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# China's Strategy and Activities in the Arctic

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Implications for North American and  
Transatlantic Security



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# About This Report

Although a non-Arctic state, China has become a significant player in the Arctic region, engaging in economic, scientific, cultural, diplomatic, and military activities in and around various Arctic countries. This report examines the potential implications of Chinese investments and activities in the Arctic for the regional rules-based order and for regional and transatlantic security. It evaluates China's strategy and diplomacy in the region, inventories existing activities in the North American Arctic (the United States, Canada, Greenland); and assesses the risks that these activities might pose in the Arctic in light of security, political, economic, social, and environmental issues from similar activities in other regions of the world. This research, which was conducted as a collaborative effort between the RAND Corporation and the Swedish Defence Research Agency (*Totalförsvarets Forskningsinstitut*, or FOI), should be of interest to policymakers, military planners, and analysts in the United States and other Arctic states seeking to better understand China's growing role in the Arctic and the risks that an increased Chinese influence might pose to the region's security and governance.

The research reported here was completed in May 2022 and underwent security review with the sponsor before public release.

This report was updated in December 2022 to correct several factual errors, including an incorrect assertion that a Chinese state-owned enterprise held a share of the Tanbreez project in Greenland. These changes did not affect the findings or recommendations presented in this report.

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Our research was greatly enriched by our collaboration with partners at FOI, particularly Oscar Almén and Christopher Weidacher Hsiung, who have authored a separate, complementary report, *China's Economic Influence in the Arctic Region: The Nordic and Russian Cases*. We would also like to thank the two dozen officials, military officers, experts, and representatives of industry from Europe and North America who participated in a January 20, 2022, virtual exercise, titled "China's Arctic Reach," that examined the implications of current and prospective Chinese economic, commercial, and military activities in the Arctic for North American and transatlantic security in 2035 and beyond. In addition, this report benefited from rigorous and insightful peer reviews by Scott Stephenson of RAND and Mia M. Bennett, an assistant professor in the Department of Geography at the University of Washington.

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# Summary

## Issue

Although a non-Arctic state, China is a significant Arctic player, undertaking numerous economic, scientific, cultural, diplomatic, and military activities in and around various Arctic countries. Since the June 2017 release of its Belt and Road Maritime Cooperation Plan, which identified the Arctic as a dimension of its larger Belt and Road Initiative (BRI), the Chinese government has repeatedly declared the Arctic region as a part of its broader strategy for expanding its global engagement and influence.<sup>1</sup>

China's description of the Arctic as a "global commons" further highlights the country's intentions to be included in the political, economic, and environmental decisions that will shape Arctic activities and policies in the decades to come.<sup>2</sup>

This research, which was conducted as a collaborative effort between the RAND Corporation and the Swedish Defence Research Agency (*Totalförsvarets Forskningsinstitut*, or FOI), examines the potential implications of Chinese investments and activities in the Arctic for the regional rules-based order and for regional and transatlantic security. It seeks to address three research questions:

1. What are China's ambitions and current and likely future activities in the Arctic?
2. What are the implications of Chinese activities for transatlantic security, and what risks could they pose to the regional rules-based order?
3. What strategies might mitigate the risks posed by some aspects of plausible Chinese presence and development in the Arctic?

Although these questions are pertinent for all eight Arctic Council member states (Canada, Denmark, Finland, Iceland, Norway, Sweden, Russia, and the United States), this report focuses mostly on the *North American Arctic*, defined very broadly as encompassing the U.S. Arctic, the Canadian Arctic, and Greenland.

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<sup>1</sup> People's Republic of China, State Council Information Office, *Vision for Maritime Cooperation Under the Belt and Road Initiative*, Beijing, June 20, 2017b.

<sup>2</sup> Patrik Andersson, "The Arctic as a 'Strategic' and 'Important' Chinese Foreign Policy Interest: Exploring the Role of Labels and Hierarchies of China's Arctic Discourses," *Journal of Current Chinese Affairs*, 2021, pp. 1-27.

## Approach

To address these questions, the research team conducted several parallel efforts that consisted of

- reviewing primary and secondary sources in English and Chinese on China's Arctic strategy and diplomacy
- mapping existing and projected Chinese Arctic investments in the North American Arctic
- reviewing effects and implications of past Chinese activities in other regions
- assessing whether these effects are already taking place or could be taking place in the Arctic
- conducting a scenario-based tabletop exercise (TTX) to validate and supplement findings.

Our scenario-based TTX, titled “China's Arctic Reach,” sought to (1) better understand the pathways through which China could become a prominent Arctic player, (2) discuss which of these pathways could upset the current regional rules-based order, and (3) identify potential responses or mitigation strategies for these pathways. The exercise, which revolved around a scenario set in 2035, took place remotely over three hours. It involved 20 participants and eight observers selected for their expertise on the Arctic, China, or both in academia, research organizations, government, and industry.

## Key Findings

This report finds that, overall, Chinese investments and presence in the North American sections of the Arctic remain fairly limited. This situation has not been the result of a lack of effort on the part of Chinese companies, investment firms, and scientific organizations, including some linked to the Chinese state. Rather, it has stemmed from U.S., Danish, and Canadian efforts to block or otherwise restrict Chinese investments in industries identified as being critical to national and NATO security interests. Additionally, Arctic subnational actors have been cautious in their welcoming of Chinese activities. More broadly, the Arctic presents strong factors of resilience that make it unlikely that Chinese investments in infrastructure could present the negative security, political, economic, social, and environmental outcomes that other regions of the world have experienced. The report identifies the following Arctic factors of resilience—some of which are largely within the control of the United States and its allies:

- China has strained bilateral relations with several Arctic states (defined as Arctic Council member states), which tend to act in solidarity.
- Arctic states have historically agreed to keep Arctic matters among Arctic states.

- Arctic states have fairly strict regulations that prevent potentially damaging Chinese activities.
- Local populations can prevent activities they deem threatening.
- High costs of investments in the Arctic limit the region’s attractiveness.
- Arctic states’ level of technological development limits China’s appeal.
- Arctic states’ relative wealth protects them from predatory lending practices.

Table S.1 provides a list of potential red flags that could alert policymakers to the possible weakening of these factors of resilience.

Furthermore, although these factors of resilience mitigate many of the risks of Chinese investments and activities, they do not fully protect North American Arctic nations and populations from some of the adverse outcomes observed elsewhere. Gaps in these factors of resilience, as well as uncertainties about the future, that deserve particular scrutiny include the following:

- Russia’s relationship with China creates uncertainties
- uncertainty related to Greenland’s independence
- opportunities for investments (from China and others) will grow
- increased influence is difficult to track
- China may realize it is often its own worst enemy in the Arctic.

**TABLE S.1**  
**Potential Red Flags Suggesting Weakening of Resilience**

Factor of Resilience	Red Flag: This Factor May Be Weakening If . . .
Strains in bilateral relations with China	China-Russia relations deepen and China makes inroads with one or more other Arctic nations
Arctic-centric governance	China’s efforts to frame the Arctic as a global governance issue gain traction
Strong investment screening and regulations	Screenings and regulations are relaxed in the context of a major economic downturn
Strong environmental and local checks	A lasting increase in commodity prices pushes for more supply
Arctic solidarity	The Arctic Council becomes fragmented over engagement with Russia and/or China
High cost of investments	China prioritizes the Arctic in its strategy
High level of technology	Technological breakthrough facilitates access to Arctic resources
High level of wealth	Financial/economic crisis affects Arctic states or creates a higher reliance on trade with China

## Recommendations

In addition to monitoring Arctic developments for these red flags, the U.S. Department of Defense (DoD), working in collaboration with interagency and international partners, can take steps to maintain and reinforce current factors of resilience, and to address some of the gaps and uncertainties that remain. We present five specific recommendations.

A first recommendation is to not only **maintain solidarity among U.S. allies and partners in the Arctic, but also to strengthen it wherever possible**. There is a strong consensus among Arctic states to maintain the governance of Arctic affairs among themselves, and this remains a powerful obstacle to undesirable Chinese involvement in the region. This recommendation calls for sustaining active multilateral and bilateral diplomatic activities with these countries and in the Arctic Council and other international fora. In addition, DoD and the U.S. Coast Guard have important roles in maintaining, and in some cases enhancing, engagement with other Arctic states—minus Russia—through security cooperation activities, which range from high-level exchanges to exercises, to joint training, to maritime domain awareness and safety activities (particularly with counterparts in Canada, Norway, and Denmark and in the context of certain North American Aerospace Defense Command [NORAD] and North Atlantic Treaty Organization [NATO] activities).

A second recommendation is to **explore the conditions and possible pathways for restoring some level of engagement with Russia on Arctic issues in the wake of its war on Ukraine**. The suspension of the cooperation within the Arctic Council under the Russian chairmanship represents a break with previous periods of tension (e.g., after Russia's 2014 illegal annexation of Crimea and aggression in Eastern Ukraine) that had seen the continuation of the Arctic Council's activities. Although reengagement does not have to be immediate or cover all topics, concertation and common work in such areas as search and rescue (SAR) or pollution prevention would benefit all Arctic Council members, including the United States. Some degree of reengagement might also help maintain Russia's commitment to the Arctic Council—an organization that the United States values, with U.S. Coordinator for the Arctic Region James DeHart noting that it wanted to maintain it in its current structure and with the current membership.<sup>3</sup> A potential adverse outcome of the current paralysis of the Arctic Council could be a push from Russia for a new (or drastically changed) Arctic governance institution, in which it would not be the only non-NATO member (in the expectation that Finland and Sweden join NATO), and where other Arctic-interested states—such as China—might have a louder voice.<sup>4</sup> Although Russia has not yet shown signs that it wishes to move on from the Arctic Council (calling instead for a resumption of the Arctic Council's activities), complete and protracted paralysis could harm current Arctic governance and pro-

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<sup>3</sup> James DeHart at 2022 Arctic Frontiers Conference, quoted in Eilís Quinn, "Senior Arctic Officials Working on Plan Forward Amidst Arctic Council Pause," *Eye on the Arctic*, May 10, 2022.

<sup>4</sup> Jeremy Greenwood and Shuxian Luo, "Could the Arctic Be a Wedge Between Russia and China?" *War on the Rocks*, April 4, 2022.

vide an opening for China to insert itself more decisively in that system.<sup>5</sup> Such engagement could help convince Russia that it has more to gain from maintaining the status quo (that has worked fairly well for Moscow so far) in the Arctic rather than take the chance of bringing in another—and bigger—player. Although defense and security cooperation with Russia remain unlikely for the foreseeable future, the Arctic is a place where cooperation can and has taken place on other areas of mutual interest during periods of tension. Western cooperation with Russia on Arctic SAR, which has implications for military and commercial activities, was continued after other defense and scientific engagement were suspended in 2014 following Moscow's 2014 illegal annexation of Crimea and aggression in eastern Ukraine. Another large area of mutual interest with Russia and China will be countering the effects of climate change in the Arctic region, including engaging on infrastructure resilience.

A third recommendation is for the United States to work closely with other Arctic states, particularly Denmark and Canada, to **maintain active engagement with the Greenlandic government to promote mutual interests and sustainable economic development**. The United States has taken positive steps in this regard, including reopening a consulate in Nuuk in 2020; initiating cooperation on education, trade and investment, science, minerals and energy, and economic growth; and a May 2021 visit by Secretary of State Antony Blinken to Greenland during which he pledged to further this partnership. This cooperation should be designed first and foremost with the interests of the Greenlandic population in mind—the key question being: How can U.S. engagement benefit Greenlanders as clearly and directly as possible, and make the United States appear as a long-term, promising partner? The new arrangement, negotiated in 2020, regarding Thule Air Base—whose maintenance will now largely be undertaken by Greenlandic companies rather than U.S. ones—is an example that DoD's presence can add value by supporting the local economy and contributing—even on a small scale—to addressing long-standing unemployment issues in Greenland.

A fourth recommendation is for the United States to **continue to elevate its engagement in the Arctic**. Our TTX participants highlighted the importance of making it clear to both other Arctic and non-Arctic states that the U.S. commitment to the region is solid. This commitment should not be solely based on the strategic role that the Arctic plays in strategic competition with Russia and China, but rather is the continuation, at an ever more sustained level, of the long history of U.S. diplomacy, stewardship, and scientific research in the region.

A fifth recommendation is to curtail some of China's appeal and elevate U.S. commitment to those living in the Arctic by **working more closely with indigenous populations**. An example that could be replicated is the cooperation between the Alaska Federation of Natives with DoD, which has resulted in more information-sharing and a closer partnership overall.<sup>6</sup> This could be done through working with the Arctic Council's Permanent Par-

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<sup>5</sup> Astri Edvardson, "Russian Chair of the Arctic Council: 'The Council's Work Should Be Resumed as Soon as Possible,'" *High North News*, June 1, 2022.

<sup>6</sup> Kennedy Scarle, "Alaskan NORAD Command Region, Alaskan Command, and Eleventh Air Force Commander Presents Public Service Award," *NORAD News*, North American Aerospace Defense Command, April 30, 2020.

ticipants, four of which (the Aleut International Association, the Arctic Athabaskan Council, Gwich'in Council International, the Inuit Circumpolar Council) represent populations living in Alaska. Such initiatives could be undertaken as a joint U.S.-Canada effort (with the Arctic Athabaskan Council and Gwich'in Council International) or as a joint U.S.-Canada-Greenlandic effort, with the Inuit Circumpolar Council, because indigenous populations live across national boundaries. This would require identifying issues of overlap between the national security interests of the United States and its Canadian and Danish allies, and the human security interests of indigenous people living in these states. Working with indigenous communities to develop secure telecommunications infrastructure in the Arctic, or to develop sustainable local renewable energy sources, might be some areas where overlap could be found.

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## Introduction

At the May 2019 Arctic Council Ministerial Meeting in Rovaniemi, Finland, then–U.S. Secretary of State Michael Pompeo stated, “There are only Arctic States and Non-Arctic States. No third category exists and claiming otherwise entitles China to exactly nothing.”<sup>1</sup> Yet even as a non-Arctic state, China is a significant Arctic player. It is engaged in economic, scientific, cultural, diplomatic, and military activities in and around various Arctic countries.<sup>2</sup> As of early 2022, it was in the process of building a third icebreaker—its heaviest, which will be more capable than the current *Xue Long (Snow Dragon)* 1 and 2—that will support its polar activities, both in the Arctic and Antarctica. Since the June 2017 release of its Belt and Road Maritime Cooperation Plan, which identified the Arctic as a dimension of the larger Belt and Road Initiative (BRI), the Chinese government has repeatedly identified the region as a part of its broader strategy of expanding its global engagement and influence.<sup>3</sup> China’s description of the Arctic as a “global common” further highlights the country’s intentions to be included in the political, economic, and environmental decisions that will shape Arctic activities and policies in the decades to come.

This report examines the potential implications of Chinese investments and activities in the Arctic for the regional rules-based order and for regional and transatlantic security. Recognizing that some degree of Chinese involvement in the Arctic is inevitable (and even, in some cases, may be positive for Arctic states and populations), this study takes a broader look beyond the Arctic region to better understand the types and characteristics of Chinese activities that have been found to be problematic and potentially destabilizing in other parts of the world. It assesses how many of these risks could also arise in the Arctic—a region whose

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<sup>1</sup> U.S. Department of State, “Looking North: Sharpening America’s Arctic Focus,” speech by Michael R. Pompeo in Rovaniemi, Finland, May 6, 2019.

<sup>2</sup> See, for example, China’s participation in the Joint Sea naval exercise in the Baltic with Russia in 2017 (Andrew Higgins, “China and Russia Hold First Joint Naval Drill in the Baltic Sea,” *New York Times*, July 25, 2017). A 2021 Center for Strategic and International Studies report also mentions the possibility of future bilateral Arctic exercises between Russia and China (see Richard Weitz, *Assessing Chinese-Russian Military Exercises: Past Progress and Future Trends*, Washington, D.C.: Center for Strategic and International Studies, July 2021, p. 5).

<sup>3</sup> People’s Republic of China, State Council Information Office, *Vision for Maritime Cooperation Under the Belt and Road Initiative*, Beijing, June 20, 2017b.

physical, political, economic, and social characteristics set it apart, in many ways, from the rest of the world.

This study thus seeks to address three research questions:

- What are China's ambitions and current/likely future activities in the Arctic?
- What are the implications of Chinese activities for transatlantic security, and what risks could they pose to the regional rules-based order?
- What strategies might mitigate the risks posed by some aspects of plausible Chinese presence and development in the Arctic?

Although these questions are pertinent for the entire Arctic region, this report focuses mostly on the North American Arctic, defined very broadly as encompassing the U.S. Arctic, the Canadian Arctic, and Greenland. For the United States, we included the entire state of Alaska, even though only part of it is located above the Arctic Circle. Similarly, for Canada, we included those territories that are partly or entirely located in the Arctic—Yukon, North-western Territories, Nunavut—and the northern part of several provinces, including Manitoba, Quebec, and Newfoundland and Labrador.

This research was conducted as a collaborative effort between RAND and the Swedish Defence Research Agency (in Swedish, called the *Totalförsvarets Forskningsinstitut*, or FOI), which allowed for fruitful discussions and exchanges of ideas all along our research effort. The *European Arctic* (broadly defined to encompass not only Nordic countries but also the Russian Arctic) is covered in FOI's sister publication to RAND's report.<sup>4</sup>

## Research Approach

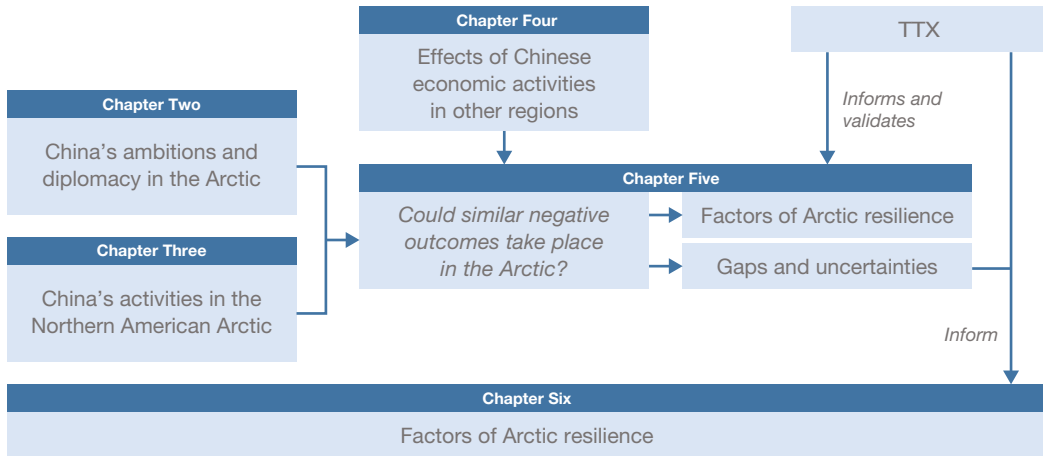
To address these questions, the research team conducted several parallel efforts that included: reviewing primary and secondary sources in English and Chinese on China's Arctic strategy and diplomacy, mapping existing and projected Chinese Arctic investments in the North American Arctic, reviewing effects and implications of past Chinese activities in other regions, assessing whether these effects are already taking place or could be taking place in the Arctic, and conducting a scenario-based tabletop exercise (TTX) (described in more detail in the following section) to validate and supplement findings.

Findings from this research include factors of resilience specific to the Arctic, remaining gaps in resilience and uncertainties, and red flags that could signal future breakdowns in current areas of resilience. These findings form the basis of recommendations for the U.S. Department of Defense (DoD). Figure 1.1 summarizes our research approach and this report's organization.

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<sup>4</sup> Oscar Almén and Christopher Weidacher Hsiung, *China's Economic Influence in the Arctic Region: The Nordic and Russian Cases*, Stockholm: Swedish Defence Research Agency, FOI-R-5326-SE, June 19, 2022.

**FIGURE 1.1**  
**Overall Research Approach and Report Outline**



## The “China’s Arctic Reach” Tabletop Exercise

In January 2022, the RAND team organized a scenario-based TTX, titled “China’s Arctic Reach.” The purpose of this exercise was to better understand the pathways through which China could become a prominent Arctic player, discuss which of these pathways could upset the current regional rules-based order, and identify potential responses or mitigation strategies for these pathways. The exercise took place remotely over three hours. It involved 20 participants and eight observers selected for their expertise on the Arctic, China, or both in academia, research organizations, government, and industry.

The exercise revolved around a scenario set in 2035 that described China as thriving politically, economically, socially, culturally, and militarily in the Arctic (see Appendix A). Participants were asked to “look back” and identify events and trends (whether in China’s control or not) that could have taken place between 2022 and 2035 and could explain how China reached such a prominent regional position. The 2035 scenario was not meant to be plausible as a whole—we would not necessarily expect China to thrive simultaneously in all domains cited here—but each aspect of the scenario was designed to be plausible individually. The purpose of this scenario was to elicit discussions from the participants on factors that could support or hamper a growing Chinese presence in the Arctic, Chinese activities that are of most concern in the Arctic, and potential ways to address these concerns (see Appendix B for a summary of key takeaways from the exercise).

## Organization of This Report

This report is organized as follows. Chapter Two describes China's Arctic strategy and diplomacy, with a particular focus on understanding the Arctic's place in China's global strategic objectives and its ambitions with regard to Arctic governance. Chapter Three maps China's presence in the North American Arctic by first contrasting and comparing the situations in the U.S Arctic, Canada's Arctic, and Greenland, before turning to a sector-by-sector analysis of Chinese investments and activities. Chapter Four opens the aperture beyond the Arctic to examine some of the negative impacts of Chinese investments and activities in other regions. Chapter Five analyzes the potential for these negative impacts to take place in the Arctic, identifying not only factors of resilience specific to the Arctic but also gaps and areas of uncertainty that require particular attention. Chapter Six provides policy options to maintain and strengthen existing factors of resilience, and to address resilience gaps and prepare for uncertainties.

