corporations (TNCs) in climate governance and discusses the ways in which the increasing significance of TNCs impact on the structure and governance of global security. The Arctic region, while increasingly becoming a prominent part of economic globalization — largely due to global climate change — is anything but isolated from the structural changes occurring in global governance. The growing role of the region in the globalizing economy and the region's accelerated pace of warming connects it inextricably to the global security.*

## Introduction

The global atmospheric concentration of greenhouse gases leading to the warming of the planet is primarily caused by the massive use of energy in the processes of material transformation. As the global economic system has been driven by fossil fuels for over 200 years, shifting away from its use requires fundamentally transforming the prevailing production and consumption patterns. If unmitigated, climate change is likely to trigger a number of tipping points that further accelerate the irreversible changes, posing risks to the basic needs of people and core values of societies. Climate change, in this way, both triggers and necessitates fundamental structural changes in the economies and societies, posing a great challenge to the current political systems.

For over three decades, international climate action has been an intergovernmental process with little scope for business involvement. Business has been viewed primarily as the source of the critical environmental challenges that we are facing today, not as the solution to them. However,

in recent years, the attitudes toward the role of private business organizations in climate action have been changing, and their involvement in climate governance has risen significantly. Major businesses are now involved in multilateral initiatives and the number of corporations committed to self-regulation and climate investments has grown steadily. Today, already over half of the annual climate finance flows are coming from the private sector, where transnational corporations (TNCs) account for the majority of investments (CPI, 2019). Subsequently, climate change is now an area of increasingly complex multi-level governance characterized with, what some scholars call, the technologies of advanced liberal government that include mechanisms such as marketization, public-private partnership and stakeholder dialogue (Stripple & Bulkeley, 2014: 34–35; Methmann, 2013; Oels, 2005).

Simultaneously, with business actors coming to be embraced as crucial partners in climate governance, the problem of climate change itself has been increasingly viewed through the lens of security. Continuing with ‘business as usual’ is increasingly understood to have catastrophic consequences on societies and global security. Without appropriate action to decarbonize economies, the risk of disruptions of economies and societies is seen to be mounting in a dangerous manner, leading to the formation of various kinds of security threats. But as noted by Simon Dalby (2013b), a leading security scholar, the difficulty in decarbonization lays on the fact that climate change is very much a product of the success of states in building and securing the fossil fueled economies — the main source of today’s carbon emissions.

This article discusses how climate change with its inextricable relation with the world economy, which forms the backbone of today’s security thinking, is producing Transnational Corporations (TNCs) as security actors. At the same time as state leaders are welcoming the participation of business actors in climate action in the name of security, investors and corporate leaders have gained more awareness of the impact of climate change on business operations and the associated risks that affect their investment returns. For business, climate risk equals very much a financial risk. This article looks at the role of TNCs in climate action from the point of view of security, while aiming to shed light on the transformations that are occurring in the nature of global security governance.

The article starts with a brief overview of security-thinking, where it focuses on demonstrating how security-thinking has evolved in recent years. It then moves to scrutinize the transformation in the world economy and the growing significance of TNCs, after which it takes a brief look to the current climate politics and the corporate response to climate change. After setting the scene, the article moves to discuss the processes, impacts and potential of the growing role of the TNCs in climate governance from the viewpoint of security. Before concluding, the article takes a look at the issue in an Arctic context, where it focuses on the oil and gas sector in particular. The Arctic region is central from the point of view of security for several reasons. The region suffers from an accelerated pace of warming, that not only brings environmental challenges but also economic possibilities. At the same time the region plays a crucial role in the global climate system that increases its importance from the point of view of climate security.