## China's Arctic Strategy: Focus on the North American Arctic

As the economic equities, material capabilities, and national interests of the People's Republic of China (PRC) have expanded over the past three decades, great-power competition with the United States has increasingly been featured as a central element of Chinese foreign policy, fueling quests for advantage in all domains and geographic regions. One of the least well understood of these quests has been the Arctic, especially those portions of it that are part of or proximate to the United States. How does China conceive of the Arctic? What are its goals in the Arctic generally, and the North American Arctic—or the portions of the Arctic controlled by Canada, Greenland/Denmark, and the United States—specifically? And, ultimately, what is China's strategy for accomplishing its goals in the North American Arctic? This chapter addresses all these questions, with a focus on China's interests and activities in the North American Arctic.

At present, the Arctic is a relatively marginal region in China's overall scheme of national interests, although one that is growing rapidly in importance and that Chinese strategists recognize was particularly important during the Cold War. China's focus has primarily been on economic, transportation, scientific, and rules-setting aspects of Arctic affairs. This focus is partly because China's military still lacks many of the elements of power projection over long distances; partly because of the remoteness and challenging nature of the region's environment; and partly to frame China's quest for regional access in terms that will be seen as unthreatening. In the future, however, if China continues developing its naval, air, and ballistic missile capabilities with an intent to hold at risk the continental U.S. homeland—something it can do at present in only a limited way—the Arctic could grow in importance as a domain for military competition with the United States.

To describe China's strategy in the North American Arctic, we began by looking at several official sources. The most important of these by far is the 2018 white paper, *China's Arctic Policy*, which provides a comprehensive public characterization of China's goals, policies, and views of the Arctic.<sup>1</sup> We also examined China's 13th (2016–2020) and 14th (2021–2026) Five-

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<sup>1</sup> PRC, State Council Information Office, *China's Arctic Policy*, white paper, Beijing, 2018.

Year Plans (FYPs) for economic and social development, both of which make brief references to the Arctic.<sup>2</sup>

In addition to these sources, we also reviewed China's most recent overall foreign policy white paper; its previous two defense white papers; its two most-recent white papers on international cooperation and economic development; and its 2017 white paper on regional security cooperation in the Asia-Pacific.<sup>3</sup> Despite the possible relevance of the Arctic to the issues on which these latter documents focus, none of them make any reference to the region. Therefore, our insights into official Chinese policy positions on the Arctic are informed by the 2018 Arctic policy white paper; the two most-recent FYPs; and more-general understandings of China's relations with Canada, Denmark (Greenland), and the United States.<sup>4</sup>

China's official documents are often crafted to present a positive, cooperative, and non-threatening image of China as a magnanimous country that seeks to contribute resources and wisdom for the good of humanity. To find alternative and potentially more-candid views, we also reviewed writings and commentaries by analysts in research organizations linked to the government, Chinese Communist Party (CCP), and People's Liberation Army (PLA), and by scholars who often advise the Chinese central government.

## China's View of the Arctic Generally

China's white paper on the Arctic defines that region in an uncontroversial way, as

the area of land and sea north of the Arctic Circle (approximately 66 degrees 34 minutes N), totaling about 21 million square kilometers . . . The continental and insular land

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<sup>2</sup> National Development and Reform Commission of the People's Republic of China, *13th Five-Year Plan for Social and Economic Development of the People's Republic of China, 2016–2020*, 2015; National Development and Reform Commission of the People's Republic of China, *14th Five-Year Plan for Economic and Social Development of the People's Republic of China, 2021–2025*, 2020.

<sup>3</sup> PRC, State Council Information Office, 2018; *China's National Defense in the New Era 2019*; *China's Military Strategy*, 2015; People's Republic of China, State Council Information Office, *China's International Development Cooperation in the New Era*, white paper, Beijing, January 10, 2021; PRC, State Council Information Office, *The Right to Development: China's Philosophy, Practice, and Contribution*, white paper, Beijing, 2016; PRC, State Council Information Office, *China's Policies on Asia-Pacific Cooperation*, white paper, Beijing, 2017).

<sup>4</sup> The Greenlandic government has had considerable autonomy from Denmark on education, health, fisheries, environment, and climate issues under the Home Rule Act of 1979, which was expanded by mutual agreement in 2009 under the Act on Self-Government. Under this act, Greenland has gradually gained increased authority over, *inter alia*, justice and police affairs, mineral and resource development, environmental protection, and the right to representation in Danish diplomatic missions. Foreign, defense, and monetary policies remain the purview of the Danish government. Greenland's exercise of these rights is examined in subsequent chapters of the report. See also Elin Hofverberg, "Greenland's National Day, the Home Rule Act (1979), and the Act on Self-Government (2009)," *In Custodis Legis*, Library of Congress blog, June 21, 2019.

territories in the Arctic cover an area of about 8 million square kilometers, with sovereignty over them belonging to Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the United States, respectively. The Arctic Ocean covers an area of more than 12 million square kilometers, in which coastal states and other States share maritime rights and interests in accordance with international law.<sup>5</sup>

Although recognizing that international law affords it some opportunity to access and use the Arctic, the PRC has also been cognizant of the limitations imposed on it by virtue of its not having territory in the Arctic. Despite this, China requested and attained observer status in the Arctic Council in 2013 and has sought to justify its quest for greater influence in the region by casting itself as a *near-Arctic state*, a category of its own creation.<sup>6</sup>

## China's Overall Goals in the Arctic

China's ambitions in the Arctic fall into five categories. The PRC desires access for trans-oceanic shipping, opportunities for resource exploitation, the right to conduct scientific inquiry, and a say in norm-setting and rulemaking. China's fifth goal, rarely mentioned in formal documents, relates to strategic and military uses of the Arctic.

Officially, China's Arctic white paper prioritizes the most noble and globally acceptable of all of these goals—specifically, scientific exploration. It describes the country's goals as being to “understand, protect, develop and participate in the governance of the Arctic, so as to safeguard the common interests of all countries and the international community in the Arctic, and to promote sustainable development of the Arctic.”<sup>7</sup> It claims that China “prioritizes scientific research, underscores the importance of environmental protection, rational utilization, law-based governance and international cooperation, and commits itself to maintaining a peaceful, secure, and stable Arctic order.”<sup>8</sup> The themes of science, contributing to global order, and norm-setting are repeated throughout the document, which frames China's Arctic interests in nonthreatening terms. Chinese officials assert their country's stake in the Arctic is a “geographical, natural, and social reality” made evermore prominent by climate change and the melting of the Arctic sea ice.<sup>9</sup>

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<sup>5</sup> PRC, State Council Information Office, 2018.

<sup>6</sup> PRC, State Council Information Office, 2018. For a brief history of China's use of the near-Arctic state concept, see Marc Lanteigne, “Identity and Relationship-Building in China's Arctic Diplomacy,” in Sanna Kopra, ed., *The Arctic Institute's China Series 2020*, Washington, D.C.: The Arctic Institute, 2020, p. 6.

<sup>7</sup> PRC, State Council Information Office, 2018.

<sup>8</sup> PRC, State Council Information Office, 2018.

<sup>9</sup> PRC, Ministry of Foreign Affairs (MFA), “Foreign Ministry Spokesperson Hua Chunying's Regular Press Conference on January 5, 2021 [年1月5日外交部发言人华春莹主持例行记者会],” January 5, 2021.

In June 2017, the National Development and Reform Commission and the State Oceanic Administration (SOA) released the Belt and Road Initiative Maritime Cooperation Plan, initially describing the “Arctic Passage” (北极航道) as a new dimension of the BRI, a “Silk Road on Ice.”<sup>10</sup> Chinese experts noted that three maritime passages connect the Pacific and Atlantic oceans through the Arctic: Northeast (around Eurasia), Northwest (around North America), and Central (polar route through Arctic Ocean) (Figure 2.1).<sup>11</sup> These experts contended that as these passages become ice-free for longer periods, they offer the prospect of trade routes 30 to 50 percent shorter than using the Malacca Straits and the Suez Canal for transporting Chinese goods to European and North American markets.<sup>12</sup> The concept of a Polar Silk Road was introduced in 2018 with the release of the Arctic white paper, which was released after the original *Action Plan on the Belt and Road Initiative* was published.<sup>13</sup> The Chinese State Council’s official Belt and Road website now describes the Polar Silk Road as the shipping routes that cross the Arctic and connect the major economic centers of North America, East Asia, and Western Europe. Under the heading of “Deepening Participation in Global Oceanic Governance,” the 14th FYP, which was released in March 2021, called for “participating in pragmatic cooperation in the Arctic to build the ‘Polar Silk Road.’”<sup>14</sup> Figure 2.1 presents a China-centered map of the three Arctic routes and the traditional route through the Strait of Malacca and the Suez Canal. In Mia M. Bennett et al., 2020, the Arctic scholars note that “China is the only country to have led official expeditions of all three Arctic shipping passages, including the TSR [Transpolar Sea Route].”<sup>15</sup>

Chinese experts assess that the Northeast Passage, which includes what Russian defines as the *Northern Sea Route* (NSR), is the most commercially viable passage as the ice melt currently allows ships to pass for four months a year. Chinese and Russian leaders have proclaimed their interest in joint development of Arctic energy resources and the Northeast Pas-

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<sup>10</sup> Early translations by Chinese state media occasionally used the translation of *Silk Road on Ice* (SRI, a literal rendering of 冰上丝绸之路) before later settling on *Polar Silk Road*. See PRC, State Council Information Office, 2017.

<sup>11</sup> “Belt & Road Initiative Reaches the Arctic,” Xinhua, November 6, 2017; China Belt and Road Portal, [中国一带一路网], homepage, undated-a.

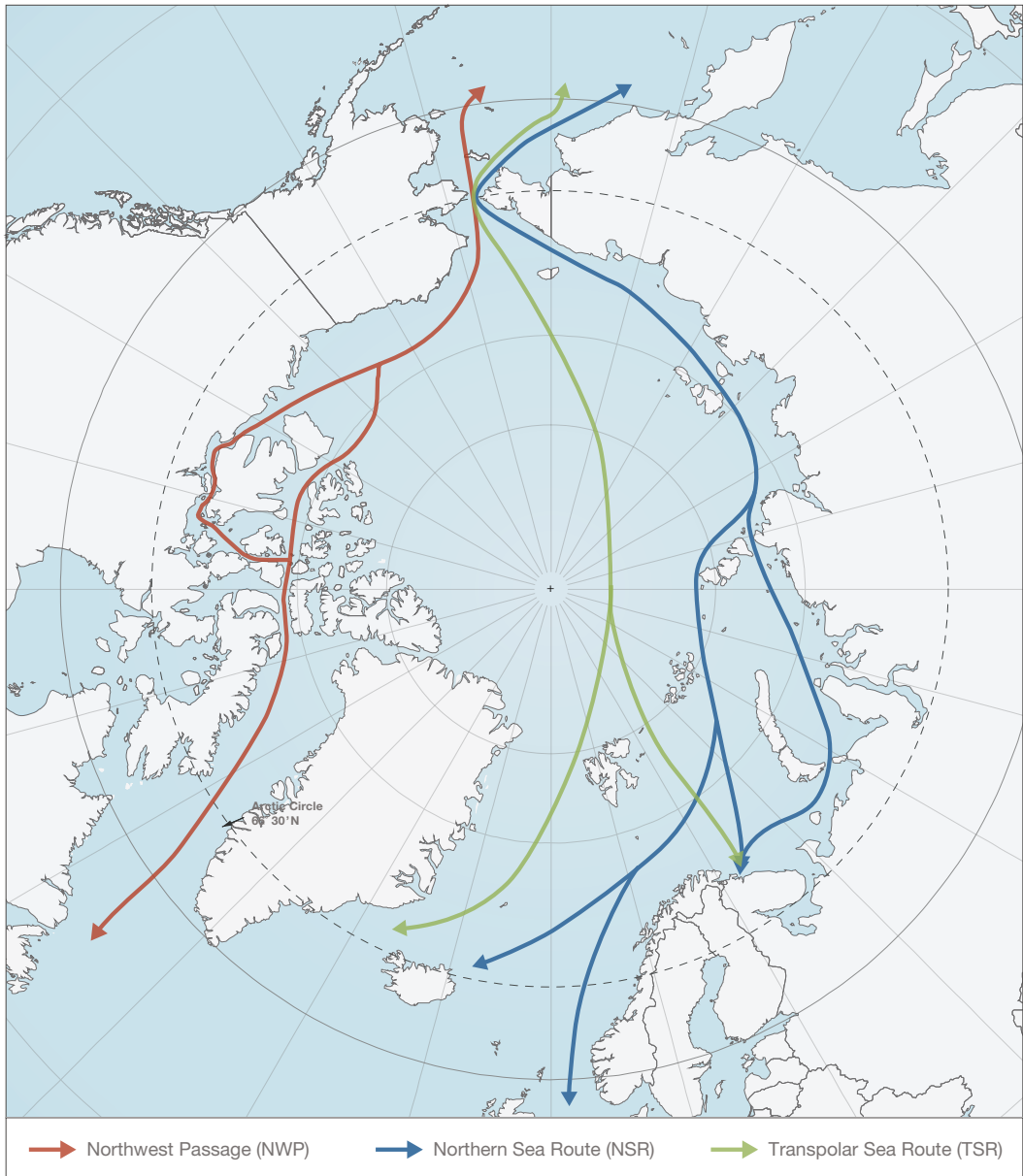
<sup>12</sup> “Tian En, Chinese Ship on Maiden Arctic Voyage, Docks in Dutch Port,” Xinhua, September 10, 2018; “Polar Silk Road [冰上丝绸之路],” *China One Belt One Road Network* [中国一带一路网], February 2019.

<sup>13</sup> “China Unveils Vision for ‘Polar Silk Road’ Across Arctic,” Reuters, January 26, 2018.

<sup>14</sup> National Development and Reform Commission of the People’s Republic of China, 2020; PRC, State Council Information Office, *Action Plan on the Belt and Road Initiative*, Beijing, 2015a.

<sup>15</sup> Mia M. Bennett, Scott R. Stephenson, Kang Yang, Michael T. Bravo, and Bert De Jonghe, “The Opening of the Transpolar Sea Route: Logistical, Geopolitical, Environmental, and Socioeconomic Impacts,” *Marine Policy*, Vol. 121, 2020, p. 10.

**FIGURE 2.1**  
**Arctic Maritime Routes**



sage since 2017.<sup>16</sup> However, the two governments have yet to undertake concrete projects to develop the waterway and have differing interests and priorities in the region.<sup>17</sup>

In addition to the terms that Chinese officials, analysts, and commentators use to discuss the Arctic, it is also important to look more broadly at the overall level of importance they ascribe to the region. Although a growing topic of interest, the Arctic remains a relatively niche subject in Chinese writings on foreign policy, defense, and security affairs. Chinese authors' analyses of the Arctic's importance tend to focus on norm-setting to gain a voice and a role, scientific exploration and environmental protection to put an attractive public face on China's presence and involvement, and economics and shipping to explain why it is crucial for China to have access. Strategic motivations are rarely mentioned, and the region's military importance is almost never discussed. However, a few Chinese scholars have underscored the strategic importance of well-planned access to the Arctic for protecting China's interests and rights in the international community and that the Arctic has significant military value and a potential locus of military conflict.<sup>18</sup>

One of the few examples of PRC experts discussing the strategic importance of the Arctic is a 2018 article by a group of academics at Ocean University of China. These academics argue that deepening participation in the development of Arctic passageways, based on cooperation with Arctic stakeholders, conducting scientific research, establishing rules and regulations, and avoiding disputes, could increase China's bargaining power and lay the foundation for route and resource development more generally. Strengthening China's legitimacy by participating in international legislation and international organizational activities could further strengthen the PRC's influence and agenda-setting power, facilitating its participation in the development and utilization of Arctic routes. The researchers also note the importance of developing the Arctic Passage for the economy, pointing out that new patterns of international cooperation and global shipping, by reducing shipping costs and promoting new cargo

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<sup>16</sup> "Belt & Road Initiative Reaches the Arctic," 2017. China Belt and Road Portal,[中国一带一路网], undated-a. For a discussion of the official Russian definition of the NSR and the Northeast Passage, see Willy Østreng, "The Northeast Passage and Northern Sea Route," ARCTIS (Arctic Resources and Transportation Information System) Database, Centre for High North Logistics, Norway, 2010.

<sup>17</sup> Yun Sun, *The Northern Sea Route: The Myth of Sino-Russian Cooperation*, Washington, D.C.: Stimson Center, December 5, 2018b. The Chinese company COSCO Shipping Specialized Carriers Company has conducted an increasing number of cargo transits along the Northern Sea Route. Its vessels reportedly completed a total of 14 transits each year between 2013 and 2018, growing to 14 transits in 2021 alone. See Malte Humpert, "Cargo Volume on Northern Sea Route Reaches 35m Tons, Record Number of Transits," *High North News*, January 27, 2022.

<sup>18</sup> Linda Jakobson, "Preparing for an Ice-Free Arctic (2)," *China Dialogue*, April 22, 2010, citing the writings of Li Zhenfu and colleagues at Dalian Maritime University; and Rush Doshi, Alexis Dale-Huang, and Gaoqi Zhang, *Northern Expedition: China's Arctic Activities and Ambitions*, Washington, D.C.: Brookings Institution, April 2021, p. 13.

and energy corridors, could also affect the layout of China's shipping routes, especially those originating from or concluding at its northern ports.<sup>19</sup>

Separately, scholars from Tsinghua University published an article in 2018 that introduced the concept of the Northeast Passage as the third component of a “One Belt, One Road, *One Channel*” plan (italics added for emphasis), illustrating some ways in which China might conceptualize the strategic advantages of a developed Arctic Passage. The article suggests that a developed Arctic Passage could bring numerous advantages, although the One Belt One Road initiative by itself faces risks associated with geopolitical factors, regional instability, cultural and religious differences, and energy security vulnerabilities. There are few countries along the Arctic Passage and little threat of piracy, making terrorist attacks on overseas investments relatively easy to guard against. They also note that, compared with the One Belt One Road plan, the Arctic One Channel is “less troubled by illegal immigration and refugee influx.”<sup>20</sup>

Other Chinese scholars of maritime transportation have argued that the Arctic Passage is important to improving China's energy security and that China can have greater influence over the construction of the Passage as a “near-Arctic country.” Consequently, these experts concluded, “The earlier the construction of the Arctic Passage begins, the earlier the future of China's energy security will be determined.”<sup>21</sup> The Arctic Passage could present a strategic benefit by reducing congestion in the Strait of Malacca and the Suez Canal and lowering the possibility of China's energy lifeline being choked off, something former Chinese leader Hu Jintao called “the Malacca dilemma.”<sup>22</sup>

A developed Arctic Passage also offers efficiency advantages for the BRI. Chinese maritime experts estimate that, compared with the traditional China-European Union (EU) maritime shipping route that passes through the Suez Canal, the Northeast Passage reduces the distance between Chinese and European ports by 18 percent to 26 percent, favoring China's northern ports. Additionally, though icy conditions can slow ship speeds, Arctic container ships need not call at multiple ports like their counterparts on traditional shipping routes. According to Chinese experts, this reduces Arctic shipping times by eight to 11 days on average, saving both time and fuel cost as compared with the traditional route.<sup>23</sup> Shorter trans-

<sup>19</sup> Li Zhenfu [李振福], Chen Zhuo [陈卓], Chen Xue [陈雪], and Chen Xiao [陈霄], “The Development of the Arctic Passage and the Construction of the “Polar Silk Road”: A Literature Review [北极航线开发与“冰上丝绸之路”建设: 一个文献综述],” *Periodical of Ocean University of China* [中国海洋大学学报], October 2018.

<sup>20</sup> Zhang Wei [张巍], Zhang Xin [张新], and Hu Angang [胡鞍钢], “Strategic Connotations and Conception of Developing the Construction of ‘One Belt, One Road, One Channel (Arctic Passage)’” [开发“一带一路(北极航道)”建设的战略内涵与构想], *Journal of Tsinghua University* [清华大学学报], January 2018.

<sup>21</sup> Zhang, Zhang, and Hu, 2018.

<sup>22</sup> Ian Storey, “China's ‘Malacca Dilemma’,” *Jamestown Foundation China Brief*, Vol. 6, No. 8, April 12, 2006.

<sup>23</sup> Wang Nuo [王诺], Yan Bing [闫冰], Wu Di [吴迪], and Wu Nuan [吴暖], “The Spatiotemporal Pattern of China-EU Shipping Routes Under the Background of Arctic Navigation [北极通航背景下中欧海运航线的时空格局],” *Economic Geography* [经济地理], Vol. 37, No. 12, 2017, pp. 9–16.

portation times reduce energy expenditure costs, and the Arctic route also provides a new connection between China and the wealthy nations of northern Europe, meaning China can more easily export midlevel products and import advanced products. Opening the Arctic Passage could also reduce costs and thereby increase the competitiveness of certain industries. These generally optimistic Chinese assessments of the viability of Arctic shipping diverge from other international scholarly and commercial assessments that cite hazardous conditions and limited support infrastructure as limiting factors and reflect a degree of “boosterism” present in some Chinese thinking about the Arctic.<sup>24</sup>

Some Chinese observers even suggest that developing the Arctic Passage could benefit global environmental protection and help reduce global warming, noting that:

China's goal of participating in the Arctic Passage is also to build a green waterway that reflects sustainable development and harmonious coexistence between man and ecology . . . Constructing and developing the Arctic Passage with the highest priority of protecting Arctic ecology will ensure a pure land for future generations . . . [and] expand the demand and application of green environmental protection technologies related to waterway construction.<sup>25</sup>

In contrast to its discussion of China's economic, resource, scientific, and norm-setting goals in the Arctic, the PRC's white paper discusses strategic considerations only in passing in the forward, and again at the end of the document. Under the heading of “promoting peace and stability in the Arctic,” China calls for “the peaceful utilization of the Arctic and commits itself to maintaining peace and stability, protecting lives and property, and ensuring the security of maritime trade, operations and transport in the region.”<sup>26</sup> Although the Arctic white paper frames China's goals in a positive light, the country's 13th FYP lists the establishment of a “new, shore-based Arctic observation station” as one of its goals under the broad rubric of “safeguarding maritime rights and interests.”<sup>27</sup> This goal has been achieved with the formal opening of the China-Iceland Joint Arctic Observatory (CIAO) in October 2018. Originally announced as an aurora observatory in partnership with the Polar Research Institute of China, CIAO's mission has reportedly expanded to include monitoring climate

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<sup>24</sup> Albert Buixadé Farré, Scott R. Stephenson, Linling Chen, Michael Czub, Ying Dai, Denis Demchev, Yaroslav Efimov, Piotr Graczyk, Henrik Grythe, Kathrin Keil, Niku Kivekäs, Naresh Kumar, Nengye Liu, Igor Matelenok, Mari Myksvoll, Derek O'Leary, Julia Olsen, Sachin Pavithran.A.P., Edward Petersen, Andreas Raspotnik, Ivan Ryzhov, Jan Solski, Lingling Suo, Caroline Troein, Vilena Valeeva, Jaap van Rijckevorsel, and Jonathan Wighting, “Commercial Arctic Shipping Through the Northeast Passage: Routes, Resources, Governance, Technology, and Infrastructure,” *Polar Geography*, Vol. 37, No. 4, October 2014, pp. 298–324; and Stephen M. Carmel, “The Cold, Hard Realities of Arctic Shipping,” *Proceedings*, U.S. Naval Institute, July 2013, pp. 38–41.