### **Security: Between geopolitics and geoeconomics**

The threats to security today, rarely respect national or sectoral boundaries. While war and the threat of the use of force still remains as the main drivers of security policies of many states and

institutions, especially after the end of the Cold War, new threats characterized with a new kind of interconnectedness and complexity, have emerged to the security agenda (Kaldor, 2007; Gyarmati, 2004: 28–30). Whereas thirty years ago, state leaders and security scholars were mostly concerned with nuclear Armageddon and mutually assured destruction, today the disruption of the elements in the global economic system is widely filling the security agenda. National infrastructures have become increasingly globalized, as the level of trade and economic interdependencies between countries has increased. This has brought forth new uncertainties and vulnerabilities for individual states toward the impact of events occurring beyond their national borders and government control. Some scholars have suggested that this transformation is best understood as a shift in security relations from geopolitics towards geoeconomics<sup>1</sup> (Luttwak, 1990; Brooks, 2005; Hameiri & Jonas, 2015: 371–388; Dent, 2010: 240).

While this may be an oversimplification in many ways, as the intrinsic relationship between economy and security has always been there, the economy-based thinking has certainly gained weight in the security field with the expansion of free markets and transboundary production networks (Bell, 2011). As an outcome of the increased internationalization of supply chains, the focus of many states over the protection of their economic supplies and markets has heightened significantly. The emphasis on ‘human security’ that arose in the late 1990s, has added the promotion of the market and economic-based provisions of security in national security strategies. (Bell, 2011; see Dalby, 2013a; Krahan, 2008). As the concept of human security has become closely tied into the discussions of humanitarian intervention and the responsibility to protect, the so-called ‘weak’ or ‘failing’ states have become to be defined as threats (Dalby, 2013a: 9; Duffield & Waddell, 2006: 10). In the process, in a globalized world, both human and national security are increasingly seen to necessitate the undisrupted functioning of trade and global production networks — as it is what is required for societies and economies to function. This point is well exemplified in the 2017 US National Security Strategy where it is stated that ‘economic security is national security’ (Scholvin & Wigell, 2018: 4).

As the ways in which states use economic power to pursue strategic aims have become an increasingly important aspect of international relations, both national and international policies are more and more shaped by non-state trans- and multinational groups. From the viewpoint of climate change, as it is argued later in this article, Transnational Corporations (TNCs) form the most significant group. The next section briefly discusses the rise of TNCs and the changing contours of the world economy in order to enlighten the background against which to better understand the changes occurring in the security structures.

### **Understanding the changing underlying of security: the shift to a global economy**

The world has witnessed a dramatic rise of transnational production since the Second World War, due to the significant expansion of Transnational Corporation (TNC) activity. TNCs are “firms that have the power to coordinate and control operations in more than one country, even if they do not own them” (Dicken, 2011: 60). The rapid and exponential growth of TNCs is one of the most significant developments of the past decades. Today, TNCs are among the world’s biggest economic institutions, and account for around two-thirds of world exports of goods and services, and nearly a third of world GDP (Dicken, 2011; OECD, 2018). Much of international trade, thus represents the movement of goods within the production apparatus of TNCs. TNCs play a key

role in coordinating global production networks, and the geography of the global economy is largely shaped by TNCs' decisions of where to invest, or not to invest, and how to reconfigure their operations across the borders.

It is important to note that while TNCs play a key role in shaping the geoeconomy, they still operate within multiscalar regulatory system. States, in other words, are actively constituting the markets that TNCs are operating in (Dicken, 2011: 179; Hudson, 2001: 48–49). As described by Peter Dicken (2011: 63):

On the one hand, TNCs attempt to take advantage of national differences in regulatory regimes whilst, on the other hand, states attempt to minimize such 'regulatory arbitrage'. The result is a very complex situation in which firms and states are engaged in various kinds of power play: a triangular nexus of interactions comprising firm–firm, state–state, and firm–state relationships.

Historically, researchers have often argued that weak legislation in developing countries is being exploited by TNCs in profit-making. Developing countries have been seen as a way for TNCs to circumvent the health and environmental standards set by governments. However, today there is a significant and growing trend of TNCs defining and adopting even more ambitious targets for driving down their greenhouse gas emissions than demanded by their host governments. This has raised the question of the TNCs role in mitigating climate change. Even if the TNCs are not the key to escape the political gridlock hampering climate action in international level, the possibilities and implications of corporate action on climate change are an increasingly important subject of study.

## **Climate politics**

For 30 years, national governments have sought to find a political solution to slow the heating of the planet. The crowning achievement in international climate politics is the United Nations Framework Convention on Climate Change (UNFCCC), established at the Rio Earth Summit in 1992, and ratified by 197 countries. The first legally-binding global climate change agreement was adopted at the 21st Conference of the Parties of the UNFCCC held at Paris in 2015. The agreement (commonly referred to as the Paris agreement) sets a “global ambition” goal of “holding the increase in global average temperature to well below 2°C above preindustrial levels” and “pursuing efforts” to limit it to 1.5°C, and establishes common binding procedural commitments for all signatory parties (UNFCCC, 2015). Despite the adopted 1.5–2°C goal, the world is still on a path toward temperature rise more than 3°C above pre-industrial level (Rogelj et al., 2016; UNEP, 2015; UNEP, 2019). To achieve the 2°C goal, global emission levels would need to be 25 per cent lower in 2030 than in 2018, when they reached a record high of 55.3 GtCO<sub>2</sub>e. Despite the progress in international climate politics, the global GHG emissions have grown every year since the global financial crisis in 2009 (UNEP, 2019). The rate of growth of emissions has not, however, been geoeconomically evenly distributed. According to a United Nations Environmental Programme's (UNEP) recent study, the CO<sub>2</sub> emissions of OECD economies have declined by 0.4 per cent per year in the last decade, while the emissions of non-OECD economies have been growing at nearly 3 per cent a year. However, consumption-based emission estimates that provide a deeper insight into the role of consumption and trade, and the interconnectedness of countries, have shown that the net flow of embodied carbon is from developing to developed countries,

which means that as OECD countries reduce their territorial emissions this effect is being partially offset by importing embodied carbon (UNEP, 2019).

In economic terms, estimates of the investment required to achieve the low-carbon transition under the 1.5 degrees Celsius range from USD 1.6 trillion to USD 3.8 trillion annually between 2016 and 2050 (CPI, 2019). Meanwhile the combined negative effect of climate change on global annual GDP, without further climate action, is estimated to be between 1.0-3.3 per cent by 2060. Changes in crop yields and labor productivity due to higher temperatures, sea level rise, extreme weather events and other climatic changes are estimated to cause the largest negative impact on global GDP, while simultaneously fostering sectoral and regional capital imbalances (OECD, 2015). The scale of regional damages depends in part on the ability of economies to anticipate and adapt to climate impacts. To balance and improve the adaptative capacities, the provision of climate finance from developed to developing countries has been a central issue in international climate politics from the very beginning.

Enabling clean investment has played an important role especially in developed states' strategies on a low-carbon transition that most often seek to align economic and climate protection objectives (Wolf, 2013). These strategies are guided by the increasing awareness of the economic risks and opportunities related to climate change, that is also prevailing in the Paris Agreement, where driving action to mobilize and shift finance by enhancing the contribution of the private sector is set as one of the three long-term goals of the Agreement. This willingness of state leaders to mobilize the private sector is increasingly met by investors' and CEOs' grown interest toward climate action. According to Climate Policy Initiative's (CPI) Global Landscape of Climate Finance report, over half of the USD 546 billion that was spent to climate related investment in 2018, came from the private sector (CDP, 2019). Corporations account for the majority of the private investments, whereas renewable energy is the primary sectoral destination for global climate finance (ibid). Wind and solar power are the most financed forms in the renewable energy sector, and the growing investment has increased global cumulative installed capacity of each technologies to well over 500 GW (CPD, 2019; IEA PVPS, 2019; GWEC, 2019).