<sup>25</sup> Zhang Wei, Zhang Xin, and Hu Angang, 2018.

<sup>26</sup> PRC, State Council Information Office, 2018.

<sup>27</sup> National Development and Reform Commission of the People's Republic of China, 2015.

change, satellite remote sensing, geosciences, oceanography, and fisheries.<sup>28</sup> This is the same conceptual framework China has used to aggressively push claims to maritime spaces and features claimed and administered by other nations in recent years, opening the possibility that Beijing may, eventually, similarly use military means to further what it perceives as its “maritime rights and interests” in the Arctic.<sup>29</sup>

Because such goals are less openly discussed, in the next section we identify possible dimensions of China’s military ambitions in the North American Arctic, recognizing that, for now at least, the country’s core areas of focus on security and defense policy are much closer to its own shores. Therefore, the assessments in the next section should be treated somewhat speculatively and are derived from the overall military strategy, capabilities, and direction of development of the PLA, which regards global commons and transnational spaces, such as the poles, the deep sea, outer space, and cyberspace, as “new strategic frontiers” (战略新疆域) where great-power strategic competition is expected to be intense.<sup>30</sup>

## China’s Goals in the North American Arctic

China’s overall foreign policy focuses on the realization of the “China Dream” of national rejuvenation, the recouping of supposedly “lost territories,” such as Taiwan, various uninhabited maritime features in the East and South China seas, and sometimes territory in the present-day Russian Far East lost to Imperial Russia during the Qing Dynasty, as well as the establishment of a position of preeminence, first regionally, and then eventually globally.<sup>31</sup> In the course of China’s quest for greater regional influence, PRC officials and authors tend to treat the United States and its network of alliances and partners, as well as the liberal international order they are embedded in and generally supportive of, as key obstacles to the accomplishment of China’s ambitions.<sup>32</sup> Because Chinese foreign and military policies regard the United States as the most capable actor that could frustrate China’s ambitions, Chinese officials also treat it as the one country against which they benchmark their own country’s progress. China competes with the United States and other adversaries to advance and deter challenges to the CCP’s policy goals. The PLA is tasked with advancing those goals by competing with and

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<sup>28</sup> Melody Schreiber, “A New China-Iceland Arctic Science Observatory Is Already Expanding Its Focus,” *Arctic Today*, October 31, 2018.

<sup>29</sup> National Development and Reform Commission of the People’s Republic of China, 2015.

<sup>30</sup> Patrik Andersson, “The Arctic as a ‘Strategic’ and ‘Important’ Chinese Foreign Policy Interest: Exploring the Role of Labels and Hierarchies of China’s Arctic Discourses,” *Journal of Current Chinese Affairs*, 2021, pp. 1–27.

<sup>31</sup> For more on the Russian Far East claims, see William A. Callahan, “The Cartography of National Humiliation and the Emergence of China’s Geobody,” *Public Culture*, Vol. 21, No. 1, 2009, p. 156.

<sup>32</sup> Adam P. Liff, “China and the U.S. Alliance System,” *China Quarterly*, April 24, 2017.

being capable of defeating the U.S. military, if necessary, in any direct confrontation.<sup>33</sup> For this reason, many of the more strategic aspects of the PRC's interest in the Arctic, especially the North American Arctic, relate to its geostrategic competition with the United States.

In the North American Arctic, the Chinese government and various Chinese entities have been pursuing the five broad goals noted earlier in this chapter with limited success to date. As detailed further in Chapter Three, Chinese entities have sought improved access for oceanic shipping and air transit, contracts for exploitation of energy and strategic minerals, and approvals for the conduct of scientific inquiry in the region. As will be discussed below, China has used bilateral and multilateral diplomacy to advance its interests in establishing and revising norms for Arctic activities. Beijing's activities in the North American Arctic also reflect efforts to expand its geostrategic interests and military options.

As illustrated in Figure 2.1, Beijing envisions both the Northwest Passage (the route along the coast of North America between the Atlantic and Pacific oceans passing through the Arctic Ocean and the Canadian Arctic Archipelago) and the hypothetical Central Arctic Route (also known as the Transpolar Sea Route) through international waters with Greenland as one endpoint, as potential channels in the Polar Silk Road. The Chinese scientific ice-breaker *Xue Long* sailed through both routes and the Northeast Passage in 2017 in a symbolic demonstration of their potential in this regard.<sup>34</sup> With respect to trans-Arctic air corridors, several major Chinese carriers now conduct significant cargo operations through Anchorage's Ted Stevens International Airport.<sup>35</sup> In addition, although there are presently no direct passenger flights between China and Alaska, Chinese tourism to Alaska had been growing substantially, reaching an estimated 10,000 visitors in 2018.<sup>36</sup>

## China's Potential Military Goals in the North American Arctic

Because many dimensions of China's military strategy and capabilities specifically related to the Arctic are not publicly discussed in any detail in official PRC documents, analysis of this question necessarily requires a degree of reasoning from broader categories of knowledge about the PLA to more discrete, if caveated, conclusions. As the 2020 DoD report on Chinese military developments noted, the PLA's current approach to armed conflict is focused on

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<sup>33</sup> Scott W. Harold, *Defeat, Not Merely Compete: China's Views of Its Aerospace Goals and Requirements in Relation to the United States*, Santa Monica, Calif.: RAND Corporation, RR-2588-AF, 2018.

<sup>34</sup> Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2019*, Washington, D.C.: U.S. Department of Defense, No. E-1F4B924, May 2, 2019, p. 114; and Marc Lanteigne, "Considering the Arctic as a Security Region: The Roles of China and Russia," in Gunhild Hoogensen Gjør, Marc Lanteigne, and Horatio Sam-Aggrey, eds., *Routledge Handbook of Arctic Security*, London: Routledge, 2020, pp. 311–323.

<sup>35</sup> Greg Wolf, "Alaska and China: Ties between the Middle Kingdom and Great Land," *Alaska Business Journal*, February 2019.

<sup>36</sup> Michelle Theriault Boots, "Beautiful Impression: Chinese Tourism to Alaska Is Growing Fast," *Anchorage Daily News*, July 6, 2019.

being prepared to fight and win “informatized local wars,” that is, regional conflicts under conditions where advanced militaries employ systems that link sensors, platforms, weapons, and command and control.<sup>37</sup> In addition, the PLA assesses that such conflicts are likely to be defined by “systems confrontation and system destruction warfare” centered on “information systems-based systems of systems,” to include neutralizing the interdependent command and control and surveillance systems of any adversary forces to destroy their operational capability.<sup>38</sup>

Below the level of military grand strategy and concepts of operating, previous RAND research has tracked how, at the service level, the PLA Navy (PLAN) and PLA Air Force (PLAAF) have only begun to assume the profile of more expeditionary forces that can operate in distant waters and air spaces in the past decade and half-decade, respectively.<sup>39</sup> Other U.S. analyses have similarly confirmed the logistical challenges the PLA faces as it seeks to develop into a joint force capable of operating far from China's shores, including the lack of bases, at-sea replenishment ships, organic air defenses, icebreakers, and experience.<sup>40</sup> Still, PLA watchers anticipate that the PLA will continue to evolve, ultimately striving to transform itself into a force that can project power globally sometime before or by 2049.<sup>41</sup>

The PLA's primary military aims today are to hold the U.S. military at bay in potential conflicts near China's coasts via counter-intervention capabilities (反侵入), often described by U.S. analysts as “anti-access/area denial” capabilities.<sup>42</sup> On a longer time horizon, it is conceivable that a reformed, more joint and expeditionary PLA with greater sustainment and

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<sup>37</sup> Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2020*, Washington, D.C.: U.S. Department of Defense, September 1, 2020, p. 27.

<sup>38</sup> Jeffrey Engstrom, *Systems Confrontation and Systems Destruction Warfare: How the People's Liberation Army Seeks to Wage Modern Warfare*, Santa Monica, Calif.: RAND Corporation, RR-1708-OSD, 2018; Kevin McCauley, *PLA System of Systems Operations: Enabling Joint Operations*, Washington, D.C.: The Jamestown Foundation, 2017.

<sup>39</sup> Mark Cozad and Nathan Beauchamp–Mustafaga, *People's Liberation Army Air Force Operations Over Water: Maintaining Relevance in China's Changing Security Environment*, Santa Monica, Calif.: RAND Corporation, RR-2057-AF, 2016; Cristina L. Garafola and Timothy R. Heath, *The Chinese Air Force's First Steps Toward Becoming an Expeditionary Air Force*, Santa Monica, Calif.: RAND Corporation, RR-2056-AF, 2016.

<sup>40</sup> Chad Peltier, Tate Nurkin, and Sean O'Connor, *China's Logistics Capabilities for Expeditionary Operations*, Washington, D.C.: Jane's Information Group and U.S.-China Economic and Security Review Commission, April 2020.

<sup>41</sup> Patrick Cronin, Mira Rapp-Hooper, Harry Kresja, Alex Sullivan, and Rush Doshi, *Beyond the San Hai: The Challenge of China's Blue-Water Navy*, Washington, D.C.: Center for a New American Security, May 2017.

<sup>42</sup> Roger Cliff, Mark Burtles, Michael S. Chase, Derek Eaton, and Kevin Pollpeter, *Entering the Dragon's Lair: Chinese Anti-Access Strategies and Their Implications for the United States*, Santa Monica, Calif.: RAND Corporation, MG-524-AF, 2007; M. Taylor Fravel and Christopher Twomey, “Projecting Strategy: The Myth of Counterintervention,” *Washington Quarterly*, Vol. 37, No. 4, January 2015, pp. 171–187; Timothy R. Heath and Andrew S. Erickson, “Is China Pursuing Counter-Intervention?” *Washington Quarterly*, Vol. 38, No. 3, October 2015, pp. 143–156.

power projection capabilities, if it entered into a large-scale or all-out conflict, might aim to threaten the U.S. access to, or threaten the United States via, the Arctic. To prepare for the possibility that the Arctic will once more be a site of great power military competition, China would logically seek to lay the groundwork now for a supporting infrastructure that it would need in the Arctic should conflict occur there.<sup>43</sup> In that case, China's ambitions for access to the North American Arctic could include

- using any ostensibly scientific research base or facility it constructs in the Arctic to collect intelligence or compromise the operations of U.S., Canadian, or broader North Atlantic Treaty Organization (NATO) forces
- holding at risk U.S. forces, bases and facilities in Alaska or Greenland that would support power projection in the event of a crisis or conflict, possibly through the use of PLA joint forces, including PLAN vessels or ostensibly commercial vessels, operating in Arctic waters
- targeting assets of the binational North American Aerospace Defense Command (NORAD) network and the U.S. Air Force (USAF), including intelligence, surveillance, and reconnaissance (ISR) facilities, ballistic missile early warning systems (BMEWS), and ballistic missile defenses and support architecture based across the region
- potentially inserting its own submarines into the Arctic Ocean, either to contest the U.S. ability to use those waters as a bastion for American nuclear-powered ballistic missile submarines (SSBNs) or to enhance the survivability of the PLAN's own at-sea strategic nuclear assets.<sup>44</sup>

Recent efforts by Chinese firms to undertake sensitive infrastructure projects in Greenland suggest some of these concerns have merit. As discussed further in Chapter Three, one private mining company made a bid to the Greenlandic government in 2016 to acquire an abandoned Danish naval base at Grønødal (Kanilinnguit). The Danish government intervened, reportedly over security concerns, and decided to reactivate the base for logistical support and personnel training.<sup>45</sup> In 2018, a Chinese state-owned enterprise (SOE) was a finalist in a \$560 million solicitation by the Greenlandic government to develop three civilian airports. The Danish government again intervened, offering substantial financing for the project, which Greenland accepted, and the Chinese firm withdrew its bid.<sup>46</sup> Media reports

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<sup>43</sup> Doshi, Dale-Huang, and Zhang, 2021.

<sup>44</sup> Anne-Marie Brady, "Facing Up to China's Military Interests in the Arctic," *Jamestown Foundation China Brief*, Vol. 19, No. 21, December 10, 2019; Office of the Secretary of Defense, 2019; Adam Lajeunesse and Timothy Choi, "Here There Be Dragons? Chinese Submarine Options in the Arctic," *Journal of Strategic Studies*, 2021.

<sup>45</sup> Ties Dams, Louise van Schaik, and Adája Stoetman, *Presence Before Power: China's Arctic Strategy in Iceland and Greenland*, Amsterdam, Netherlands: Clingendael, June 2020, p. 34.

<sup>46</sup> Institute for Security and Development Policy, "A Touch of Frost: Danish Concerns over Chinese Investment to Greenland," webpage, August 14, 2019.

indicated that Copenhagen acted because of concerns that a sustained Chinese presence in Greenland could compromise the security of certain operations at the USAF's Thule Air Base, which hosts missile warning and space surveillance systems, a 10,000-foot runway, and a deepwater port.<sup>47</sup>

## China's Strategy in the Arctic

In its quest to gain influence in the Arctic, China has sought to leverage eight distinct pathways:

1. through access, especially in the form of military presence in the Arctic and commercial shipping operations in international waters, supported by its right to use the Arctic based on the United Nations (UN) Convention on the Law of the Sea (UNCLOS)
2. by establishing research station on land in Svalbard, Norway (2003), which it has a right to set up as a signatory of the 1920 Spitsbergen (Svalbard) Treaty; and the aforementioned CIAO in Kárhóll, Iceland (2018). China attempted to establish a third site in Finland, but the local government terminated negotiations, reportedly due to concerns expressed by the Finnish armed forces<sup>48</sup>
3. through investment in Arctic states (However, as outlined in Chapter Three and in Almén and Weidacher Hsiung, 2022, Chinese investments have been quite limited in both the North American Arctic and Nordic regions. Many planned investments have not been realized, and these countries have strengthened their legal mechanisms to limit foreign investments in sensitive sectors.)
4. via bilateral diplomatic relationships with Arctic states that can be incentivized to cooperate with China or disincentivized to support the United States or other Arctic states in the event of a dispute
5. through outreach and influence operations (often supported by or in support of China's investments), directed at national but also subnational government bodies, such as states, provinces, tribal nations, and autonomous territories; universities; nongovernmental organizations (NGOs); and private-sector commercial actors, aiming to play these disparate forces off each other to China's benefit<sup>49</sup>

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<sup>47</sup> Aaron Mheta, "How a Potential Chinese-Built Airport in Greenland Could Be Risky for a Vital U.S. Air Force Base," *Defense News*, September 28, 2018.

<sup>48</sup> Thomas Nilsen, "Finland's Military Blocked a Chinese Bid to Buy an Arctic Airport for Climate Research Flights," *Barents Observer*, March 5, 2021; Arctic Institute Center, "China," webpage, undated.

<sup>49</sup> David Auerswald, "China's Multifaceted Arctic Strategy," *War on the Rocks*, May 24, 2019. For more information on Chinese influence operations more generally, see Clive Hamilton and Mareike Ohlberg, *The Hidden Hand: Exposing How the Chinese Communist Party Is Reshaping the World*, Minneapolis, Minn.: OneWorld Books, 2020.

6. by building and deploying relevant capabilities and supporting infrastructure that will enable Chinese access and activities in the future
7. through soft power diplomacy and normative statements that seek to characterize the Arctic as the common heritage of all mankind and frame China's approach as if it "privileges cooperation over competition"<sup>50</sup>
8. by participating in the Arctic Council and other regional and international organizations.

Although China's overarching approach to the Arctic is publicly framed around scientific inquiry, commercial access, and international cooperation; in practice, Chinese policy treats the region as a site of geostrategic competition.

## Bilateral Diplomatic, Informational, and Trade Engagement

This section examines how Beijing is using bilateral diplomatic, informational, and trade relationships with the United States, Canada, and Greenland—including engagement with subnational governmental authorities and key private entities—to advance its interests and influence in the North American Arctic.

### United States

Arctic issues have not been a prominent element of discussions in the U.S.-China strategic and economic dialogues conducted in various formats over the past two decades.<sup>51</sup> As discussed later in this chapter, Chinese Arctic diplomacy has focused on using its observer status in the Arctic Council since 2013 to advance its interests in the region. However, there have been some dialogues and agreements reached on Arctic issues in bilateral channels.

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<sup>50</sup> Shiloh Rainwater, "Race to the North: China's Arctic Strategy and Its Implications," *Naval War College Review*, Vol. 66, No. 2, Spring 2013, pp. 62–82.

<sup>51</sup> Presidents George W. Bush and Hu Jintao initiated the U.S.-China Senior Dialogue at the sub-Cabinet level in 2005 to discuss the strategic framework of bilateral relations. See U.S. Department of State, Office of the Spokesperson, Media Note, "Deputy Secretary Zoellick Statement on Conclusion of the Second U.S.-China Senior Dialogue," December 8, 2005. Presidents Barack Obama and Hu agreed to elevate this dialogue to the Cabinet level with plenary sessions and separate strategic and economic tracks and renamed it the U.S.-China Strategic and Economic Dialogue (S&ED), which was conducted between 2009 and 2016. See U.S. Department of the Treasury, "Fact Sheet: U.S.-China Strategic and Economic Dialogue," April 2009. In 2017, Presidents Donald Trump and Xi Jinping agreed to pursue a new the U.S.-China Comprehensive Economic Dialogue (CED) co-chaired by the U.S. secretaries of Treasury and Commerce and a Vice Premier of the State Council of China. The Trump administration characterized the CED as designed to achieve concrete results to benefit U.S. workers and firms. The Chinese government offered a positive assessment of the initial, one-day meeting on July 17, 2017. However, the administration abandoned the CED as economic relations with China became more confrontational. See U.S. Department of the Treasury, "U.S.-China Comprehensive Economic Dialogue," webpage, undated; and Embassy of the People's Republic of China in the United States, "Positive Outcomes of the First China-U.S. Comprehensive Economic Dialogue," webpage, July 21, 2017.

Under the “Strategic Track” of the U.S.-China Strategic and Economic Dialogue (S&ED), the two governments agreed in 2016 to some cooperation on fisheries and environmental issues in the Arctic, including working with other governments to complete negotiation of an agreement to prevent unregulated commercial fishing in the high seas portion of the central Arctic Ocean and to enhance cooperation on observation of ocean acidification, particularly in the Arctic.<sup>52</sup> In 2018, Arctic Council states more broadly codified these 2016 discussions as the Central Arctic Ocean Fisheries Agreement (CAOFA).

As called for in the S&ED, the two governments conducted an annual “Dialogue on the Law of the Sea and Polar Affairs” between 2010 and 2019. The dialogues were co-led by senior officials of the Chinese MFA and U.S. Department of State and involved officers of the U.S. Coast Guard (USCG) and Chinese Coast Guard. According to the Chinese MFA, the tenth meeting in September 2019 included an exchange of views on Arctic issues and an agreement to “further strengthen communication and coordination in the law of the sea and polar areas.”<sup>53</sup> This dialogue does not appear to have been held in 2020, likely reflecting growing strains in bilateral relations.

The U.S.-China high-level strategic dialogue held March 18–19, 2021, in Anchorage, Alaska, unfolded with sharp exchanges over fundamental differences in bilateral, international, and regional issues.<sup>54</sup> Related to the Arctic, however, the two sides did agree to continue dialogue and cooperation on climate change, and their high-level envoys met the following month in Shanghai.

Expanding trade with Alaska and investment in the state’s infrastructure—in tandem with private U.S. partners—was recommended in 2016 by two prominent Chinese scholars of Arctic governance. In addition, the scholars advocated developing Chinese Arctic tourism and education to strengthen Beijing’s public diplomacy and social influence in the United States.<sup>55</sup> On the eve of the Anchorage dialogue, Chinese diplomats sought to leverage exactly these points of contact, highlighting that China has been Alaska’s largest international trading partner for many years. They also noted that China has been reported as the destination for one-third of the state’s exports since 2011 and cited the importance of friendly relations

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<sup>52</sup> U.S. Department of State, Office of the Spokesperson, Media Note, “U.S.-China Strategic & Economic Dialogue Outcomes of the Strategic Track,” June 2, 2016. The Arctic fisheries agreement entered into force in June 2021. See U.S. Department of State, Office of the Spokesperson, Media Note, “The Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean Enters into Force,” June 21, 2021.

<sup>53</sup> PRC, MFA, “China and the U.S. Hold the Tenth Round of Dialogue on the Law of the Sea and Polar Affairs, [中美举行第十轮海洋法和极地事务对话],” September 16, 2019.

<sup>54</sup> “China, U.S. Hold Timely, Helpful High-Level Strategic Dialogue,” Xinhua, March 20, 2021; Lara Jakes and Steven Lee Myer, “Tense Talks with China Left U.S. ‘Cleareyed’ About Beijing’s Intentions, Officials Say,” *New York Times*, March 19, 2021.