However, while private-led investment in renewables, energy efficiency and electricity infrastructure has risen notably during the past decade, the share of fossil fuels, including thermal power generation, in total energy supply investment still accounts the major part. Public ownership is prevalent in the fossil fuels sector, with state-owned enterprises owning about 86 per cent of known global reserves and accounting for around 55 per cent of the production (Mitchell et. al., 2012: 18). Yet, for the first time in history, wind and solar assets are outperforming oil assets for some of the oil and gas companies, which is why the fossil fuel investment is increasingly dominated by state-owned enterprises and national oil companies (IEA, 2018; CPI, 2019).

### **Corporate responses to climate change**

The corporate responses to climate change are arising from the realization that climate change is not a distant, potential threat, but a problem that is already shaping the operating field of corporations in many ways. In the past decade, corporations have launched over 650 GHG emission reducing initiatives (Vandenbergh & Gilligan, 2017: 205). One of these corporations is Walmart Inc., the world's largest retailer, which has announced a target of reducing its greenhouse gases by one million metric tons between 2015 and 2030 (Walmart, 2017). According to Michael Vandenbergh and Jonathan Gilligan (2017: 27) Walmart's reduction target is roughly the same

reduction that could be gained if the U.S. government required the national iron and steel industry to cut its emissions to zero. Another significant example is Microsoft Corp., who just this year announced a target of carbon neutrality by 2030, and by 2050 removal of all the carbon the company has emitted since its foundation in 1975 (Microsoft, 2020).

Many of the TNCs see both the opportunities and risks presented by climate change that are constructing profit-driven motivations for climate action. These motivations, such as resource and energy efficiency; customer, investor and lender pressure; regulatory avoidance; and reputational gain, are aimed at minimizing disruption to company's production and services, and to increasing profitability and the ability to do business. While corporations vary in their awareness of climate change, their climate strategies and the motivations guiding them, in the very end, the basic goal of a corporation is to maximize profits and 'shareholder value' (Pulver, 2011; Cogan, 2006; Vandenberg & Gilligan, 2017.) To that end, taking action to address climate change is increasingly understood as in companies' own business interest. By reducing agricultural productivity, disrupting logistics and supply chains, and causing damage to buildings and infrastructure, climate change risks affordable and reliable supplies of energy and natural resources and their distribution, which are critical for the functioning of business.

It is often critically questioned to what extent environmental standards can be incorporated into trade and production regulations under the capitalist system, but the possibilities and effects that are arising from the impact of climate change on value creation under the current economic system, are easily dismissed in these critics. TNCs are often seen purely as "profit-seeking machines that have little incentive to curb their contributions to climate change" (Reyes, 2015: 71), while the emission reductions achieved through economically beneficial means are, at the best, seen as minor by their relevance. Nonetheless, this is not necessarily the case. Vandenberg and Gilligan (2017: 206) in their study on corporate climate action estimated that "opportunities exist to achieve several hundred million tons of emissions reductions, even if firms only take economically beneficial steps to improve efficiency and reduce emissions". While CDP (2019), an international non-governmental organization providing a global environmental disclosure system, reported that collectively 4,800 companies, that responded to their questionnaires, disclosed emissions reductions in the order of 551 million metric tonnes of carbon dioxide equivalent (CO<sub>2</sub> e) and realized monetary savings amounting to USD 14 billion only in 2017. 76 per cent of the responders identified inherent climate change risks, and 70 per cent saw opportunities that have the potential to generate a substantive change in their businesses (ibid.). Accordingly, investors holding more than USD 100 trillion in assets pressured large corporations to reduce their carbon footprint and disclose through CDP, achieving emission reductions by an amount equal to the total annual emissions of Italy (Vandenberg & Gilligan, 2017: 202). Also, in 2018 a consortium of 288 institutional investors with USD 26 trillion in assets appealed to the governments of G7 countries to rapidly phase out the use of coal and fossil fuel subsidies, and impose a significant price on carbon and other greenhouse gas emissions (Gilligan, 2018: 181).

Critics have also questioned the transparency of disclosure initiatives claiming that few corporations are willing to open their operations to outsiders sufficiently enough to verify the disclosures, which makes the reports unreliable (Foster, 2000; Reyes, 2015). Even as these critics are convincing, taking into consideration that global emissions are still rising and the global economy is strongly built on the expansion of consumption, they are also becoming increasingly questioned as climate change is being understood not exclusively as financial risks but also as a force that transforms the whole playing field. The risks do not come only from the direct impact of climate change on business operations and supply chains, but also from the greater demand for

action from increasingly concerned stakeholders from clients to employees and from governments to investors. As such, in business, climate change is turning from a distant threat that can be disregarded in favor of short-term economic gain, into an already occurring reality that needs to be taken into account in all operations.

### **TNCs and security in the frame of climate change**

Fossil-fuel-based infrastructure and the global resource flows that provide the essentials for human living today, are increasingly in the hands of TNCs. These resource flows are vulnerable to both weather and economic disruption, as well as to political and social instabilities. Climate change risks to TNCs can entail physical risk such as extreme weather events or transitional and regulatory risk such as reputational or policy related drivers. While companies have long sought to optimize their production processes by locating different stages to different locations according to the production costs that are largely — but not exclusively—dependent on governmental regulations, climate change by increasing the frequency and severity of physical risks, is transforming the calculation standards of this optimization. Some TNCs have already concluded that inaction will be much more expensive in the long run than the actions taken now. In its recent study, CDP found out that nearly all of the responding CDP supply chain members found suppliers showing environmental leadership more competitive in the long run, and only 5 per cent said that in their experience those suppliers were more costly (CDP, 2019). Sustainable and transparent supply chains are increasingly recognized as a crucial part of a successful overall business strategy, instead of just a part of a company's environmental strategy. Taking into consideration the globality of the production networks of TNCs, stricter environmental and climate demands of TNCs to their suppliers can have enormous emission reduction potential.

As highlighted by the IPCC's latest report, the cost of exceeding a temperature rise of 1.5 degrees Celsius could be catastrophic. It would threaten water and food security, human health, living standards and the economy (IPCC, 2018). The estimated difference in the cost between 1.5 and 2 degrees, in economic terms, is USD 15 trillion, and the action to reduce emissions must be immediate if warming is to be limited to 1.5 degrees Celsius. As the scientific evidence on the need of urgent action on climate change has grown, the faith of future solutions has been laid on the development and use of renewable energy technologies and energy efficiency. Technological development is hoped to make reductions easier and cheaper in the future, simultaneously reducing the security risks faced by states and societies due to climate change. Historically, technological change and innovation have long been central to economic thinking, as they are seen to form the very heart of the processes of economic growth and development (Dicken, 2011: 76).

TNCs often possess greater technical, financial, and organizational resources to produce the necessary innovations. Besides being major technology innovators, TNCs also possess skills in the development of pollution abatement technologies (Morimoto, 2005), and enjoy great potential in technology transfer through their suppliers and partners in other countries. From TNCs' point of view, technological innovation has the potential to reshape the competitive positions of different energy sources, creating huge business opportunities. An early adoption of 'green' products can also bring a competitive advantage and reduce the market risk in some sectors (Wright & Nyberg, 2015). In this light, it is no surprise that in previous years more than three-quarters of the total annual spending on energy research and development (R&D) have been coming from the private sector (IEA, 2018: 196).

By working as regulators of their emissions and supply chains, TNCs can produce fast and large-scale effects in the global production network. While both national and international arenas contain multitude of competing voices and interests, which complicates the efforts to find and execute effective climate policies, corporations can channel significant levels of technical and financial resources quickly on specific problems and missions. Through the global production networks, the requirements of TNCs can also cross international borders, which can be very difficult for national governments to do.