<sup>55</sup> Sun Kai [孙凯] and Yang Songlin [杨松霖], “Sino-U.S. Arctic Cooperation: Current Situation, Problems, and Measures [中美北极合作的现状、问题与进路],” *Journal of the Ocean University of China* [中国海洋大学学报], 2016, pp. 18–24.

between China's northern Heilongjiang province and Alaska.<sup>56</sup> Goods reported as exports from Alaska to China were valued at over \$1 billion annually between 2011 and 2020, with seafood representing 57 percent of the total by value, minerals and ores 27 percent, energy 7 percent, and forest products 6 percent in 2019.<sup>57</sup>

The Chinese government and various enterprises, in partnership with the World Trade Center (WTC) of Anchorage, organized an annual Alaska-China Business Conference to engage officials from the U.S. Department of Commerce; the Alaska state government; and representatives of Alaskan industry, banking, and universities.<sup>58</sup> Chinese reports on the 11th annual conference in January 2018 noted that participants discussed the prospects for China-Alaska cooperation in areas of energy, minerals, fishing, tourism, and cultural exchange.<sup>59</sup> In 2018, WTC Anchorage and its counterpart in Harbin, China, developed a memorandum of understanding to expand agricultural trade and arranged for a business delegation from Harbin to discuss partnerships "in agriculture, tourism, airlines, fresh seafood, and other commercial interests."<sup>60</sup> WTC Harbin president Steven Lo predicted that a planned direct air service link between Harbin and Anchorage would "elevate trade in the Arctic Silk Road."<sup>61</sup>

## Canada

For nearly half a century, Canada maintained relatively good bilateral relations and sizable two-way trade with China following Prime Minister Pierre-Elliott Trudeau's establishment of diplomatic ties with Beijing in 1970. As detailed in Chapter Three, Chinese investment in the mineral and energy extraction sectors in the Canadian Arctic dates to 2008, and these projects did not trigger any major concerns in Ottawa. Prime Minister Justin Trudeau visited China in 2016 and 2017 in an effort to conclude a free trade agreement but abandoned this initiative in 2020 in the context of deteriorating relations.<sup>62</sup>

Bilateral relations have turned sour since 2018, driven in large part by Beijing's hostility to Ottawa's detention of Huawei Chief Financial Officer Meng Wanzhou. The PRC responded to Meng's arrest by seizing ex-Canadian diplomat Michael Kovrig and Canadian businessman Michael Spavor as hostages in an attempt to compel Ottawa to release Meng rather

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<sup>56</sup> "China-U.S. High-level Strategic Dialogue Is Coming," Xinhua, March 18, 2021.

<sup>57</sup> In 2019 exports were \$900 million. Greg Wolf, "Alaska and China: Ties between the Middle Kingdom and Great Land," *Alaska Business Journal*, February 2019; and U.S.-China Business Council, *2021 State Export Report*, Washington, D.C., May 2021.

<sup>58</sup> WTC Anchorage, "11th Annual Alaska-China Business Conference," webpage, undated.

<sup>59</sup> PRC, Consulate General in San Francisco, "The 11th Alaska-China Business Conference Concluded in Anchorage," news release, February 2, 2018; Wu Xiaoling, "Chinese Companies Discuss Cooperation with Alaska in the U.S.," Xinhua, January 25, 2018.

<sup>60</sup> "WTC Anchorage, WTC Harbin Elevate Trade on Arctic Silk Road," *Alaska Business*, January 24, 2019.

<sup>61</sup> "WTC Anchorage, WTC Harbin Elevate Trade on Arctic Silk Road," 2019.

<sup>62</sup> Darren Touch, "A Shift in Canada-U.S Relations Shaped by a Global China," Wilson Center, Canada Institute, July 13, 2021.

than extradite her to the United States where she faced charges of banking fraud and violating sanctions on Iran. Beijing's hostage diplomacy was met with a harder line from Ottawa, which has been highly critical of China's repression of Muslim minorities in Xinjiang and dissidents in Hong Kong. When the U.S. Justice Department agreed in September 2021 to allow Meng to return to China in exchange for admitting some wrongdoing in a sanctions violation case, Beijing also released the two Canadians, ending the crisis.<sup>63</sup> Nevertheless, the Canadian government remains wary of Chinese investments in sensitive sectors, and Ottawa's China policy under its upcoming Indo-Pacific Strategy will likely be more closely aligned with U.S. and NATO policy.<sup>64</sup>

Canada has also blocked several instances of Chinese investment on national security grounds in recent years, most notably an investment of \$150 million in U.S. dollars (USD) in a gold mine roughly 100 kilometers from a NORAD North Warning System radar station in Cambridge Bay, Nunavut.<sup>65</sup> Canada has also deployed naval vessels to the South China Sea and through the Taiwan Strait, while one of its top defense officials has warned publicly that China's ambitions in the Arctic pose a threat to Canada's security.<sup>66</sup>

## Greenland

Chinese relations with Greenland have been conducted both via Copenhagen (because Denmark retains sovereignty over the island) and through direct engagement with political and business elites in Nuuk.<sup>67</sup> As we will detail in Chapter Three, China's investments in Greenland have largely been centered on resource extraction and infrastructure.

Following the conclusion of the CCP's 19th Party Congress in 2017, the MFA undertook a diplomatic opening to Greenland, proposing to deepen cooperation in "economy and trade, culture, tourism and consular protection," and inviting Greenland's Prime Minister Kim Kielsen and other senior officials to visit China.<sup>68</sup> This opening led to further discussions between Greenlandic officials and the Chinese government in 2018 on "cooperation in minerals and other fields." The Chinese ambassador to Denmark cited the tenth anniversary of

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<sup>63</sup> David Sanger, Dan Bilefsky, and, Katie Benner, "U.S. Agrees to Release Huawei Executive in Case That Strained Ties with China," *New York Times*, September 24, 2021.

<sup>64</sup> Rachel Gilmore, "Canada Working on New China Strategy, Joly Says as PM Calls Out Beijing's 'Coercive Diplomacy'," *Global News*, January 9, 2022; and Robert Fife, "Ottawa Eyes Indo-Pacific Plan to Shift Trade Away from China," *Globe and Mail*, January 12, 2022.

<sup>65</sup> Alexandra Stevenson, "Canada Blocks Chinese Takeover on Security Concerns," *New York Times*, May 23, 2018; Steven Frank, Kait Bolongaro, and Stephen Wicary, "Trudeau Shuts Out China Again by Rejecting Arctic Gold Deal," *Bloomberg*, December 22, 2020; Robert Fife and Steven Chase, "Top Defence Official Says China Is a Threat to Canadian Arctic," *Globe and Mail*, March 11, 2021.

<sup>66</sup> Remarks from Deputy Minister of National Defence Jody Thomas as cited in David Pugliese, "Canada Calls Out China, Climate Change as Growing Concerns in Arctic," *Defense News*, April 11, 2021.

<sup>67</sup> Mercy A. Kuo, "Greenland in U.S.-Denmark-China Relations," *The Diplomat*, October 2, 2019.

<sup>68</sup> PRC, MFA [中华人民共和国外交部], "Ambassador Deng Ying Meets with the Prime Minister of the Greenland Self-Government [驻丹麦大使邓英会见格陵兰自治政府总理]," October 28, 2017.

the establishment of a comprehensive strategic partnership between China and Denmark as an opportunity to promote practical cooperation.<sup>69</sup> Traveling to Greenland to sign the multilateral CAOFA, the Chinese ambassador affirmed her government's commitment to realizing the goals of the agreement and sustainable development of the Arctic, and presented the principles of the 2018 white paper on China's Arctic policy.<sup>70</sup>

Beijing's diplomatic activism toward Greenland has waned since 2018, likely reflecting recognition that Danish and U.S. opposition to Chinese investments in sensitive infrastructure and resources has constrained the scope of the relationship. Chinese diplomats have turned to criticizing the United States for pressuring the Danish government and seeking to expand U.S. influence in Greenland. They have also sought to cast China as a better partner for Greenland, based on its mutually beneficial and sustainable Arctic vision, alleging significant pollution caused by U.S. operations at Thule Air Base and recalling the release of radioactive material in Greenland following the crash of a B-52 bomber in 1968.<sup>71</sup>

## China's Strategy for Participating in the Arctic Council

Chinese military authors have noted that, of the eight members of the Arctic Council, five are NATO member states—and they regard the Arctic Council as dominated by pro-U.S. actors.<sup>72</sup> To counter this factor, China has leaned heavily on influence efforts with small, economically more-vulnerable countries and territories, such as Iceland and Greenland, while also placing a particular focus on preserving cooperative ties with Russia.

In international forums, such as the Arctic Council and the International Maritime Organization (IMO), China has adopted something of a dual approach in how it explains why it should have a role in setting norms for the Arctic. On the one hand, through its claims to be a near-Arctic state, Beijing treats presence or proximity as a factor connoting special rights, including to scientific research, navigation, overflight, fishing, laying of submarine cables and pipelines, and resources exploration and exploitation in the high seas under international law.<sup>73</sup> On the other hand, Chinese officials argue that, as a special region where (1) cli-

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<sup>69</sup> Embassy of the People's Republic of China in the Kingdom of Denmark [中华人民共和国驻丹麦王国大使馆], "Ambassador Deng Ying Meets with the Minister of Mineral Resources of the Greenland Self-Government [邓英大使会见格陵兰自治政府矿产资源部长艾格德]," March 3, 2018.

<sup>70</sup> Embassy of the People's Republic of China in the Kingdom of Denmark, "Ambassador Deng Ying Went to Greenland to Attend the Signing Ceremony of the Agreement on Prevention of Unregulated High Seas Fisheries in the Central and Arctic Oceans [邓英大使赴格陵兰出席《预防中北冰洋不管制公海渔业协定》签署仪式]," October 5, 2018.

<sup>71</sup> Embassy of the People's Republic of China in the Kingdom of Denmark [中华人民共和国驻丹麦王国大使馆], "The United States Should Not Use China to Cover Up Its Intents in Greenland [美国别拿中国说事以掩盖其在格陵兰的企图]," May 13, 2020.

<sup>72</sup> Fang Ming [方明], "At the North Pole, the Military Game Keeps Heating Up [北极, 军事博弈不断升温]," *PLA Daily* [解放军报], January 13, 2014. Fang is a researcher at the PLA's Academy of Military Science.

<sup>73</sup> PRC, State Council Information Office, 2018.

mate change is unfolding rapidly with consequences for the entire planet and (2) economic activities can unfold on the high seas, China should have a right to help set norms, because in this view, the Arctic belongs to the global community.<sup>74</sup>

The 2009 formulation of the Polar Code, in which China participated, embodied this more globally inclusive approach and created uniform maritime shipping regulations while vesting governing authority in a UN agency rather than an exclusive body or coastal Arctic states. However, the IMO and Polar Code pose new barriers of entry to Arctic shipping in the form of technical standards and requirements for polar ships.<sup>75</sup> Because China's overall polar maritime capabilities still lag behind those of coastal Arctic countries, representatives from China's shipbuilding sector, such as the Maritime Safety Administration, have called for increasing research on polar ship design and regulations as well as the active promotion of national interests in the formulation of the Polar Code and other Arctic regulations.<sup>76</sup> Additionally, Chinese knowledge of ice vessel technology appears to be increasing, thanks to new investments in research and development in that area.<sup>77</sup>

Possibly in response to this need for greater regulation, standardization, and capabilities to participate fully in Arctic affairs, China's SOA issued its "Regulations on Administrative Licensing for Arctic Exploration Activities" in 2017.<sup>78</sup> This move created a formal system for the management of Chinese Arctic exploration. The document describes the impact of rising Arctic temperatures on global industry, agriculture, natural disaster prevention and management as the basis for its view of the Arctic as being "related to the future development of human society." Using China's view of the Arctic as "an essential area of scientific exploration," these regulations focus on managing expedition licensing and supervision as well as environmental impact assessment for Chinese organizations and legal persons in the Arctic. The SOA deputy director described the regulations as an exercise of both China's internal administrative capability for its Arctic activities but also a contribution to the construction of effective international governance and environmental protection in the Arctic.<sup>79</sup>

<sup>74</sup> Mia Bennett, "How China Sees the Arctic: Reading Between Extra-Regional and Intraregional Narratives," *Geopolitics*, Vol. 20, No. 3, April 2015, pp. 645–668.

<sup>75</sup> The IMO and Polar Code might pose as barriers, but they are relatively low barriers because the Polar Code lacks any enforcement mechanism, meaning China might pay only reputational costs should it choose to ignore the Polar Code.

<sup>76</sup> Trym Aleksander Eiterjord, "Arctic Technopolitics and China's Reception of the Polar Code," *The Arctic Institute*, May 26, 2020.

<sup>77</sup> Camilla T. N. Sorensen and Christopher Weidacher Hsiung, "The Role of Technology in China's Arctic Engagement: A Means as Well as an End in Itself," in Lassi Heininen, Heather Exner-Pirot, and Justin Barnes eds., *Arctic Yearbook 2021: Defining and Mapping the Arctic: Sovereignties, Policies, and Perceptions*, Akureyri, Iceland: Arctic Portal, 2021, p. 8.

<sup>78</sup> Zhao Ning [赵宁], "The Deputy Director of the State Oceanic Administration Interprets the 'Regulations on Administrative Licensing for Arctic Exploration Activities'" [国家海洋局副局长解读《北极考察活动行政许可管理规定》], *State Oceanic Administration* [海洋局网站], September 9, 2017.

<sup>79</sup> Zhao Ning, 2017.

Within the Arctic Council, China seeks to shape its international image as a scientific and moral power by participating in the Arctic Council's six working groups, refraining from openly challenging the status quo, and recognizing the sovereign rights and jurisdiction enjoyed by Arctic countries. In practice, in addition to obtaining information, Arctic Council observers can exert influence on members of international organizations through internal and external activities, thus indirectly participating in the decisionmaking of the organization. Guo Peiqing, professor and executive director of the Institute of Polar Law and Politics at the Ocean University of China, believes the PRC can leverage its active participation as an Arctic Council observer, together with bilateral engagement with the five Arctic states and activities in other international mechanisms, to shape the future Arctic system before the rules and regulations established by the Arctic Council are fully cemented.<sup>80</sup> China's basic premise for active participation in Arctic governance is that, because most of the activities that cause Arctic environmental challenges (e.g., climate change, pollution, shipping, resource extraction) occur outside the Arctic region, their governance must include non-Arctic countries.<sup>81</sup>

In a 2020 article published in *Resources Science* (资源科学), a leading scientific research journal sponsored by the Chinese Academy of Sciences, scholars Chen Yitong and Gao Xiao characterized the Arctic Council as a "regionalist" institution whose governance of Arctic marine resources lacks consideration for "external interests, common interests of mankind, and the overall interests of the ocean," arguing that it is therefore in "urgent need of reform."<sup>82</sup> In terms of governing resources, Chen and Gao recommend that the PRC use its position as a major player in global energy politics to establish an information-sharing mechanism and legally binding safety standard agreement on oil and gas operations in Arctic waters as an alternative to the fragmented existing international mechanisms for Arctic resource regulation.<sup>83</sup> They argue that China can rationalize its legitimate participation in fishing regulation by claiming that historical fishing practices, the basis for allocating most international fishing opportunities, do not exist on the high seas of the Arctic Ocean, making the conservation and management of Arctic marine resources a global interest.<sup>84</sup> Notably, Chen and Gao also recommend that China use its Polar Silk Road partnership with Russia to take advantage of its 2021–2023 chairmanship of the Arctic Council.<sup>85</sup>

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<sup>80</sup> Guo Peiqing [郭培清], "The Nuuk Standard of the Arctic Council and China's Arctic Participation Path [北极理事会的“努克标准”和中国的北极参与之路]," *World Economics and Politics* [世界经济与政治], Vol. 13, 2013.

<sup>81</sup> Guo Peiqing, 2013.

<sup>82</sup> Chen Yitong [陈奕彤] and Gao Xiao [高晓], "The International Mechanism for the Utilization of Arctic Marine Resources and China's Response [北极海洋资源利用的国际机制及中国应对]," *Resources Science* [资源科学], Vol. 42, No. 11, 2020, pp. 2062–2074.

<sup>83</sup> Chen Yitong and Gao Xiao, 2020.

<sup>84</sup> Chen Yitong and Gao Xiao, 2020.

<sup>85</sup> Chen Yitong and Gao Xiao, 2020.

China will likely also seek to strengthen and expand its participation in Arctic governance through less-exclusive, multidimensional channels outside the Arctic Council, such as the IMO and International Arctic Science Committee.<sup>86</sup> In several key areas, such as energy, shipping, and environmental protection, the Arctic Council is but one of many multilateral organizations addressing a given issue, and not even necessarily the most important one. Arctic fishing regulation, for example, is dominated by the UN Food and Agriculture Organization (FAO); Arctic shipping is subject to IMO norms and regulations; and extensions of coastal states' continental shelves require the advice of the UN Commission on the Limits of the Continental Shelf (UNCLCS). In order to enhance its influence in the region's rulemaking, China actively seeks to participate in and shape these organizations' decisions, governing bodies, and decisionmaking processes.

China may seek to "surpass" the Arctic Council by making full use of other international platforms, such as the Svalbard Treaty, UNCLOS, and Polar Code to achieve its Arctic goals.<sup>87</sup> It may also strive to legitimate its right to participate in Arctic governance by establishing a substantive presence in Arctic scientific research, environmental protection, shipping, and fishing and "discovering new identities" as a stakeholder in these fields.<sup>88</sup> China may seek to enhance coordination with observer countries based on a common dissatisfaction with their status in the Arctic Council. Lastly, China can use bilateral diplomacy to help Arctic countries understand its Arctic position, reduce misunderstanding, effectively dilute individual Arctic countries' resistance to Chinese influence, and increase individual Arctic countries' acceptance of China's views.<sup>89</sup>

## Conclusion

Over the past two decades, China has developed an appreciation of the importance of the Arctic and has begun to focus increasingly more attention on the region. Official Chinese documents and authors with links to the Chinese government, CCP, or PLA recognize the region's value for economic activities, such as trade and resource extraction; scientific inquiry focused on climate change; normative rulemaking; and geostrategic military competition. In pursuit of these goals in the Arctic, the PRC has put together a multivector approach to gain, preserve, and develop its access to and influence in the Arctic by leveraging all the tools in its foreign policy toolkit.

With respect to the North American Arctic in particular, as its strategic competition with the United States deepens in the years ahead, it is likely that the PRC will seek to further

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<sup>86</sup> Chen Yitong and Gao Xiao, 2020.

<sup>87</sup> Guo Peiqing, 2013.

<sup>88</sup> Guo Peiqing, 2013.

<sup>89</sup> Guo Peiqing, 2013.

advance its interests. Although by no means the most important geographical region where China seeks to compete with the United States, China's holistic approach to competition means it will likely continue to strive to lay the groundwork necessary to turn the region into a space where it can contest U.S. advantages, force the United States to expend resources, and pose potential challenges for the United States and its allies and partners.

# China’s Presence in the North American Arctic

This chapter examines in detail China’s current and, in some cases, projected presence and activities in the North American Arctic. We searched for four different types of presence and activities: shipping investments, infrastructure development, resource exploitation, and scientific research installations. Figure 3.1 further details what types of activities we searched for under each of these four headings. Overall, we found that China’s presence is fairly limited in the North American Arctic. Some key aspects of Chinese presence in other regions, such as the development and operation of ports and airports, the building of pipelines, or the devel-

**FIGURE 3.1**  
**Working Definition of China’s Arctic Presence**

<p style="text-align: center;"><b>Shipping investments</b></p> <ul style="list-style-type: none"> <li>• Ports</li> <li>• Construction of Chinese icebreakers that will facilitate shipping</li> </ul>	<p style="text-align: center;"><b>Resource exploitation</b></p> <ul style="list-style-type: none"> <li>• Mining and drilling projects in which China participates (including level of development, such as lease, exploration, and extraction)</li> </ul>
<p style="text-align: center;"><b>Infrastructure development</b></p> <ul style="list-style-type: none"> <li>• Military installations</li> <li>• Airports, airfields, runways, hangars, and other storage facilities</li> <li>• Railways</li> <li>• Roads</li> <li>• Large real estate deals</li> <li>• Undersea cables</li> <li>• Pipelines</li> <li>• Connected public services and surveillance technology (e.g., Smart Cities, Safe Cities)</li> <li>• 5G infrastructure</li> </ul>	<p style="text-align: center;"><b>Scientific research installations</b></p> <ul style="list-style-type: none"> <li>• Scientific bases (including, if relevant, seasonal temporary bases)</li> <li>• Observation sites (including space tracking stations for monitoring for satellite operations)</li> </ul>

NOTE: Smart Cities are aimed at automating municipal functions while incorporating surveillance capabilities, while Safe Cities are focused on surveilling the identity and behavior of the population. Both concepts are backed by Chinese-provided technology.

opment of connected public services and surveillance technology, are not present at this time in the North American Arctic. As a result, this chapter examines seven areas that have been found to be of relevance for the region: mining, hydrocarbons, other infrastructure, fisheries, communications, access enablers, and tourism. The first section provides an overview of broad similarities and country-by-country differences in Chinese presence. The second section details specific investments and activities in each of these seven domains.

Not all Chinese investments and activities can be easily mapped. Some are important for their symbolic value and the ambition they suggest. For instance, in 2017, the *Xue Long* icebreaker sailed through the Northwest Passage in a highly symbolic act demonstrating the Passage's potential to become part of China's planned global Arctic Silk Road, connecting China with the Northwest Passage, the Northeast Passage to include Russia's Northern Sea Route, and the Central Arctic Passage.<sup>1</sup> The line between private and state-sponsored Chinese activities in the region is sometimes blurred. Chinese adventurer Zhai Mo's attempted circumnavigation of the Arctic Ocean in a sailboat in the summer of 2021, while nominally a private venture, was heralded by Chinese officials in state media as advancing the Polar Silk Road and received support from government agencies and SOEs.<sup>2</sup> Finally, not all Chinese activities are large, hampering researchers' abilities to identify and track them. In 2020, for instance, the Canadian Northwest Territory Government-Owned Marine Transportation Service, responsible for "bring[ing] critical fuel and other dry good to Arctic coastal and Mackenzie River communities and both the N.W.T. [Northwest Territories] and Nunavut," purchased four much-needed Chinese-built barges.<sup>3</sup>

This chapter does not cover China's investments in non-Arctic—yet sensitive—U.S. or Canadian industries, such as semiconductors or chemicals—as we assume that implications of such investments matter more for the United States and Canada as a whole than to their Arctic regions specifically.

## Overall Regional Trends

Chinese investments demonstrate similarities throughout the North American Arctic. Chinese SOE and private investments have focused on the energy and infrastructure sectors in Alaska, Canada, and Greenland. This is unsurprising given both the North American Arc-

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<sup>1</sup> Office of the Secretary of Defense, 2019, p. 114; and Lanteigne, 2020, p. 316.