The growing centralized integration of global production networks resulting from TNC activity, while owning great potential for emissions reductions, can also produce notable risks for some states and societies. The future decisions of central TNCs about where to operate can have significant impact on national economies. States suffering from high exposure to climate impacts can increasingly be avoided by TNCs. Extreme weather events, a decrease in agricultural productivity, weakening markets and instable political environments, that all form security risks to states, can also affect TNCs operations and their willingness to operate, amplifying their negative impact. From the point of view of states, the growing role of TNCs in climate action can also produce risks and benefits in the form of shifting power relations. The global energy transformation toward renewable energy sources can have significant geopolitical implications as the supply of energy will no longer be the domain of only a small number of states. The states whose economy is highly dependent on the export of fossil fuels may face enormous financial losses that can have significant consequences for the economy, workers and communities.

On the other hand, the energy transformation can also strengthen states' energy security and promote greater energy independence as renewable energy sources are more easily available. States' energy security can also be enhanced through TNCs' energy efficiency targets. Besides increasing the share of renewable energy in their energy consumption, one central way to reduce emissions in corporate strategies has been the pursuit toward greater energy efficiency. Energy efficiency is most often seen as an economically efficient way to reduce the overall emissions by reducing overall energy demand and consumption, by which corporations can also achieve significant cost savings. On a global scale, improved energy efficiency owns the potential to reduce global electricity demand by more than 20 per cent, and represents the single largest potential contributor to global emissions reduction according to the International Energy Agency (2017). By reducing the amount and cost of energy imports, energy efficiency can also reduce the likelihood of supply interruptions, which often form a central part of states' energy security strategies.

The growing impact of TNCs in climate politics can also weaken the economic and political leverage of states relying strongly on carbon intensive industries. As shown in previous studies, the business sector can have significant power in shaping climate politics (Wright & Nyberg, 2015; Cave & Rowell, 2014; Reyes, 2015). These studies have often focused on the role of the fossil fuel industry in lobbying against carbon pollution regulations, but as Delmas et. al. (2015) argue based on their study on corporate environmental performance and lobbying, there is a growing trend of sectors-wide lobbying in favor of stricter governmental regulations. According to InfluenceMap (2017), a UK-based think tank focusing on corporate influence over climate policy, the number of active and pro-climate companies has expanded noticeably since 2016. This trend is likely to continue as investors increasingly incorporate the climate risk exposure of their portfolio into their decision making (Flammer et al., 2019). Further research is needed to better understand the trends



and impacts of climate lobbying today, but it is clear that the increasingly emphasized role of the business sector in climate action enhances their possibility for direct influence in climate politics.

### ***Transforming Security Measures***

By reducing climate impacts to isolated categories of ‘risk’, the corporate take on climate change is transforming the way climate change is dealt with as a security issue. Together with shifting economy–state relations, TNCs’ risk management framework normalizes climate change into a matter of everyday technocratic fixes. Even as climate change is most often understood as a multiplier of threats, which necessitates mitigation efforts, the way climate impacts are translated into security practices emphasize the need for mundane, participatory and comprehensive means, instead of targeted and exceptional measures we are used to when we talk about security. In this way, security is much more threatened by not-doing than doing.

The idea of the centrality of the functioning economy in the maintenance of security is evident in climate politics. This constructs economic prosperity as a necessity for social stability and global security, and puts big businesses to the front in the fight against climate change. Although, adapting to climate change is already a part of military planning for many states (Brzoska, 2015), security against climate impacts is primarily pursued through market-led measures. From the point of view of climate mitigation, this is not necessarily a bad thing, taking into consideration that in the national security framework, governmental policy is largely emphasizing the need for adaptation measures, while failing to acknowledge the importance of significant emission reductions (Kalliojärvi, 2019).