<sup>2</sup> Zhai stopped his voyage through the Northwest Passage when Canadian authorities informed him of a ban they had imposed in 2020 on pleasure craft operating in its Arctic waters to protect vulnerable indigenous and communities in the area with limited medical facilities from the spread of the coronavirus disease 2019 (COVID-19). See Trym Eiterjord, "How a Chinese Sailboat Became a Microcosm for Arctic Geopolitics," *The Diplomat*, October 18, 2021; and Mia Bennett, "A Chinese Sailboat Is Circumnavigating the Arctic," *Cryopolitics*, July 1, 2021.

<sup>3</sup> Mackenzie Scott, "Chinese Barges Headed for Canadian Northwest Territories on Cross-Continental Delivery Mission," *CBC News*, July 28, 2020.

tic's underdeveloped infrastructure relative to the European Arctic and its immense energy and infrastructure potential. On one level, at least, Alaska—as distinct from the federal government proper—Canada, and Greenland have all demonstrated a willingness to enhance their economic engagement with China and increase Chinese investments within their territories. The reality, nevertheless, is that few Chinese investment efforts have moved beyond the announcement stages throughout the North American Arctic, the result of what the Center for Naval Analysis has concluded as an effective “screening process” (except in Greenland) but also due to the relatively low current value of certain minerals and operating in the extreme polar climate.<sup>4</sup>

Country-specific differences nonetheless do exist. Of the three entities in the North American Arctic, Greenland has been the most promotive of itself toward Chinese investment. It opened a trade office in Beijing in 2021<sup>5</sup> and continues to seek Chinese money despite repeated—and so far largely successful—efforts by the Danish and American authorities to defeat some of these proposed investments.<sup>6</sup> In December 2021, Greenland opened a diplomatic representation in Beijing, with a particular focus on trade, cultural exchanges, green energy, education, research, and tourism.<sup>7</sup> The purpose of the Beijing office is also to facilitate contacts with other Asian countries, particularly Japan and South Korea.<sup>8</sup>

Canada, historically open to Chinese investments, blocked in 2020 the purchase of TMAC Resources by Shandong Gold Group.<sup>9</sup> This rebuttal of Chinese investment, alongside worsening Chinese-Canadian relations following the December 2018 arrest of Huawei Chief Financial Officer Meng Wanzhou and the likely related Chinese arrest of two Canadians discussed in Chapter Two, could reflect a greater concern for Chinese FDI within the Justin Trudeau government going forward. In 2018, Canada's Parliament passed the Invest Canada Act (further discussed in Chapter Five) to provide the government with the ability to “review and block non-Canadian investments.”<sup>10</sup>

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<sup>4</sup> Joshua Tallis, Mark Rosen, and Cornell Overfield, *Arctic Economic Strategy: Recommendations for Safeguarding Arctic Nations Against China's Economic Statecraft*, Arlington, Va.: Center for Naval Analysis, DRM-2021-U-030377-1Rev, January 2022, pp. ii, 6; Heidi Holz, Andrew Taffer, Anthony Miller, and Benjamin DeThomas, *Exploring the Relationship Between China's Investment in the Arctic and Its National Strategy*, Arlington, Va.: Center for Naval Analysis, DRM-2021-U-030201-1Rev, January 6, 2022, p. iii.

<sup>5</sup> Eilís Quinn, “Greenland Seeks to Boost Profile in China with New Beijing Office,” *Eye on the Arctic*, December 1, 2021.

<sup>6</sup> Jon Rahbek-Clemmensen, “Let's (Not) Make a Deal: Geopolitics and Greenland,” *War On the Rocks*, August 28, 2019.

<sup>7</sup> Quinn, 2021.

<sup>8</sup> Quinn, 2021.

<sup>9</sup> Rebecca Wolfson, Cornell Overfield, Mark Rosen, Benjamin DeThomas, Joshua Tallis, *Arctic Prospecting: Measuring China's Arctic Economic Footprint*, Arlington, Va.: Center for Naval Analysis, DRM-2021-U-030557-1Rev, January 2022, p. 38.

<sup>10</sup> Wolfson et al., 2022, p. 38.

U.S. authorities generally have been the most conservative when it comes to FDI. Nevertheless, Alaska has been identified by various sectors of the Chinese economy as a potentially lucrative source of investment, and Alaskan representatives have sought Chinese interest even when Chinese-U.S. relations remain generally cold. Chinese FDI in Alaska has been dominated by two projects: the Red Dog Mine and the Alaska liquefied natural gas (LNG) project. China's investment in the Red Dog Mine, a major Alaskan employer, through its parent company, Teck Resources, remains minimal; and its efforts to establish a joint LNG pipeline with Alaska were quashed, in July 2019 owing to U.S. national security concerns.<sup>11</sup>

## Chinese Investments and Activities, by Sector

This section examines seven domains in which China has been particularly present in the North American Arctic. These domains are mining, hydrocarbons, other infrastructure, fisheries, communications, access enablers, and tourism.

### Mining

Figure 3.2 shows Chinese companies' mining investments in the North American Arctic. These investments are particularly important in Canada and, to a lesser extent, Greenland. Alaska so far possesses only very limited Chinese investments in the form of a 10-percent stake by the Chinese sovereign wealth fund China Investment Corporation (CIC) in Canadian-based Teck Resources, the parent company of Red Dog Mine.<sup>12</sup>

In the Canadian Arctic, Chinese investment dates back to at least 2008, when Jinduicheng Molybdenum Group purchased Yukon Zinc.<sup>13</sup> Two years later, Jilin Jien Nickel industries, a subsidiary of Zhongze Holding Group Ltd., acquired Canadian Royalties, and CIC purchased a 45-percent stake in the Peace River Oil Partnership (PROP).<sup>14</sup> CIC's investment in PROP effectively gave it control over much of northern Alberta's petroleum industry near the Arctic circle. These acquisitions do not appear to have triggered particular concerns from the Canadian government. A 2021 Brookings study, however, described two out of three of these

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<sup>11</sup> Greg Wolf, "Alaska and China: Ties between the Middle Kingdom and Great Land," *Alaska Business Journal*, February 2019.

<sup>12</sup> Wolf, 2019.

<sup>13</sup> Doshi, Dale-Huang, and Zhang, 2021, p. 40; and Evan Oddleifson, Tom Alton, and Scott Normaniuk, "China in the Canadian Arctic: Context, Issues, and Consideration for 2021 and Beyond," University of Alberta China Institute, January 12, 2021.

<sup>14</sup> Mikaila Adams, "Obsidian Terminates Sale of Peace River Oil Interest," *Oil & Gas Journal*, August 29, 2019; Doshi, Dale-Huang, and Zhang, 2021, p. 40; and Deng Beixi, "Shipping Matters: The Role of Arctic Shipping in Shaping China's Engagement in Arctic Resource Development," in Lassi Heininen and Heather Exner-Pirot, eds., *Arctic Yearbook 2018: Arctic Development in Theory & Practice*, Akureyri, Iceland: Northern Research Forum, 2018, pp. 66–67.

investments as having either “failed” or “failing,” owing to drops in prices for nickel and oil and the costs associated with mining in the Arctic and immediate sub-Arctic.<sup>15</sup> Chinese investments in Canada have suffered from low prices for certain minerals and lack of experience in operating in extreme Arctic and near-Arctic conditions. In 2012, for instance, the Chinese SOE Hebei Iron and Steel Group invested more than \$180 million to acquire 25 percent of the Kami Iron Ore Project in Labrador. According to a University of Alberta study, the investment effectively “imploded” in April 2020 because of the low value of iron ore for much of the 2010s, a lack of other international investors, and financial difficulties of the Canadian

**FIGURE 3.2**  
**Map of Chinese Mining Investments and Activities in the North American Arctic**



SOURCES: Data drawn from various sources as detailed in Appendix C.

<sup>15</sup> Doshi, Dale-Huang, and Zhang, 2021, p. 40.

mining company that operated the project.<sup>16</sup> In November 2020, the operation was sold to Champion Iron for \$15 million.<sup>17</sup> Another joint Chinese-Canadian mineral venture in Labrador Trough, Canada, the Lac Otneluk Iron mine, defaulted in 2019.<sup>18</sup>

However, some investments have been more successful. In 2013, Zhongze Holding Group Ltd., through its controlling stake in Canadian Royalties, invested in the Nunavik Nickel Mine.<sup>19</sup> That year, it shipped some 23,000 tons of nickel concentrate.<sup>20</sup> Another example is CIC's purchase in 2009 of a stake in Teck Resources, which operates Red Dog Mine.<sup>21</sup> MMG Ltd. is another Chinese state-linked company involved in mining in the Canadian Arctic. In 2011, MMG invested in Izok and High Lake zinc and copper deposits, and supported the development of the Grays Bay Road and Port Project—a large infrastructure project that would connect these deposits to the Northwest Passage. The Grays Bay Road and Port project was halted in 2013 owing to a lack of Canadian investor interest and the relatively low price in minerals in the area relative to the cost of extracting them. In 2019, however, the Canadian National Trade Corridors Fund pledged CAD\$21.5 million to the project, following another pledge by Nunavut Tunngavik, Inc., of CAD\$7.5 million.<sup>22</sup> As of 2022, the project was experiencing delays but was otherwise moving ahead.<sup>23</sup>

In Greenland, Beijing's most promising investment to date—the Kvanefjeld/Kuannersuit REE project—has been beset with delays owing to a drop in REE values and environmental concerns in Greenland and has now effectively halted as a result of the April 2021 Greenlandic election. A small Australian mining company, Greenland Minerals Ltd., began the project in 2007. Two Chinese enterprises—China Nonferrous Metal Industry's Foreign Engineering and Construction Co., Ltd. (NFC), and the mining company Shenghe Resources—have been involved in its development. In a deal struck in 2016, Shenghe, whose largest shareholder is a Chinese state-run mineral research institute, bought 12.5 percent of the shares in Green-

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<sup>16</sup> Oddleifson, Alton, and Romaniuk, 2021.

<sup>17</sup> Tijana Mitrovic, "Champion Iron Set to Acquire Kami Iron Ore Project," *CIM Magazine*, November 18, 2020.

<sup>18</sup> Holz et al., 2022, p. 30.

<sup>19</sup> Wolfson et al., 2022, p. 27.

<sup>20</sup> Levon Sevunts, "China's Arctic Road and Belt Gambit," *Radio Canada International*, October 3, 2017.

<sup>21</sup> Mark E. Rosen and Cara B. Thuringer, *Unconstrained Foreign Direct Investment: An Emerging Challenge to Arctic Security*, Arlington, Va.: Center for Naval Analyses, COP-2017-U-015944-1Rev, November 2017, p. 75.

<sup>22</sup> Northwest Territories and Nunavut Chamber of Mines, "Grays' Bay Road and Port a 'Game Changer' for Nunavut and Izok Corridor," in *Northern Mining News*, chamber newsletter, Vol. 13, No. 8, August 14, 2019; Jimmy Thomson, "Canadian Taxpayers on Hook for \$61 Million for Road to Open Up Mining in Arctic," *The Narwhal*, August 15, 2019.

<sup>23</sup> David Lohead, "Assessment Halts for Grays Bay Road and Port After KIA Misses Deadline," *Nunatsiaq News*, February 24, 2022.

land Minerals, and the two companies agreed that Shenghe could buy up to 60 percent.<sup>24</sup> The Kvanefjeld/Kuannersuit site is believed to hold one of the world's largest deposits of REE and is also important from a national security standpoint, because it is believed to host major uranium deposits—the world's sixth largest by some estimates.<sup>25</sup> However, the government that came to power in the April 2021 Greenlandic elections halted the project over environmental concerns (see Chapter Five).<sup>26</sup>

Chinese mining company General Nice Group's 2015 acquisition of the Isua Iron Ore Field is another example of these generally unsuccessful Chinese investment in Greenland due to the uneconomical price of such minerals as iron ore, nickel, and zinc relative to the cost of mining in the extreme north for much of the 2010s.<sup>27</sup> A 2018 Arctic Institute assessment concluded that its "feasibility still need[ed] to be verified and, due to the high cost" in Greenland's extreme climate, "the deal seems to be unprofitable."<sup>28</sup> A 2022 Center for Naval Analysis assessment noted that the project technically is "ongoing," but could not provide any additional details.<sup>29</sup>

In Greenland, for the Citronen Fjord project, the China Nonferrous Metal Mining Group Company (CNMC) is partnering with Ironbark, an Australian mining firm.<sup>30</sup> Chinese mining activities in Alaska are much more limited than in Canada and Greenland. In 2009, CIC purchased a stake in Teck Resources, the parent company of the Red Dog Mine, which is focused on zinc mining.<sup>31</sup> In a separate transaction, Kensington Mine reached an agreement with Chinese SOE China National Gold Group to supply it with an estimated 50 percent of all gold produced at the mine.<sup>32</sup>

<sup>24</sup> Marco Volpe, *The Tortuous Path of China's Win-Win Strategy in Greenland*, Washington, D.C.: Arctic Institute Center, March 24, 2020.

<sup>25</sup> Yang Jiang, Aki Tonami, and Adam Moe Fejerskov, *Chinese Overseas Investment in Critical Infrastructure: Nuclear Power and Telecommunications*, Copenhagen, Denmark: Danish Institute for International Studies, 2016, p. 15.

<sup>26</sup> Wolfson et al., 2022, p. 12.

<sup>27</sup> Rosen and Thuringer, 2017, pp. 24, 58; and Yun Sun, *The Intricacy of China's Arctic Policy*, Washington, D.C.: Stimson Center, August 27, 2018a, p. 12.

<sup>28</sup> Volpe, 2020.

<sup>29</sup> Holz et al., 2022, p. 30.

<sup>30</sup> Dosh, Dale-Huang, and Zhang, 2021, p. 41; Sørensen, 2018, p. 48; Wilson Center Arctic Infrastructure Inventory, "Citronen Fjord Project," webpage, undated-a; Patrik Andersson, Jesper Willaing Zeuthen, and Per Kalvig, "Chinese Mining in Greenland: Arctic Access or Access to Minerals?" in Lassi Heininen and Heather Exner-Pirot, eds., *Arctic Yearbook 2018, Special Section: China & the Arctic*, Akureyri, Iceland: Northern Research Forum, November 2018, pp. 110–111; and Yang Jiang, "China in Greenland: Companies, Governments, and Hidden Intentions?" Danish Institute for International Studies, October 28, 2018.

<sup>31</sup> Rosen and Thuringer, 2017, p. 75; and Teck Resources Ltd., Annual Information Form, Vancouver, B.C., February 26, 2020, pp. 18, 99.

<sup>32</sup> Wolf, 2019.

## Hydrocarbons

Chinese attempts to invest in hydrocarbons in the North American Arctic are limited by Chinese companies' inability to undertake offshore extraction in the Arctic, and efforts to develop onshore operations have been unsuccessful to date.<sup>33</sup> In 2017, Alaska Governor Bill Walker signed an MOU with China to fund the establishment of an Alaskan LNG pipeline operation. Specifically, it involved the Bank of China, China Petroleum and Chemical Corporation (Sinopec), and CIC. Chinese involvement in the Alaska LNG project was quashed, however, in July 2019 when the U.S. government voiced its national security concerns. As of early 2022, Alaska LNG project proponents were pursuing new backers for the project to move forward.<sup>34</sup>

CNPC is also an investor in the Shell-led LNG Canada project, an ongoing major LNG program based in British Columbia, suggesting that China might consider expanding its LNG investments into Canada in the future.<sup>35</sup> In 2013, the China National Offshore Oil Corporation (CNOOC) purchased Nexen, a Canadian offshore petroleum firm, for \$15.1 billion.<sup>36</sup> In 2019, Nexen became CNOOC Petroleum North America, which, along with the PROP, gives Chinese SOEs significant investment leverage over oil fields in northern Alberta.<sup>37</sup>

## Other Infrastructure

In 2015, Greenland entered negotiations with Sinohydro, China State Construction Engineering, and the China Harbour Engineering Company (CHEC) about upgrading much of the dependency's outdated infrastructure, including airports, seaports, and power. It is unknown what, if anything, actually came of these discussions.<sup>38</sup> What is known, however, is that China repeatedly failed to or was blocked from pursuing several infrastructure projects. In 2016, General Nice Group sought to buy an abandoned naval base that had originally been built in 1942 by the United States at Grønnedal (Kangilinnguit) in southwestern Greenland. The deal fell through when the Danish government—supported by a large majority of the Danish

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<sup>33</sup> Christopher Weidacher Hsiung, "The Emergence of a Sino-Russian Economic Partnership in the Arctic?" in Sanna Kopra, ed., *The Arctic Institute's China Series 2020*, Washington, D.C.: The Arctic Institute, 2020, p. 25.

<sup>34</sup> Wolf, 2019; Ashley Feng and Sagatom Saha, "China's Arctic Ambitions in Alaska," *The Diplomat*, April 20, 2018; "Alaska Scraps Plan to Partner with China on Major Natural Gas Project over Fears of 'Risks to the State,'" *South China Morning Post*, July 28, 2019.

<sup>35</sup> Wenran Jiang, *China's LNG Market: Past, Present and Future*, Calgary, Canada: Canadian Global Affairs Institute, August 2019.

<sup>36</sup> Rosen and Thuringer, 2017, p. 74.

<sup>37</sup> CNOOC, "Canada," webpage, undated-a; Deborah Jaremko, "Nexen Name to Disappear as Subsidiary Absorbed into CNOOC International," *JWN*, January 16, 2019.

<sup>38</sup> Doshi, Dale-Huang, and Zhang, 2021, p. 41.

Parliament—decided that it would use the base again for storage and training instead.<sup>39</sup> In another instance, already mentioned in Chapter One, in 2017, Greenland's then–prime minister flew to Beijing to raise interest in potential Chinese investment to build three new airports. In May 2018, then–U.S. Secretary of Defense Jim Mattis informed Danish Defense Minister Claus Frederiksen of the strong U.S. objections to Chinese SOEs being permitted to invest in Greenland airport expansion plans. After a series of discussions—and the collapse of Greenland's ruling coalition government due to the loss of its parliamentary majority over the issue—Denmark agreed to pay for two of the three proposed airports, and Greenland agreed to pay for the third. The United States also offered to contribute to the costs.<sup>40</sup> China does not appear to have had more luck with its projects to develop scientific installations in Greenland. In 2016, Greenland and the Polar Research Institute of China signed an MOU to increase their scientific cooperation, but China's plans to establish a research station in the mold of its Ny-Ålesund station in Svalbard, either in the Northeastern National Park near the Danish military base Station Nord or near the capital, Nuuk, appear to have gone nowhere.<sup>41</sup>

There have been some small infrastructure successes, however. As discussed earlier, a Chinese company won the contract to provide barges for the Northwest Territories' government. Recently, MMG has received some Canadian parliamentary support for realizing its Grays Bay and Road Project.

## Fisheries

China is a signatory to CAOFA, which was signed in 2018 and entered into force in June 2021. This agreement will hold for 16 years, until 2037, at which time it will automatically extend for another five years unless one of the parties to the agreement objects.<sup>42</sup> Its purpose is to prevent any country from fishing in the high seas portion of the central Arctic Ocean until a joint scientific program (also set up by the agreement) can provide additional information on the region's ecosystems and the sustainability of potential fisheries.<sup>43</sup> Although there do not appear to be any Chinese fishing vessels present in the Arctic, their presence in the Antarctic suggests that at least part of China's fishing fleet possesses the ability to operate in

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<sup>39</sup> Ties Dams, Louise Van Schaik, Adája Stoetman, *Presence Before Power: China's Arctic Strategy in Iceland and Greenland*, Amsterdam, Netherlands: Clingendael, June 2020, p. 34; Erik Matzen, "Denmark Spurned Chinese Offer for Greenland Base Over Security: Sources," Reuters, April 6, 2017.

<sup>40</sup> Drew Hinshaw and Jeremy Page, "How the Pentagon Countered China's Designs on Greenland," *Wall Street Journal*, February 10, 2019; Martin Breum, "How a Dispute Over China and Greenland's Airports Worked Its Way Toward a Solution," *Arctic Today*, June 30, 2018.

<sup>41</sup> Gad et al., 2018, p. 152.

<sup>42</sup> European Commission (EC), "Arctic: Agreement to Prevent Unregulated Fishing Enters Into Force," news announcement, Directorate-General for Maritime Affairs and Fisheries, webpage, June 25, 2021. Other signatories are Canada, Denmark, the EU, Iceland, Japan, Norway, the Republic of Korea, Russia, and the United States.

<sup>43</sup> EC, 2021.

polar conditions.<sup>44</sup> Meanwhile, several studies show that various fish species have the potential to move from the sub-Arctic region to the Arctic or to expand in the Arctic, as a result of climate change; the Bering Sea, in particular, might attract more commercial fishing.<sup>45</sup> Whether these species, and their numbers, would be sufficiently attractive to China to seek to end to the moratorium and open negotiations, instead, on an Arctic fisheries management system, is unknown at this point.

China so far has not substantively invested in the Greenlandic fishing industry, which constitutes 90 percent of Greenland's commodity exports by one estimate.<sup>46</sup> It is, however, a major importer of Greenlandic fish. Royal Greenland, the controlling company of Greenland's fishing industry, has begun accepting very small numbers of seasonal workers from China and the Philippines to assist in fish processing plants, which are under pressure to find additional labor.<sup>47</sup> China also plays an important role in the Alaskan fishing industry, as locally caught fish is often processed in China before it is sold.<sup>48</sup> Seafood is Alaska's first export, and sales to China reached an estimated at \$1 billion before increased tariffs imposed in 2019 by the United States on China incentivized China to search for other suppliers.<sup>49</sup> Although it is not clear whether China plays any role in Canadian fisheries, it is once again an important trade partner in this sector, accounting for 18 percent (in value) of Canadian fish and seafood exports in 2019.<sup>50</sup>

<sup>44</sup> Chinese krill fishing in the Antarctic, in particular, doubled between 2019 and 2020 and is expected to continue increasing. See "Licence to Krill: The Destructive Demand for a 'Better' Fish Oil," *The Guardian*, September 7, 2021; Global Fishing Watch, map search for January 2021–February 2022, undated; Krill fishing, however, is much lower in the Arctic overall and is closely regulated in Alaskan waters (see Margaret M. McBride, Padmini Dalpadado, Kenneth F. Drinkwater, Olav Rune Godø, Alistair J. Hobday, Anne B. Hollowed, Trond Kristiansen, Eugene J. Murphy, Patrick H. Ressler, Sam Subbey, Eileen E. Hofmann, Harald Loeng, "Krill, Climate, and Contrasting Future Scenarios for Arctic and Antarctic Fisheries," *ICES Journal of Marine Science*, Vol. 71, No. 7, 2014, p. 1941).

<sup>45</sup> McBride et al., 2014, pp. 1945–1948; Caitlyn Kennedy, "Warming Waters Shift Fish Communities Northward in the Arctic," NOAA Climate.gov, webpage, December 11, 2015.

<sup>46</sup> Volpe, 2020.

<sup>47</sup> Mia Bennett, "China Sends Seven Workers to Greenland to Process Fish," *Cryopolitics*, webpage, June 1, 2017; Royal Greenland, "From China to Greenland," webpage, undated; and Marie Prelsler, "Greenland Needs New Jobs and Foreign Labour," *Nordic Labour Journal*, October 20, 2019.

<sup>48</sup> Steve Bittenbender, "Alaska Lawmakers Urge Officials to Remove US-Caught China-Processed Seafood from Tariff List," *Seafood Source*, May 31, 2019; Craig A. Morris, "A Tale of a Fish From Two Countries," U.S. Department of Agriculture, blog post, February 21, 2017.

<sup>49</sup> Laine Welch, "Alaska Lawmakers Want Congressional Delegation to Target Russia and China Over Tariffs and Bans," *Anchorage Daily News*, February 1, 2022; Dermot Cole, "Alaska's Seafood Industry Continues to Suffer From the US-China Trade War," *Arctic Today*, August 12, 2019.

<sup>50</sup> Government of Canada, *Canada's Fish and Seafood Trade with the People's Republic of China, 2019*, Ontario, Canada: Economics, Statistics, and Data Governance Directorate, Strategic Policy Sector, Fisheries and Oceans Canada, 2021.

Overall, although China's fishing vessels are thus not present in the Arctic, China is a substantial actor in the fishing industry of the North American Arctic, either as buyer, element of the supply chain, or—more anecdotally, given the small numbers involved—labor supplier.

## Communications

In addition to physical infrastructure, China has also prioritized building up digital telecommunications and space-based infrastructure and architectures in recent years. Yet China's attempts at entering North American Arctic telecommunications have been met with mixed success to date. In the United States, the Secure Equipment Act, signed into law in late 2021, prohibits companies deemed to pose an unacceptable risk to U.S. national security from inserting equipment into U.S. telecommunications networks. In 2019, five Chinese communication companies, including Huawei and ZTE Corporation, were named by the Federal Communications Commission (FCC) as posing such a risk.<sup>51</sup> This law effectively prohibits Huawei and the four other companies from developing or contributing to communications networks in Alaska.

In Canada, China has been partnering with Canadian companies to build high-speed internet access in Yukon, the Northwest Territories, and Nunavut, with agreements on third-generation (3G) in 2012 and fourth-generation (4G) in 2019, despite tensions around the Meng Wanzhou case.<sup>52</sup> As of early 2022, Canada was the only member of the Five Eyes (i.e., the intelligence-sharing agreement comprising Australia, Canada, New Zealand, the United Kingdom [UK] and the United States) that still had not formally excluded Huawei from its fifth-generation (5G) wireless network—although, in practice, uncertainty about a potential ban has pushed Canadian operators to choose other companies.<sup>53</sup> A formal ban may also be more likely after Beijing's release of Canadian citizens Michael Kovrig and Michael Spavor in 2021.<sup>54</sup>

In 2016, the Greenlandic government's wholly owned telecommunications provider—the sole provider in the country—partnered with Huawei to install a 100-gigabyte submarine telecommunications cable between remote villages in Greenland.<sup>55</sup> In December 2019, how-

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<sup>51</sup> David Shepardson, "Biden Signs Legislation to Tighten U.S. Restrictions on Huawei, ZTE," Reuters, November 11, 2021.

<sup>52</sup> Jeremy Luedi, "Northern Canada Could Be Left Out in the Cold if Ottawa Passes Huawei 5G Ban," opinion, CBC News, March 2, 2020; Steve Scherer, "Despite Canada-China Tensions, Huawei Announces Plan to Bring Internet to Remote Arctic Communities," Reuters, July 24, 2019.

<sup>53</sup> J. Michael Cole, "Canada's Huawei Decision Will Be a Moment of Reckoning for the Country," opinion, *Globe and Mail*, December 29, 2021; David Ljunggren, "Canada Has Effectively Moved to Block China's Huawei from 5G, but Can't Say So," Reuters, August 25, 2020.

<sup>54</sup> "China's Ambassador Warns That Banning Huawei from 5G Would Send 'A Very Wrong Signal,'" Radio Canada International, December 7, 2021; Ljunggren, 2020.

<sup>55</sup> Wolfson et al., 2022, p. iii.

ever, the government chose Sweden's Ericsson over China's Huawei to install 5G wireless services.<sup>56</sup>

Outside Greenland, Chinese companies do not appear to be involved in the various projects underway to lay fiber-optic cable on the North American Arctic sea floor. The most recent of these projects, Far North Fiber, aims to connect Japan to Europe via Alaska and the Northwest Passage. The company in charge of developing the project is based in Alaska and works with Finnish and Canadian partners.<sup>57</sup> A much older project is Arctic Fibre, designed to connect London to Tokyo via the Northwest Passage. It was initially planned to be operational by 2016, but the project's owner, Alaska-based Quintillion, has been plagued by legal and financial issues.<sup>58</sup> By late 2019, it had completed the initial link in northern Alaska, but it is unclear whether other links will be completed.<sup>59</sup> A third project of interest is the Ivaluk Network, a Canada-only cable project designed to bring high-speed internet to a total of 40 remote northern communities in Nunavut and Nunavik.<sup>60</sup> As of the time of writing, only the existing Eastern Arctic Undersea Fibre Optic Network (EAUFON) of the proposed Ivaluk Network exists. It was laid by Alcatel Submarine Networks, a subsidiary of Finnish-based Nokia.<sup>61</sup>

China has some degree of involvement, however, in satellite networks relevant for the Arctic. In 2019, it launched the *Jingshi 1 (Ice Pathfinder)* satellite to monitor ice conditions on Arctic maritime routes. The satellite "is able to cover the entire Arctic every seven days," while a new satellite to be launched in 2022 will be able to do so every 48 hours.<sup>62</sup> In late 2020, Sun Yat-Sen University and the Chinese Academy of Space Technology announced the joint development and launch of China's first Arctic waterway monitoring satellite planned for

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<sup>56</sup> Jacob Gronholt-Pedersen, "Greenland Chooses Ericsson over Huawei for 5G Rollout," Reuters, December 19, 2019b; Zazithorn Ruengchinda, "Greenland Telecom Network Chose Swedish Ericsson to Supply 5G Equipments," *Scandasia*, December 23, 2019.

<sup>57</sup> Krestia DeGeorge, "A New Arctic Fiber Project Aims to Link Asia and Europe Via the Northwest Passage," *Arctic Today*, December 22, 2021.

<sup>58</sup> Michael Delaunay, "The Arctic: A New Internet Highway?" briefing note, in Lassi Heininen, Heather Exner-Pirot, and Joel Plouffe, eds., *2014 Arctic Yearbook*, Akureyri, Iceland: Northern Research Forum, 2014; Elizabeth Buchanan, "Sea Cables in a Thawing Arctic," *The Interpreter*, February 1, 2018; and Wilson Center, "Arctic Communications and Data Infrastructure: Quintillion's Solution for North America," virtual discussion, December 14, 2020. See also Juha Saunavaara, "Arctic Subsea Communications Cables and the Regional Development of Northern Peripheries," *Arctic and the North*, Vol. 32, 2018, pp. 51–67.

<sup>59</sup> Austin Carr, "The Billion-Dollar High-Speed Internet Scam," *Bloomberg Businessweek*, October 8, 2019; and Casey Grove, "Charges: Ex-Quintillion CEO Duped Investors in Arctic Broadband Project," *Alaska Public Media*, April 12, 2018.

<sup>60</sup> Delaunay, 2014, p. 4.

<sup>61</sup> Submarine Cable Map, "Eastern Arctic Undersea Fibre Optic Network (EAUFON)," last updated August 4, 2022.

<sup>62</sup> Malte Humpert, "China to Launch Satellite to Monitor Arctic Shipping Routes," *High North News*, December 8, 2020.

2022. It will include a synthetic aperture radar that will be able to conduct repeated observations every two days in most areas of the Arctic, monitor global climate change and the melting of Arctic Sea ice in real time, and realize global data-sharing. One of the lead developers noted that the satellite “has global observation capabilities, but our focus is on Arctic Sea ice changes.”<sup>63</sup>

Additionally, a 2020 article in *China Engineering Science* noted that “the BeiDou satellite navigation system has been widely used in polar regions,”<sup>64</sup> and suggested the development and deployment of Arctic observation, communication, and navigation equipment by 2035. This effort, the authors suggested, would include Arctic Ocean observation and environmental forecasting technology; polar navigation technology; polar telecommunications technology; polar icebreaking scientific research ships; ice-buoys, unmanned under-ice submersibles and under-ice gliders; polar ice load prediction technology; and a polar LNG fleet.<sup>65</sup> That same year, the Beihai navigation support center of the Ministry of Transport tested the capability of domestic short-wave communication for supporting transit through the Northern Sea Route. The tests evaluated the feasibility of building an Arctic support radio system and studied the signal coverage of the BeiDou satellite navigation system in the Arctic to provide data support for the BeiDou system to join with the global maritime distress and safety system.<sup>66</sup>

Researchers from Beijing Normal University engaged with scientists and telecommunications managers in Greenland to attempt to initiate construction of a BeiDou satellite monitoring station at near Nuuk in 2017—however, the Greenlandic authorities never approved the project.<sup>67</sup> The Inuvik satellite station in Canada is another ground installation that supports China’s Arctic data collection—in this case, hosting antennas that receive information

<sup>63</sup> Yang Shuxin [杨淑馨], “Arctic Waterway Monitoring Scientific Experiment Satellite Plans to Launch in 2022 [北极航道监测科学试验卫星计划2022年发射],” *Xinhua* [新华网], December 2020; Sørensen and Weidacher Hsiung, 2021, p. 8.

<sup>64</sup> BeiDou is the name of the Chinese navigation satellite system. Yu Liwei [于立伟], Wang Junrong [王俊荣], Wang Shuqing [王树青], and Li Huajun [李华军], “Research on the Development Strategy of Polar Equipment Technology in China [我国极地装备技术发展战略研究],” *China Engineering Science* [中国工程科学], 2020, Vol. 22, No. 6, pp. 84–93.

<sup>65</sup> Yu Liwei et al., 2020.

<sup>66</sup> Zhou Runjian [周润健], “China Will Conduct Shortwave Communications Support Testing on the Northeast Passage of the Arctic [中国将对北极东北航道进行短波通信保障测试],” *Xinhua* [新华网], September 2019. As discussed in Chapter Three of Almén and Weidacher Hsiung, 2022, China has undertaken limited space cooperation Sweden, where Beijing presently owns and operates an antenna that supports satellite communications, and is also member of the scientific association that operates the European Incoherent Scatter Scientific Association (EISCAT) 3D space tracking radar antenna in Norway, Sweden, and Finland.

<sup>67</sup> Email exchange with Danish defense expert Camilla T. N. Sørensen, March 29, 2022. See also Jichang Lulu, “Greenland: China Discreetly Launches Satellite Ground Station Project,” blog post, December 14, 2017.

on ocean surface winds and waves from the joint Chinese-French Oceanography Satellite (CFOSAT).<sup>68</sup>

## Access Enablers

By *access*, we mean Chinese investments or activities that improve Beijing's ability to operate in the Arctic.<sup>69</sup> This section examines three types of access enablers: ice-capable vessels, submarines, and scientific research activities that can support access, such as seabed mapping, research into ice conditions, and meteorological research.

China has had a polar-class icebreaker, the Ukrainian-built *Xue Long (Snow Dragon) 1*, since 1994. In September 2018, it launched its second polar-class icebreaker, the *Xue Long 2*, built this time in China.<sup>70</sup> In late 2021, China announced the commissioning of a third heavy icebreaker, planned to be operational in 2025, and stated that it will also commission a heavy lift vessel that will be used both for transport and for rescuing other vessels in the Arctic.<sup>71</sup> China also possesses a small fleet of icebreakers, the Haibing class, to clear ice in Bohai Bay and the Yellow Sea. With a 7,000-mile range, these icebreakers would require refueling, but could be used in the Arctic or near-Arctic in collaboration with a refueling ship.<sup>72</sup> China has also expressed interest in developing a nuclear-powered icebreaker—a capability that only Russia has today.<sup>73</sup>

Another means of access to the Arctic, for China, could be submarines. Anne-Marie Brady notes that although China's Type 094 Jin-class SSBNs and Yuan-class S20 diesel-electric attack submarines are capable of operating in the Arctic, the Shang-class (93-T) nuclear-powered attack submarines (SSNs) might be the assets of choice for that particular geographic area.<sup>74</sup> Operating under the Arctic ice presents numerous advantages for submarines—they cannot be detected from space, and “hydrographic and electromagnetic environments reduce the effectiveness of current antisubmarine warfare capabilities.”<sup>75</sup> Other authors recognize

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<sup>68</sup> Peter Wood, Alex Stone, and Taylor A. Lee, *China's Ground Segment: Building the Pillars of a Great Space Power*, Montgomery, Ala.: Air University China Aerospace Studies Institute, March 1, 2021, p. 74; and Government of France, Centre National D'études Spatiales, “CFOSAT (China-France Oceanography SATellite),” webpage, undated.

<sup>69</sup> Although technically a form of access, communications are discussed in a separate subsection in this chapter.

<sup>70</sup> Ekaterina Uryupova, “What Does China's New Heavy Icebreaker Mean?” *Polar Journal*, November 27, 2021.

<sup>71</sup> Polina Leganger Bronder, “China to Build Its Third Icebreaker,” *Barents Observer*, December 10, 2021.

<sup>72</sup> Holz et al, 2022, p. 19.

<sup>73</sup> Sørensen and Weidacher Hsiung, 2021, p. 6.

<sup>74</sup> Anne-Marie Brady, *China as a Polar Great Power*, Washington D.C., and Cambridge, UK: Woodrow Wilson Center Press and Cambridge University Press, 2017, p. 83.

<sup>75</sup> Holz et al., 2022, p. 5. See also Brady, 2017, p. 84.

that “nuclear deterrence, sea-denial, commerce defense, and political leverage have all been held out by commentators as broad strategic objectives achievable with an Arctic submarine presence.”<sup>76</sup> Although acknowledging the risks that such a presence would create, these authors however also highlight the costs to China of diverting assets that are more useful elsewhere, in a region where harsh conditions make these assets particularly difficult to operate. As a result, the deployment of Chinese submarines in the Arctic appears fairly unlikely in the near future, unless Beijing chose either to elevate the Arctic in its overall strategy or to use it to make a political statement about China’s growing capabilities.<sup>77</sup>

In 2018, a Danish Defense Intelligence Service risk assessment noted that “the PLA is making efforts to strengthen its knowledge of the Arctic.”<sup>78</sup> China’s ability to contribute to Arctic science represents not only a means of physical access to the region, but also access to its governance mechanisms, because, as Brady recalls, “in the Arctic, having a significant Arctic scientific program was one of the key factors that the Arctic Council considered in 2013 when debating which new states could have observer status.”<sup>79</sup> China’s polar research has benefited from a broader increase in state funding for scientific activities and has experienced what this author calls “a series of quantum leaps” since 2005.<sup>80</sup> In 2018 alone, China has undertaken nine Arctic research expeditions to collect information on “physical oceanography, marine meteorology, sea ice, marine chemistry, marine biology, marine ecology, and geophysics in the Bering Sea, Chukchi Sea, Chukchi Plateau, Mendeleev Ridge, and Canada Basin.”<sup>81</sup> In these endeavors, it has used—and gained experience in—unmanned ice stations and autonomous underwater gliders to gather scientific data.<sup>82</sup> China has also been able to gather further data from its polar observation satellite, which undertook its first Arctic mission in 2021.<sup>83</sup> All of these technological capabilities have potential military uses in addition to civilian ones.<sup>84</sup> Ocean floor mapping and the study of underwater acoustics are critical, for instance, for sending submarines in the region.<sup>85</sup> Similarly, China’s research stations in the Arctic (and in Antarctica) contribute to supporting its space program.<sup>86</sup> China’s Polar

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<sup>76</sup> Lajeunesse and Choi, 2021, p. 2.

<sup>77</sup> Lajeunesse and Choi, 2021, pp. 22–23.

<sup>78</sup> Cited in Camilla T. N. Sørensen, “China As (Near-) Arctic Great Power—Drivers and Perspectives,” ThinkChina.dk Policy Brief, University of Copenhagen, 2019, pp. 4–5.

<sup>79</sup> Brady, 2017, p. 104.

<sup>80</sup> Brady, 2017, p. 155 and pp. 163–166.

<sup>81</sup> Holz et al., 2022, pp. 6, 16, 20–21.

<sup>82</sup> Sørensen and Weidacher Hsiung, 2021, p. 6; Brady, 2017, pp. 151–152.

<sup>83</sup> Sørensen and Weidacher Hsiung, 2021, p. 6; Brady, 2017, pp. 151–152.

<sup>84</sup> Sørensen and Weidacher Hsiung, 2021, pp. 10–11; U.S. Department of State, “Military-Civil Fusion and the People’s Republic of China,” May 2020.

<sup>85</sup> Brady, 2017, p. 84.

<sup>86</sup> Brady, 2017, p. 107.

Research Institute proposed establishing a research station, akin to its Ny-Ålesund station in Svalbard, either near a Danish military base or Nuuk—however, as of early 2022, the status of this project remains unclear.<sup>87</sup> The University of Alaska Fairbanks' International Arctic Research Center also has an agreement with the Chinese Academy of Sciences to promote scientific collaboration between the two institutions.<sup>88</sup>

TTX participants agreed that the Chinese could establish temporary or semipermanent ice stations on ice floes to build a maritime Polar Silk Road. This effort could include anchoring an icebreaker along a stable ice floe and drift with it. This might diminish the need for access to land stations, although some might be needed to sustain and maritime operations at these great distances.<sup>89</sup> The development of long-endurance uncrewed systems could also dramatically change the nature of Chinese and other countries' presence and activities in the Arctic. The Chinese autonomous underwater glider (*haiyi*) and other emerging marine technologies could offer innovative and cost-effective ways to pursue ocean observation and other interests in the Arctic.<sup>90</sup>

## Tourism

Arctic scholar Mia M. Bennett has articulated how the Chinese government conceives of tourism not simply as the export of tourists to destinations but as something that is enshrined in China's Arctic Policy's conceptualization of "tourism resources"—that is, taking advantage of "a country's natural, cultural, and recreational resources" that can open up lucrative Chinese investment opportunities.<sup>91</sup> This approach—as well as the fact that, prior to the COVID-19 pandemic, Chinese nationals represented the largest contingent of tourists worldwide—suggests that this domain might play an important role in China's presence in the Arctic and the degree of influence it can derive from that presence.<sup>92</sup>

Alaska welcomes large numbers of Chinese tourists every year to Anchorage and Fairbanks. Fairbanks has enjoyed so much Chinese popularity with its northern lights-related activities that it has even established a China-specific marketing campaign.<sup>93</sup> A number

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<sup>87</sup> Gad et al., 2018, p. 17; email exchange with Danish defense expert Camilla T. N. Sørensen, March 29, 2022.

<sup>88</sup> Liz Bowman and Quingchao Xu, *China in the Arctic: Policies, Strategies, and Opportunities for Alaska*, Fairbanks, Alaska: Center for Arctic Policy Studies, University of Alaska, February 2020, p. 19.

<sup>89</sup> Discussions with TTX participants.

<sup>90</sup> Sørensen and Weidacher Hsiung, 2021, p. 6.

<sup>91</sup> Mia M. Bennett and Benjamin Lucca Iaquinto, "The Geopolitics of China's Arctic Tourism Resources," *Territory, Politics, Governance*, 2021, pp. 2–3.

<sup>92</sup> Bennett and Lucca Iaquinto, 2021, p. 1.

<sup>93</sup> Deb Hickock and Scott McCrea, "Explore Fairbanks Signs Contract with Tourism Marketing Firm for Representation in China," webpage, Explore Fairbanks, May 24, 2018; Michelle Theriault Boots, "Beautiful Impression: Chinese Tourism to Alaska is Growing Fast," *Anchorage Daily News*, July 6, 2019.

of China and Hong Kong-based carriers operate flights between China and U.S. cities via Anchorage.<sup>94</sup>

Arctic cruising has become particularly popular, although the Svalbard Archipelago is the primary destination, with Greenland and the Canadian Arctic attracting fewer voyages. In 2017, for instance, 1,199 passengers cruised through the Northwest Passage—a fairly small number, but representing a sharp increase compared with 2008 (214 passengers).<sup>95</sup> Numbers of tourists and cruises will likely increase as more-polar-capable ships are being built for that purpose—some of them by Chinese companies.<sup>96</sup>

## Conclusion

This chapter shows that in all seven areas examined—mining, hydrocarbons, other infrastructure, fisheries, communications, access enablers, and tourism—Chinese activities appear to be fairly limited in the North American Arctic. Some key aspects of Chinese presence in other regions, such as the development and operation of ports and airports, the building of pipelines, or the development of connected public services and surveillance technology, are not present at all. This suggests that China, while increasingly interested in playing a role in Arctic matters, is only present at a nascent stage in this part of the Arctic.

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<sup>94</sup> Greg Wolf, “Alaska and China: Ties between the Middle Kingdom and Great Land,” *Alaska Business Journal*, February 2019.

<sup>95</sup> David Palma, Alix Varnajot, Kari Dalen, Ilker K. Basaran, Charles Brunette, Marta Bystrowska, Anastasia D. Korablina, Robynne C. Nowicki, and Thomas A. Ronge, “Cruising the Marginal Ice Zone: Climate Change and Arctic Tourism,” *Polar Geography*, Vol. 42, No. 4, 2019, p. 218.

<sup>96</sup> Palma et al., 2019, p. 217; Bennett and Lucca Iaquinto, 2021, p. 10.