The increased importance of the private sector, and especially TNCs, is also fostering the privatization of security. With the increased focus of governments on managing and organizing devolved centers and resources, the use of privatized security organizations has been growing substantially in the 21<sup>st</sup> century (Abrahamsen & Williams, 2009: 4; Bailes & Frommelt, 2004). While states increasingly rely upon public-private partnership to provide for their security, climate change is likely to increase, not only the public-private partnership, but the use of private security organizations by private market-led corporations. This is exemplified in the case of Shell, who according to internal documents leaked to an activist organization called Platform, spent at least USD 1 billion on security between the years 2007 and 2009 (Amunwa, 2012). How the increase of private authority in the security domain affects societies on a broader scale, is a crucial question for researchers in the coming years.

### ***The Arctic***

In the Arctic, climate change forms one of the most pervasive and powerful drivers of changes. The Arctic region is warming at least at twice the rate of the global average, primarily due to the ocean ice-albedo feedback (Kashiwase et al., 2017). The retreating ice-cover offers new economic opportunities as natural resources, such as oil and gas, are becoming more accessible and new sea routes become navigable. The Northern Sea Route, that is already in use, has experienced substantial increases in traffic during the last years. Only in 2018, over 18 million tons of goods were transported on the route, which was almost 70 per cent more than during the previous year. (Zandee et al., 2020: 8). Major technology firms have also shown interest toward the new economic opportunities found in the Arctic by launching initiatives to install fiber optic cables across the Arctic Ocean and building new data centers that benefit from the cold climate (Cinia, 2019). In

the Arctic's extractive sector, where government-business relationships have been the most prevalent feature during the last decades, the growing geoeconomic and strategic importance of the region is increasingly turning the relationship into what Arctic researcher Matthias Finger (2013) calls a "Siamese-type partnership".

While Arctic states are increasingly approaching the region through the lens of strategic economic development, the transformation of the Arctic into a globally important geoeconomic space is nothing but a self-evident process. Notwithstanding that the region is estimated to maintain up to 13 per cent of the world's undiscovered petroleum resources, of which most is located offshore (Gautier et al., 2009), and that oil drilling in the region is often seen to contain less political risk than in other parts of the world, the production volumes from offshore Arctic drilling are calculated to be less than 1% of the total world production (Morgunova, 2015). As pointed out by Käpylä and Mikkola (2015), there are severe practical challenges undermining the materialization of the great expectations concerning the geoeconomic Arctic. These challenges, ranging from difficult ice and weather conditions to global economic dynamics, are making the economic development of the region challenging and costly. Due to long distances, harsh weather conditions and often quite poor infrastructures, the Arctic is logistically and technologically a very difficult operating environment.

While the region is often defined as politically stable, external dynamics also affect the region as a favorable investment environment. The most evident of these dynamics include the US and EU sanctions on Russia for its annexation of Crimea in 2014, and the relatively cheap price of oil in the global market. Remoteness and difficult operating conditions in the Arctic make drilling in the region relatively costly and, thus, economically unbeneficial in the current situation where oil prices are low (Käpylä & Mikkola, 2015; Brutschin & Schubert, 2015). The sanctions on Russia are affecting the region significantly by prohibiting the export of western goods, services and technology in support of exploration or production for deepwater, Arctic offshore, or shale projects in Russia (CRS 2020). This has created a shortcoming of technological and financial resources for state-owned energy companies Gazprom and Rosneft, as it has put the joint ventures between Russian and western energy companies and their subcontractors on hold (Käpylä & Mikkola, 2016: 216). However, as indicated by Rosneft's recent resuming of drilling in the high-cost Arctic Kara Sea after six-years (Petroleum Economist, 2020), the geoeconomic aspirations of Russia are far from halted.