## Impact of Chinese Economic Activities in Other Regions

China's overseas economic activities, including investments and project lending, particularly in infrastructure and projects associated with the Chinese government's 2013 BRI, are routinely described in Western assessments as potentially representing a Trojan horse for China's expansion of its military power abroad.<sup>1</sup> Officials and analysts have expressed concerns about BRI investments extending beyond economics into the military realm, with such investments potentially having a dual civilian and military use. Infrastructure projects in strategic locations throughout the world have the potential to provide China with control over key trade routes and shipping lanes, yielding regional and global economic influence.<sup>2</sup> Additionally, by expanding its control over critical infrastructure, such as commercial ports in strategic geopolitical locations, China could be prepositioning itself to make a military use of such assets in the future. China's expansion in BRI investment projects becomes even more problematic when considering that they are taking place in tandem with expansion of naval and other military capabilities.<sup>3</sup>

Some analysts have linked China's BRI projects to CCP's strategy of military-civil fusion (MCF), which the U.S. State Department describes as erasing "barriers between China's civilian research and commercial sectors, and its military and defense industrial sectors."<sup>4</sup> These analysts conclude that the aim of MCF is to develop the most technologically sophisticated

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<sup>1</sup> Andrew Chatzky and James McBride, *China's Massive Belt and Road Initiative: Backgrounder*, New York: Council on Foreign Relations, January 28, 2020.

<sup>2</sup> Joshua Andresen, "China's Military and the Belt and Road Initiative: A View from the Outside," *Chinese Journal of Global Governance*, Vol. 5, No. 2, 2019.

<sup>3</sup> Andresen, 2019.

<sup>4</sup> According to U.S. Department of State, *military-civil fusion is*

an aggressive, national strategy of the Chinese Communist Party (CCP). Its goal is to enable the PRC to develop the most technologically advanced military in the world. As the name suggests, a key part of MCF is the elimination of barriers between China's civilian research and commercial sectors, and its military and defense industrial sectors. The CCP is implementing this strategy, not just through its own research and development efforts, but also by acquiring and diverting the world's cutting-edge technologies—including through theft—in order to achieve military dominance. (U.S. Department of State, 2020)

military in the world, noting that to be protected, such projects might require some “military-civil fusion partnerships.”<sup>5</sup>

China's investments and lending in critical infrastructure are also considered by many independent analysts to represent a way for the Chinese government to curry favor with local governments and gradually insert China into the local decisionmaking process, expanding its soft power projection capabilities and possibly serving as a precursor to the expansion of Chinese hard power over time.<sup>6</sup> Investments and lending in infrastructure allow China to maintain a long-term presence in the countries where its investments are based, often transcending local changes in government, with economic statecraft generally—and the BRI specifically—having become “key components of Chinese foreign policy.”<sup>7</sup>

Most of China's investments and lending in infrastructure are usually located in developing countries that need such projects and the financing that China provides by way of loans—with no policy conditionality, unlike what most Western assistance requires—to develop projects. Therefore, the host governments often agree quickly to China's contractual terms without conducting appropriate and thorough viability studies prior to signing off on the deals.<sup>8</sup> Besides military and security concerns associated with China's potential dual use of some of its economic activities, Chinese investments and lending in infrastructure could also erode internal governance structures in the countries where they occur through the presence of corrupt bidding practices, delays in or failure to repay loans, social unrest, pollution, and environmental degradation associated with the implementation of infrastructure projects.

This chapter analyzes some of the military, political, economic, social, and environmental impacts of Chinese overseas investments and lending in infrastructure and other economic activities around the world. It relies both on the general literature on the BRI and specific case studies, some of which are examined in more detail in Appendix D. In the sources we reviewed, we focused on identifying the issues associated with Chinese overseas investments and lending in infrastructure projects, while excluding those investments and other economic activities in the United States, Canada, and Greenland, which are examined in Chapter Three. To be clear, this chapter does not present a full overview of BRI projects. Rather, it focuses specifically on some of the negative or potentially negative outcomes experienced by recipient countries of these BRI projects with the purpose of providing for the remainder of the report a “repertoire” of potential issues that might arise as China becomes more invested in the Arctic.

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<sup>5</sup> Peltier, Nurkin, and O'Connor, 2020, p. 55.

<sup>6</sup> Chatzky and McBride, 2020.

<sup>7</sup> Rafiq Dossani, Jennifer Bouey, and Keren Zhu, *Demystifying the Belt and Road Initiative: A Clarification of Its Key Features, Objectives and Impacts*, Santa Monica, Calif.: RAND Corporation, WR-1338, 2020, p. 25.

<sup>8</sup> Daniel R. Russel and Blake H. Berger, *Navigating the Belt and Road Initiative*, Washington, D.C.: Asia Society Policy Institute, June 2019, pp. 11–12.

## Activities of Concern and Case Studies

We identified issues of concern in five categories of Chinese international activities: (1) military and security; (2) political; (3) economic; (4) social; and (5) environmental. Each has subcategories associated with specific aspects of these issues. For each subcategory, we provide a brief description of the issue identified and its importance, followed by one or two examples to illustrate it. Some examples of Chinese overseas investments and lending in infrastructure are relevant across several categories or subcategories—for this reason, we used them to illustrate more-extensive sets of implications.

We also acknowledge that the dividing lines among the five categories in which we grouped the issues identified are not rigid, because the military, political, economic, social, and environmental issues are often closely linked to one another. For instance, issues included in one category—economic—can have military and political implications, or a specific example can generate issues that cut cross all five categories.

This chapter proceeds first with a presentation of the military and security-related issues and concerns associated with Chinese overseas investments and lending in infrastructure. In the category dedicated to military and security issues, we identified three main subcategories associated with Chinese intelligence collection, China developing access to commercial ports with potential dual civilian-military use, and China developing access to or establishing actual military bases. Political, economic, social, and environmental issues are then grouped in an overarching section on “governance-related issues and concerns.” Under each, we identified several subcategories. Table 4.1 presents a summary of the categories, subcategories, issues, and corresponding examples associated with the issues identified. The examples noted in the left column are examined in more detail in case studies presented in Appendix D.

**TABLE 4.1**  
**Issues Associated with Chinese Overseas Investments and Lending in Infrastructure**

Category	Issue(s)	Example
<b>Military and security issues</b>		
1.1. Intelligence collection (including cyber espionage)	A. Chinese investment in infrastructure close to U.S. and/or U.S. allied military installation or assets	A.1. Shanghai International Port Group to operate new terminal port next to the Port of Haifa, Israel  A.2. Chinese Landbridge Group acquired a 99-year lease to operate Darwin Port, Australia
	B. Chinese investments in space assets and development of civilian space stations	B.1. Chinese space monitoring station, Las Lajas, Argentina
	C. China’s expansion of access to the BeiDou navigation satellite system	C.1. Pakistani military is the first to adopt the Chinese BeiDou system for military purposes

Table 4.1—Continued

Category	Issue(s)	Example
	D. Chinese development and control of cyber physical architecture, operating systems, undersea cables, and hardware for cyberspace operations	D.1. Huawei control over undersea internet cable networks  D.2. China's developing and controlling the technology behind the Smart City and Safe City concepts: Huawei provision of surveillance technology for Belgrade Republic Square
1.2. Chinese access to or development of commercial ports with dual-use potential	E. China's development of commercial ports in geostrategic locations with likely dual civilian-military use	E.1. China Overseas Port Holdings 40-year lease agreement for the Port of Gwadar in Pakistan  E.2. China's development of Dara Sakor Airport and Koh Kong Port in Cambodia
1.3. China's access to or establishment of overseas military installations	F. China is developing overseas military installations in geostrategic locations	F.1. China stood up its first overseas military facility in Djibouti, in the proximity of the Chinese operated Doraleh Port  F.2. China established military facilities in Tajikistan, close to Afghanistan's Wakhan Corridor
<b>Governance issues</b>		
2.1. Political and sovereignty issues	A. Sovereignty issues resulting from Chinese exercises; political leverage in the host country through investments	A.1. Chinese investments in the Port of Piraeus, Greece
	B. Political instability and civil strife	B.1. Chinese investments in the mining sector in Zambia
	C. Propping of authoritarian regimes, mainly through China exporting citizen surveillance technologies as part of the Smart or Safe City packages	C.1. ZTE surveillance technology in Venezuela
	D. Corruption and fraudulent bidding practices	D.1. Upgrade to the Budapest-Belgrade railway line

**Table 4.1—Continued**

Category	Issue(s)	Example
2.2. Economic issues	E. Locking-in development projects quickly without proper due diligence and rigorous feasibility studies	E.1. The East Coast Rail Link (ECRL) project in Malaysia
	F. Opaque and predatory lending practices	F.1. Hambantota Port, Sri Lanka
	G. Cost overruns and delays in construction	G.1. Cat Linh-Ha Dong Urban Railway project, Vietnam
2.3. Social issues	I. Land expropriation and population displacement	I.1. The Nicaragua Canal project
	J. Workers' rights and mistreatment of workers	J.1. Zambian miners working for Chinese mining companies
	K. Poor construction and failing safety standards	K.1. Cat Linh-Ha Dong Urban Railway project, Vietnam
2.4. Environmental issues	L. Destruction of biodiversity and pollution	L.1. Chinese construction of the Port City of Colombo, Sri Lanka

SOURCE: Information presented in this table was drawn from various sources, as detailed in Appendix D.

## Military and Security-Related Issues and Concerns

The possible use by China of its overseas investments and lending in infrastructure toward military and intelligence collection purposes raises concerns for the security of the United States and its allies and partners. The concerns over the BRI being “a vehicle for [China’s] military dominance”<sup>9</sup> are rooted in recent assessments of China’s military and economic developments in the South China Sea, China establishing its first overseas military installation in Djibouti allegedly to defend its commercial interests in Africa, China’s naval development, including aircraft carriers; and China being awarded a 99-year concession to the Hambantota Port in Sri Lanka once the government in Colombo failed to honor its financial obligations associated with the port’s development.<sup>10</sup> Concerns about China’s dual civilian-military use of commercial investments are based on China advancing the MCF strategy that aims to leverage “legally and illegally acquired advanced and emerging technologies to drive

<sup>9</sup> Andresen, 2019, p. 125.

<sup>10</sup> Andresen, 2019, pp. 125–126.

economic and military modernization.”<sup>11</sup> These concerns are also based on China’s exploitation of advancements in artificial intelligence (AI) toward restraining human rights and individual liberties in the context of the expansion of so-called Smart Cities.<sup>12</sup> In June 2015, the “Technical Standards for the Implementation of National Defense Requirements for Newly Built Civil Ships” were issued as part of China’s efforts to advance policies on dual civilian-military use. These standards required “new civilian ships to be built to standards allowing for conversion for military use if required,” with additional regulations proposing that the Chinese government provide financing to civilian shipbuilders “to cover the costs of higher standards for military ship use as well as insurance in case of damage during conflict.” In addition, several Chinese analysts discussed the need for a close relationship between MCF and BRI projects, with Chinese companies irrespective of their ownership, state or private, being advised to deliberately seek to support the country’s military development.<sup>13</sup>

The analysis here highlights potential military and security issues related to Chinese overseas investments and lending in infrastructure, illustrated by specific examples of China’s activities that raised concerns in that regard. We found three main types of military and security issues: (1) intelligence collection (including cyber espionage); (2) Chinese access to or development of commercial ports and other maritime facilities with potential dual civilian-military use; and (3) actual Chinese access to or development of overseas military installations. The following subsections note examples in each of the three areas that are examined in more detail in Appendix D.

## Intelligence Collection

Chinese intelligence collection efforts (including cyber espionage) can be pursued through a variety of investments and activities around the world.

### Infrastructure Investments Close to U.S. or Allied Military Installations

Some Chinese investments in infrastructure have been placed in proximity to military installations and other strategic geographic locations where U.S. and allied military assets are deployed (e.g., Chinese port developments in Haifa, Israel, and Darwin, Australia). According to media reports, a 2020 investigation by the Japanese government found that Chinese private investors with suspected ties to the Beijing government had sought to purchase up to 700 plots of land in proximity (within 10 kilometers) of military locations, such as “around the Japan Self-Defense Forces, the military base of the United States Army Japan, Japan’s

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<sup>11</sup> The Policy Planning Staff, Office of the Secretary of State, *The Elements of the China Challenge*, Washington, D.C.: U.S. Department of State, November 2020, p. 11.

<sup>12</sup> The Policy Planning Staff, Office of the Secretary of State, 2020, pp. 11–12; Elsa B. Kania and Lorand Laskai, *Myths and Realities of China’s Military-Civil Fusion Strategy*, Washington, D.C.: Center for a New American Security, January 28, 2021.

<sup>13</sup> Peltier, Nurkin, and O’Connor, 2020, p. 55.

coast guard, and facilities for space development” and offered “a panoramic sweep of the facilities and learn about the activities of the Japanese and American aircraft carriers, planes, and personnel.”<sup>14</sup> It is well established that Chinese intelligence officials can infiltrate or use Chinese infrastructure development companies to conduct espionage activities.<sup>15</sup>

### Development of Space Stations and Expansion of BeiDou Navigation Satellite System

China can also conduct intelligence collection through its development and export of space technologies. Chinese scientific and other state-linked institutions have worked with several foreign governments to construct satellite ground stations, including the space monitoring station in Las Lajas, Argentina. Such ground stations can enhance Chinese space situational awareness for military counterspace operations, interfere with satellite communications, and monitor missile launches. Expanding foreign access to its BeiDou navigation satellite system to other countries, including foreign militaries, such as Pakistan, offers another avenue for intelligence collection. More than 30 countries have adopted the BeiDou system for civilian purposes as part of their BRI cooperation becoming heavily reliant on China’s “Digital Silk Road” for position, navigation, and timing information. In a 2019 survey, signals from BeiDou satellites were observed more frequently than those from the U.S.-operated Global Positioning Systems (GPS) in 130 of 190 countries. This dependence is likely to provide China with additional influence and access to valuable economic and commercial data. These cases are detailed in Appendix D.

### Development of Cyber Infrastructure Including Undersea Cables

Additional avenues for Chinese intelligence collection involve Chinese telecommunications companies, such as Huawei, that are developing and controlling the physical architecture, operating systems, and hardware needed for cyberspace operations, including the construction and operation of undersea cable networks. In 2019, Huawei was reported to be involved in 30 underseas cable projects around the world, which several experts warned could provide the Chinese government with the capability to monitor or disrupt data traffic. As a result of these international concerns, as discussed in Appendix D, Huawei decided to sell its undersea cable telecommunications operations.

China can also collect information on other countries’ governments, economies, militaries, and even ordinary citizens through the Chinese technologies deployed behind the Smart City and Safe City concepts that are often offered to foreign partners as part of BRI project agreements. Most of them are powered by 5G Chinese providers of telecommunications hardware and infrastructure, such as Huawei and ZTE, that need to comply with Chinese

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<sup>14</sup> “Chinese Acquiring Land Around Military Bases in Japan: Report,” ANI, May 21, 2021.

<sup>15</sup> Shira Efron, Karen Schwindt, and Emily Haskel, *Chinese Investment in Israeli Technology and Infrastructure: Security Implications for Israel and the United States*, Santa Monica, Calif.: RAND Corporation, RR-3176-OSD, 2020, p. xx.

government regulations and cooperate with state intelligence agencies. In Appendix D, we examine the case of how the Serbian government has installed Huawei surveillance equipment to monitor Belgrade's Republic Square and surrounding areas of the city as the initial phase of a Safe City partnership that has expanded to other cities in Serbia.<sup>16</sup>

## Chinese Access to or Development of Commercial Ports with Dual-Use Potential

Additional concerns arise from China's access to commercial port facilities and its potential use or transformation of commercial ports into military installations where Chinese warships could dock, refuel, or resupply. Some of the ports where Chinese companies are developing infrastructure projects as part of the BRI are Doraleh Port in Djibouti, the Gwadar Port in Pakistan, Hambantota Port in Sri Lanka, the Koh Kong Port in Cambodia, and the Kyaukphyu Port in Myanmar.<sup>17</sup> These locations together with Sittwe, Seychelles, Dar es Salaam, Tanzania, the United Arab Emirates, Singapore, Indonesia, and Kenya were mentioned as potential sites for Chinese overseas military bases in reports and articles issued by China's Army Transportation Academy and the Naval Research Institute (NRI).<sup>18</sup> NRI researchers suggested in a 2014 report that China build "overseas military facilities in locations where Chinese state-owned companies have already built—or are building—infrastructure primarily for civilian use."<sup>19</sup>

These ports are located on geostrategically important maritime routes and chokepoints with heavy traffic, but also on or near international sea lanes where the United States has traditionally secured freedom of navigation. In this light, some analysts consider that Chinese control of such geostrategically important ports could represent a Chinese attempt to gradually challenge the U.S. policing role and presence in these critical waterways.<sup>20</sup> In Appendix D, we analyze two examples—the Gwadar Port in Pakistan and the Koh Kong Port in Cambodia—to illustrate some of the military and security issues and concerns associated with China's development of ports.

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<sup>16</sup> U.S. Department of State, 2020b, p. 12.

<sup>17</sup> Shira Efron, Howard J. Shatz, Arthur Chan, Emily Haskel, Lyle J. Morris, and Andrew Scobell, *The Evolving Israel-China Relationship*, Santa Monica, Calif.: RAND Corporation, RR-2641-RC, 2019, p. 104; Daniel R. Russel and Blake H. Berger, *Weaponizing the Belt and Road Initiative*, Washington, D.C.: Asia Society Policy Institute, September 2020, p. 24.

<sup>18</sup> Peltier, Nurkin, and O'Connor, 2020, p. 25.

<sup>19</sup> Erica Downs, Jeffrey Becker, and Patrick deGategno, *China's Military Support Facility in Djibouti: The Economic and Security Dimensions of China's First Overseas Base*, Alexandria, Va.: Center for Naval Analysis, 2017, pp. 40–41.

<sup>20</sup> Efron, Schwindt, and Haskel, 2020, pp. 76–77; Russel and Berger, 2020, p. 24.

## China's Access to or Establishment of Overseas Military Installations

Next to China's attempts to create opportunities for access for its maritime and air military assets by developing dual-use commercial ports in key geostrategic locations, in recent years China has also started to develop military installations, arguing that its BRI investment projects in such places as Africa and Central and Southeast Asia need to be defended from potential terrorist attacks.<sup>21</sup> Moving beyond the rhetoric regarding the potential use of such military installations for counterterrorism purposes and to defend Chinese investments, in the 2013 *Science of Military Strategy*, Beijing stated:

We must build overseas strategic strongpoints that depend on the homeland, radiate into the periphery, and moves us in the direction of the two oceans [i.e. the Pacific and Indian Oceans]. These sites are to provide support for overseas military operations or act as a forward base for deploying military forces overseas, exerting political and military influence in relevant regions. We should form a posture with the homeland strategic layout that takes account of both the interior and the exterior, connects the near with the far, and provides mutual support.<sup>22</sup>

In Appendix D, we detail two examples to illustrate China's development of military facilities abroad under the pretext of defending its BRI projects against terrorist attacks, but that can also serve Chinese strategic purposes in the context of the great power competition with the U.S.: the standing up of the military facility in Djibouti's Doraleh Port; and the military facilities in Tajikistan, next to the Wakhan Corridor in Afghanistan.

## Governance-Related Issues and Concerns

Alongside military and security issues, some of China's infrastructure projects also raise governance-related concerns. In this chapter, we have grouped political, economic, social, and environmental issues and concerns under the umbrella of "governance" matters because most of them have implications on the internal governance of the host countries.

### Political Issues

Political issues associated with China's overseas infrastructure investments and lending come under various forms and can affect the host country's sovereignty and political stability. China could use its economic activities in various countries to exercise political leverage and influence the internal political discourse and decisionmaking processes in a way favorable to its interests. Furthermore, Chinese investments could, in some cases, heighten social

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<sup>21</sup> Russel and Berger, 2020, p. 39.

<sup>22</sup> Shou Xiaosong, ed., *The Science of Military Strategy*, Beijing, China: Academy of Military Science Press, 2013, as quoted in Peltier, Nurkin, and O'Connor, 2020, p. 25.

tensions and encourage corruption and fraudulent bidding practices. Through the export of citizen surveillance technologies in the context of Smart and Safe Cities, China can also provide support to authoritarian or dictatorial regimes. We elaborate on each of these potential issues next.

### Sovereignty Issues: China Exercises Political Leverage in Host Country

Chinese overseas investments and lending in infrastructure raise concerns that they might weaken the national sovereignty of the host countries in which they occur because they might interfere with political decisionmaking processes. Although China presents its investments in infrastructure as being mainly economic in nature, the economic boost that many developing countries perceive will result from them often has unintended effects, such as allowing China varying degrees of political leverage.<sup>23</sup> Governments of host countries might relinquish some of their political freedom and independence in decisionmaking in exchange for the expected economic benefits of Chinese investments. For instance, Chinese investments in Greece and Australia resulted in pro-Chinese stances adopted by national and local political leaders.<sup>24</sup>

The BRI investment in the Port of Piraeus, Greece, offers a compelling illustration of these dynamics. China's investment of U.S. \$1 billion in Greece's Piraeus Port has raised concerns about China's use of infrastructure investments to exercise political leverage. In the context of China expanding its investments in the country, Greece "has resisted European Union condemnations of China's human rights violations, blocked a statement against Chinese aggression in the South China Sea, and objected to more-extensive scrutiny of Chinese investment in Europe."<sup>25</sup> This case and others demonstrate how countries that accept Chinese investments are usually less likely to overtly criticize or oppose China's human rights practices in Tibet or Xinjiang province.<sup>26</sup>

### Political Instability and Civil Strife

Another issue associated with Chinese overseas economic activities is that they can create internal political instability. Protests and riots have erupted in several countries where Chinese economic activities were planned or implemented that were perceived by local populations as having negative impacts ranging from weakening of the country's sovereignty, corruption, poor treatment of local workers and unfair work practices, land expropriations and population displacement, environmental damage, to price dumping practices that undercut local businesses and small entrepreneurs. In Appendix D, we review the example of China's investments in the mining sector in Zambia to illustrate their broader effect on societal

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<sup>23</sup> Efron et al., 2019, p. 107 and pp. 116–117.

<sup>24</sup> Efron et al., 2019, pp. 116–117.

<sup>25</sup> Efron et al., 2019, pp. 105–106.