As the oil price needs to exceed a relatively high threshold for Arctic oil and gas extraction to be profitable, the current situation with low oil prices and ongoing development and exploration projects, is indicating that when it comes to Arctic hydrocarbon extraction, geoeconomic rather than purely economic reasoning is increasingly the primary explanation for action. Respectively, while TNCs have been replacing the state as core economic, technological and scientific drivers in many domains, the Arctic hydrocarbon production business seems to occupy the reverse logic. Only this year, six major investment banks, with strong involvement in fossil fuel financing, as a part of their new climate strategies have announced that they will no longer finance new offshore oil projects in the Arctic, while the governmental administrations have gone the opposite way by repealing and weakening laws aimed at protecting the environment and promoting sustainability, and by announcing big state investments for new Arctic oil and gas projects (Bloomberg, 2020; International Investment, 2020; Offshore Technology, 2020). It is too early to judge whether the

trend will have a significant impact on the future of Arctic offshore drilling, or even less so, to the global greenhouse emission levels, but it gives an encouraging hint that the growing climate awareness among business leaders is decreasing the interest toward Arctic hydrocarbon extraction. Furthermore, the trend also follows the general logic in the global energy sector, where according to the International Energy Agency, the investment strategies of privately owned international oil companies appear to be built on future energy transitions, whereas most state oil companies “are locked into a more traditional hydrocarbon paradigm” (IEA, 2020).

As we know, the Arctic is crucially important from the view point of climate effects, because the changes occurring in the Arctic region will also have a significant impact on a global scale. Greenland’s ice sheet is estimated to disappear by the year 3000, resulting in an increase in the world’s water levels of around seven meters (Aschwanden et al., 2019; Merzdorf, 2019). This would greatly affect societies and infrastructure on coastal areas and inland basins, leading to the relocation of millions of people around the globe. Studies have also indicated that Arctic climate change is already greatly correlated to extreme weather events elsewhere (Cohen et al., 2018), causing ice shelf collapse and the further acceleration of global warming (Yumashev et al., 2019). For most major TNCs these impacts mean faster growing risks in the form of economic loss, supply chain disruptions and damaged infrastructure.

## Conclusions

As discussed above, leading businesses are starting to identify how climate change is impacting on their operations. The number of private climate initiatives has rocketed during the past few years and big transnational corporations have been increasingly engaged with self-regulation. Sustainability is being transformed from a choice to a matter of necessity, as it is becoming clear how climate change is contributing to a range of biophysical and economic impacts that are already affecting the economy, with the effect of amplifying other already existing threats. At the same time, the magnitude of climate change — and the political gridlock in solving it — has led to a growing recognition at national and international levels of the need to engage the private sector in climate politics. Consequently, governments are increasingly relying upon market mechanisms in both climate and security governance.

These phenomena are profoundly growing the role of private sector in a domain we used to understand as public. Taking into consideration that the Paris agreement, even if all current commitments are fulfilled, will not keep the globe on track to achieve the 2°C target, and given the scientific evidence of the severity of the implications if exceeding the target, this is not necessarily a bad thing. This article has aimed to elucidate how the prevailing belief that TNCs must always choose between higher profits or environmental protection is being challenged in a climate constrained world. The ‘do nothing’ option is increasingly seen to only delay the inevitable, as more profound market, social and institutional pressures are expected to be emerging in the near future.

While much more research is needed on the overall impacts of the dramatic increase of global production networks and the growing power of corporations in climate governance, there are signs that private climate initiatives can harness market forces to enable significant responses to the need of emission reductions and the transition to a low-carbon economy. Transnational corporations, that we have used to see as environmental villains, are at the frontline of this action with their

significant financial clout and technical expertise. As transnational corporations largely dominate markets, trade, investment, research and development, and the spread of technology today, they are increasingly crucial actors in the new model of security governance that is emerging under the era of human-induced climate change.

## Notes

1. Geoeconomics in the article is defined as a securitizing discourse that legitimizes the use of economic means to achieve geopolitical ends. For more detailed discussion of the concept see e.g. Scholvin & Wigell, 2018.

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