<sup>26</sup> Authors' conversation with Evan Ellis, July 22, 2021.

and political stability and the manner in which anti-Chinese sentiment is generated and can escalate.

**Bolstering Authoritarian Controls by Export of Citizen Surveillance Technologies**  
China routinely pursues relations with authoritarian governments.<sup>27</sup> Venezuela is a good example. The Nicolás Maduro regime receives political support and economic and other assistance from China, including exports of surveillance technology that help Venezuelan security forces repress dissent and political opponents. China has also developed the ECU-911 intelligent surveillance system and the BOL-110 system for the governments of Ecuador and Bolivia, respectively, both of which have sometimes limited public dissent.<sup>28</sup> The export of such technologies is part of China's strategy to build a Digital Silk Road as a complement to the BRI.<sup>29</sup>

### Corruption and Fraudulent Bidding Practices

Host governments have welcomed Chinese investment in infrastructure projects with little to no competition and with limited due diligence or thorough assessment of the viability of the planned development. In some cases, there is evidence that the host country's government acquiesced to the project without a formal bidding process as a result of kickbacks that local officials accepted from Chinese investors. In other cases, when formal bidding processes were in place, there were concerns that the process was also tainted by corrupt practices that resulted in inflated prices for the projects and waste.<sup>30</sup> These practices have economic, social, and environmental consequences in the host country. With weakened domestic governance structures, host countries are more prone to instability and to being susceptible to China projecting influence and potentially gaining military access to their territories.

Several BRI investment projects have been plagued by accusations of corruption and to have been based on fraudulent bidding practices. According to a 2019 Asia Society report,

No examples of penalties for corruption in Southeast Asian BRI projects could be identified in the course of our research, and projects do not appear to have local-language websites or other accessible mechanisms for “whistle-blowing,” which is how the vast majority of corruption cases are revealed.<sup>31</sup>

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<sup>27</sup> Andrew Scobell, Bonny Lin, Howard J. Shatz, Michael Johnson, Larry Hanauer, Michael S. Chase, Astrid Stuth Cevallos, Ivan W. Rasmussen, Arthur Chan, Aaron Strong, Eric Warner, and Logan Ma, *At the Dawn of Belt and Road: China in the Developing World*, Santa Monica, Calif.: RAND Corporation, RR-2273-A, 2018, p. 178.

<sup>28</sup> R. Evan Ellis, *Populism, China, and Covid-19: Latin America's New Perfect Storm*, Washington, D.C.: Center for Strategic and International Studies, April 2021.

<sup>29</sup> Joshua Kurlantzick, *Assessing China's Digital Silk Road Initiative*, New York: Council on Foreign Relations, December 18, 2020.

<sup>30</sup> Russel and Berger, 2019, p. 16.

<sup>31</sup> Russel and Berger, 2019, pp. 16–17.

Among the most-prominent examples of this concern are the ECRL project in Malaysia, the Hambantota port development in Sri Lanka, and the upgrade of the Budapest-Belgrade railway line in Central Europe, which we examine in Appendix D.

## Economic Issues

China's involvement in infrastructure projects is also associated with several economic issues and concerns. In our analysis, four main economic issues stood out: (1) the absence of proper due diligence and thorough financial viability analysis prior to the award of the contract by the host countries; (2) opaqueness in China's lending practices and predatory lending; (3) cost overruns and penalties for delays in construction; and (4) price dumping practices. These issues are often the result of, on the one hand, developing countries getting "seduced" by Chinese investment proposals "that are unlikely to generate enough revenue to cover the interest on the loans that funded them;"<sup>32</sup> and, on the other hand, BRI investment projects being financed with public funds backed up by an implicit or explicit government guarantee, which "has created a moral hazard in which 'easy money' leads Chinese developers to take outsized risks or pursue unprofitable projects."<sup>33</sup> Ultimately, because of these lending practices and the moral hazard associated with them, host governments end up saddled with debts they cannot repay, among several other downsides associated with the investment projects.<sup>34</sup> We examine these four potential issues in more detail next.

### Locking in Development Projects Quickly Without Proper Due Diligence

In some cases, China has been exploiting the thirst of cash-poor developing countries for infrastructure funding to get their governments to agree quickly to China's contractual terms. In the rush to secure the investment deals, local governments did not always take the time to carry out proper due diligence and long-term viability studies of the infrastructure projects to which they were committing their countries. Locking in development projects quickly without proper due diligence meant that there was little to no opportunity for local governments and stakeholders "to properly evaluate the project's merits, goals, costs, and impacts."<sup>35</sup> Negative financial, political, social, and environmental consequences followed in those cases in which local governments failed to carry out the necessary pre-project assessments. Some relevant examples are the Hambantota Port in Sri Lanka, the development of the Jakarta-Bandung high-speed railway in Indonesia, and the ECRL project in Malaysia. In Appendix D, we examine the ECRL case to illustrate the issues associated with locking in quickly infrastructure development projects without a serious due diligence process.

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<sup>32</sup> Andresen, 2019, p. 127.

<sup>33</sup> Russel and Berger, 2019, p. 14.

<sup>34</sup> Russel and Berger, 2019, p. 14.

<sup>35</sup> Russel and Berger, 2019, p. 11.

## Opaque and Predatory Lending Practices

Although initially the loans that China extends to the countries in which it undertakes infrastructure projects seem to have favorable terms and rates for the borrowers, some loans and the landing practices behind them ultimately prove to carry interest rates that are unsustainable.<sup>36</sup> Also, the terms governing the loans are rarely made public.<sup>37</sup> Using a 2019 analysis of Chinese government lending practices, Chinese overseas loans include “risk premia and contractual characteristics that resemble private bank loans,” are secured by collaterals that come in the form of commodities or profits of SOEs and come with secrecy and arbitration clauses that keep out of the public eye most default or restructuring details. These practices are in sharp contrast with the interest-free loans that most international creditors offer to low-income developing countries. Moreover, the 2019 report mentioned that, to the knowledge of the authors, “no other official lender collateralizes its international loans in this way, at least not this systematically.”<sup>38</sup> A 2021 analysis of more than 13,000 Chinese development projects also shows a rise of “hidden debt” (i.e., undisclosed government repayment liabilities) in several of these projects.<sup>39</sup> Yet another 2021 analysis, this time of 100 Chinese debt contracts, found that, among other particularities, “Chinese contracts contain unusual confidentiality clauses” and “enable lenders to seek preferential repayment without saying so.”<sup>40</sup>

Furthermore, two independent reports revealed that “many of the BRI infrastructure projects were not commercially or financially viable to begin with, while others were scaled far beyond the actual needs of the host nation.”<sup>41</sup> Unable to generate the cash needed to service the loans from China, several countries have remained saddled with heavy debts,<sup>42</sup> and “eight BRI recipient countries have a particularly high risk of defaulting on their loans.”<sup>43</sup> In some cases, the host country becomes unable to service its debt to China and makes long-term land concessions to compensate China for the missed financial payments (what some analysts brand the *debt trap*). When China secured a 99-year lease of the site in the aftermath

<sup>36</sup> Peltier, Nurkin, and O’Connor, 2020, p. 25.

<sup>37</sup> Russel and Berger, 2020, p. 29.

<sup>38</sup> Sebastian Horn, Carmen Reinhart, and Christoph Trebesch, *China Overseas Lending*, working paper No. 2132, Kiel, Germany: Kiel Institute for the World Economy, June 2019, pp. 16–17.

<sup>39</sup> Ammar A. Malik, Bradley Parks, Brooke Russell, Joyce Jiahui Lin, Katherine Walsh, Kyra Solomon, Sheng Zhang, Thai-Binh Elston, and Seth Goodman, *Banking on the Belt and Road: Insights from a New Global Dataset of 13,427 Chinese Development Projects*, Williamsburg, Va.: AidData at William & Mary, September 2021, pp. 44–50.

<sup>40</sup> Anna Gelpern, Sebastian Horn, Scott Morris, Brad Parks, and Christoph Trebesch, *How China Lends: A Rare Look into 100 Debt Contracts with Foreign Governments*, Williamsburg, Va.: AidData at William & Mary, Center for Global Development, Kiel Institute for the World Economy, Peterson Institute for International Economics, March 2021, pp. 22–25 and pp. 34–37.

<sup>41</sup> Russel and Berger, 2020, p. 29.

<sup>42</sup> Russel and Berger, 2020, p. 29.

<sup>43</sup> Peltier, Nurkin, and O’Connor, 2020, p. 25.

of the failed Hambantota Port contract, some analysts voiced concerns that China was deliberately deploying a predatory lending strategy as a way “to secure access to site of geostrategic importance.”<sup>44</sup> Others, meanwhile, argued that there was, in this case, no predatory lending strategy, and that the port had little to no strategic value.<sup>45</sup> Even in those cases when China was open to renegotiate the terms of the loan, analysts expressed concerns that the government in Beijing would use its leverage in the negotiations to secure strategic and military gains, such as “future basing arrangements for the PLA or augmenting existing infrastructure with further dual-use capabilities.”<sup>46</sup> In response, some analysts have argued that there was no debt trap strategy on the part of China, and that such situations were simply outcomes of poor assessment of political risk.<sup>47</sup> A Chatham House report highlights the responsibility that recipient countries bear in the negative outcomes that result from the BRI projects they host and—in many instances—the lack of a coherent and intentional strategy on the part of China.<sup>48</sup> Yet irrespective of China’s intentions, the fact remains that many BRI projects exceed the needs and payment capabilities of the host countries and, therefore, leave the developers and the host governments in the uncomfortable situation of having to agree to side deals, such as land or natural resource concessions, as a way to reimburse the developer for the work performed on projects that are not financially viable.<sup>49</sup>

A 2019 report on China’s overseas lending raises concerns associated with the opaqueness of China’s lending practices and the fact that China underreports the external debt stocks that it holds, most of which are in the developing world where China has directed most of its loans.<sup>50</sup> According to the report, “50 percent of Chinese overseas loans are not recorded by the World Bank and thus do not enter officially reported debt statistics,” with some \$200 billion in USD likely to represent missing Chinese debt outflows by the end of 2016.<sup>51</sup> Chinese lending in developing countries ends up being misrepresented in the records of the World Bank as a result of the so-called *circular lending* practices, which mean that, for high-risk countries, China does not actually transfer the funds to the recipient government so as to minimize risk.<sup>52</sup> However, this lack of transparency makes it difficult for external observers to accurately assess the outcome of

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<sup>44</sup> Peltier, Nurkin, and O’Connor, 2020, p. 25.

<sup>45</sup> Deborah Brautigam and Meg Rithmire, “The Chinese ‘Debt Trap’ is a Myth,” *The Atlantic*, February 6, 2021.

<sup>46</sup> Russel and Berger, 2020, p. 30.

<sup>47</sup> Peltier, Nurkin, and O’Connor, 2020, p. 25.

<sup>48</sup> Lee Jones and Shahar Hameiri, *Debunking the Myth of ‘Debt-Trap Diplomacy’: How Recipient Countries Shape China’s Belt and Road Initiative*, London: Chatham House, August 2020.

<sup>49</sup> Russel and Berger, 2019, p. 14.

<sup>50</sup> Horn, Reinhart, and Trebesch, 2019, p. 18.

<sup>51</sup> Horn, Reinhart, and Trebesch, 2019, p. 19.

<sup>52</sup> Horn, Reinhart, and Trebesch, 2019, p. 23.

loan defaults and China's response to these situations. To illustrate these issues, we examine the case of the Hambantota Port in Sri Lanka in Appendix D.

### Cost Overruns and Delays in Construction

Chinese investments and lending in infrastructure also result in cost overruns and delays in construction that raise the overall financing costs of the projects. Some of these issues are not necessarily the fault of the host country developer, as in most cases the construction project is carried out by Chinese companies. For instance, the Cat Linh-Ha Dong urban railway project (discussed below and in Appendix D) built by China Railway Sixth Group, a subsidiary of the construction conglomerate China Railway Group, experienced numerous delays since its kickoff in 2011.<sup>53</sup> This railway project is a primary example of cost overruns, poor construction, and failing safety standards that can arise in the context of overseas projects supported by Chinese financing.

### Social Issues

Some Chinese involvement in infrastructure projects is also associated with social issues and concerns, such as population displacement, land expropriation, violations of workers' rights and mistreatment of workers, poor construction, and failing safety standards. These issues can affect the economic and physical well-being of citizens displaced or whose lands had been expropriated without compensation, and on the country's internal stability and strength of governance structures in some cases.

#### Land Expropriation and Population Displacement

In some cases, Chinese involvement in infrastructure projects has resulted in land expropriation and population displacement, with the displaced parties most often not receiving any compensation. In such cases, the expropriation and displacement have contributed to the further impoverishment of already disadvantaged social classes in developing countries. The Nicaragua Canal project, described in Appendix D, illustrates some of these issues.

#### Workers' Rights and Mistreatment of Workers

Social issues associated with Chinese infrastructure investments and lending also include concerns over workers' rights and mistreatment of workers, both local and Chinese. Our analysis focuses on mistreatment of local workforces and their attendant social disruption. Such practices are particularly present in Africa, where local populations often feel that Chinese investments do not translate into job creation for skilled workers or provision of training, but instead result in weakening of domestic industries, and the creation of "abusive and

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<sup>53</sup> Yang Sheng and Deng Xiaoci, "Vietnam Says It Won't Follow Others in Opposing China; Experts Note 'US Has No Chance to Use Sovereignty Issue to Divide Region,'" *Global Times*, April 27, 2021; Lam Thanh Ha, "Chinese FDI in Vietnam: Trends, Status, and Challenges," *Perspective*, ISEAS-Yusof Ishak Institute, Issue 2019, No. 34, April 24, 2019.

polluting work environments.”<sup>54</sup> Also, because Chinese companies that develop projects overseas usually bring their own workers from China and their presence increases migration from China to the host country, tensions erupt between locals and the members of the Chinese communities, who often live in segregated communities.<sup>55</sup> To illustrate the social concerns associated with workers’ rights and the mistreatment of workers by Chinese companies that develop infrastructure projects overseas, we examine in Appendix D the case of Zambian workers at Chinese mining companies in Zambia.

### Poor Construction and Failing Safety Standards

Poor quality of construction and failing safety standards represent another social issue associated with many Chinese overseas investments. Substandard project performance has adverse financial implications (as shown in the “Economic Issues” section in this chapter), and inadequate safety standards can result in loss of life and are likely to translate into anti-Chinese sentiment and protests or riots against the presence of Chinese companies and their business practices. To illustrate these problems, we examine in Appendix D the Cat Linh-Ha Dong urban railway project in Vietnam.

### Environmental Issues

Destruction of biodiversity and pollution are two of the main environmental issues associated with Chinese-backed infrastructure projects. Both issues are likely to have economic and social ramifications associated with the health and well-being of local populations and, ultimately, might affect the country’s governance and governability. Also, because for many Chinese projects environmental assessments are either not conducted, or are rushed, superficial, or in some cases forged, the degree of “environmental damage only becomes evident later in the project’s life cycle.”<sup>56</sup> To illustrate some of these issues, we reviewed the case of Colombo Port City in Sri Lanka.

### Conclusion

The military and security concerns linked to China’s overseas economic activities are mainly related to China’s development of military installations, such as its base in Djibouti, in tandem with China expanding through the BRI its access to commercial port facilities with the potential for dual civilian-military use in geostrategic locations. Considering China’s MCF strategy and the direct links Chinese analysts made between MCF and China’s BRI projects to allow for military uses of infrastructure in support of MCF, the military and

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<sup>54</sup> Scobell et al., 2018, pp. 188–189.

<sup>55</sup> Scobell et al., 2018, pp. 195–196.

<sup>56</sup> Russel and Berger, 2019, p. 13.

security issues identified in this chapter pose genuine concerns. Many of Beijing's overseas infrastructure projects (including the expansion of BeiDou satellite access) provide China with opportunities for intelligence collection and disruption of commerce and communications. Together with the country's naval expansion and control over several geostrategic commercial ports, these activities render increasingly credible the suspicion that China often uses involvement in civilian infrastructure projects to support military activities and power projection capabilities.

In many of the cases we examined, the governance-related issues are closely interlinked and cut across the four categories—political, economic, social, and environmental—that we included in our analytical framework. For instance, a political issue, such as corruption of a host government by Chinese companies seeking to conclude an infrastructure investment deal in the country, can create a chain of economic issues, starting with the local government bypassing or forging financial or environmental viability assessments to quickly lock in the deal with Beijing. In the absence of thorough and reliable precontractual assessments, the project is likely to experience cost overruns and delays, increasing the estimated financial costs for the investment and delaying the start date when the host government can begin generating revenue from the project. Anti-Chinese sentiment, civil strife and political instability can follow in such situations and in those cases when the infrastructure projects result in social and environmental issues, such as land expropriations, population displacement, violations of workers' rights, pollution, or destruction of biodiversity.

The cumulative effects of several issues cutting across several categories are likely to result in a significant internal weakening of the governing bodies and governance structures in the host countries, leaving them more vulnerable to Chinese influence and predatory behaviors. Ultimately, China can exploit the weakness of local governments and potentially gain strategic but also military advantages in the competition with the United States.

However, China's attempts to create influence through its overseas investments in infrastructure might also backfire and generate anti-Chinese feelings among the local population that experiences the negative effects of China's presence in their country (such as corruption, deprivation of livelihoods, exploitation of workers, and pollution). Although the military and security issues associated with China's involvement in infrastructure development are serious and need to be given proper consideration, a more attentive analysis reveals significant weaknesses in how China is implementing at the local level its BRI strategy, leaving ample room for the United States' economic statecraft and soft power tools to counterbalance Beijing's activities.

China's expanding global footprint is backed by its military primarily in response to crises that threaten its economic or geopolitical interests. Thus, the future footprint of China's military overseas can be predicted by determining the crises that might undermine its overseas interests.<sup>57</sup> As China begins planning Arctic investments, infrastructure development, or

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<sup>57</sup> Nadège Rolland, ed., *Securing the Belt and Road Initiative: China's Evolving Military Engagement along the Silk Roads*, Special Report No. 80, Seattle, Wash.: National Bureau of Asian Research, September 2019.

transit routes that may be challenged by foreign military or other groups, one might expect to see a similar expansion of its military footprint to counter these threats. Moreover, like the Wakhan Corridor and Tajik border developments, these developments and associated bilateral agreements might take place in secrecy long before their existence can be confirmed.

## Potential Impacts of Chinese Activities for the Arctic

The Arctic has many of the same characteristics that have attracted Chinese investments to other regions of the world. It is rich in natural resources. It offers promising maritime routes. It is a strategic location for military and information collection purposes. It is, in some areas, in dire need of additional infrastructure. And it has a fairly open regional governance—through the granting of observer status to various non-Arctic states at the Arctic Council—that allows China to weigh in on a range of relevant regional issues. Yet this does not mean that all the risks related to Chinese investments in other parts of the world are relevant to the Arctic. This chapter seeks to identify what specific factors of resilience the Arctic offers, and what areas of vulnerabilities remain that are already, or could in the future, present some of the risks identified in other regions of the world.

To identify factors of resilience specific to the Arctic, we conducted a literature review of English- and Chinese-language documents on China's presence in the Arctic—with a particular eye on the reasons why some investments and activities were prevented from happening. Our identification of remaining gaps and risks is based on the list of negative effects identified in relation with Chinese investments in other regions of the world (Chapter Four), in light of China's overall strategy and intentions in the Arctic (Chapter Two). This chapter is also informed by the discussions held during the "China's Arctic Reach" TTX that was conducted for this research project.<sup>1</sup> This exercise provided us with a more forward-looking view of how China's ambitions in the Arctic might unfold, what factors might facilitate or impede these developments, and how relatively loadbearing these factors might be in a hypothetical outcome of a more prominent China in the Arctic. The exercise also allowed us to explore the plausibility of some of these factors.

This chapter, while focusing mainly on the North American Arctic and the implications of the findings in previous chapters of this report, will occasionally draw examples from the entire Arctic region. Because many of the Arctic's characteristics (from the presence of natural resources to the lack of infrastructure) are prevalent throughout the whole region, we acknowledge that risks relevant for one part of the Arctic could be relevant for other parts of

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<sup>1</sup> See Chapter One and Appendix A for the description of the TTX's methodology and scenarios.

the Arctic. However, we also highlight cases when these risks are specific to the local political, economic, or social conditions of a given area of the Arctic.

## Arctic Factors of Resilience

This section highlights characteristics of the Arctic region that broadly limit China's ability to invest and be present in the North American Arctic. Whenever possible, these limitations are illustrated by specific examples of Chinese activities that were not allowed to take place because of these characteristics.

### China Has Strained Bilateral Relations with Several Arctic Countries, and Arctic States Tend to Act in Solidarity

A first limitation to what China can do in the Arctic relates to the poor quality of some of its bilateral relations with Arctic states. In the North American Arctic, relations have been particularly tense with the United States and Canada. This limits what China can do diplomatically, economically, and culturally in Alaska and the Canadian Arctic.

In the United States, China's ambition to be recognized as a near-Arctic state was publicly contested by then-Secretary of State Pompeo at the Arctic Council 2019 Ministerial Meeting in Rovaniemi, Finland. The Donald Trump administration (2017–2021) imposed heavy tariffs on thousands of Chinese imports, in addition to banning Huawei and other Chinese communication companies from the U.S. 5G telecommunications market.<sup>2</sup> The Joseph Biden administration has not reversed these decisions, and the 2021 Interim National Security Strategic Guidance explicitly names China as a threat and outlines ways to “out-compete a more assertive and authoritarian China over the long term.”<sup>3</sup>

As discussed in Chapter Two, Canadian-Chinese diplomatic relations have been strained since 2018. Although Canadians Michael Spavor and Michael Kovrig were released in September 2021 and the most acute part of the diplomatic crisis seems to be over, Ottawa remains highly critical of other aspects of Chinese policies and is wary of Chinese investments in sensitive sectors.<sup>4</sup> Chinese FDI in Canada has been undergoing increased scrutiny, and the Trudeau government in 2020 blocked the sale of TMAC Resources to Shandong Gold on

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<sup>2</sup> See, for instance, Chad P. Bown and Melina Kolb, *Trump's Trade War Timeline: An Up-to-Date Guide*, Washington, D.C.: Peterson Institute for International Economics, February 8, 2022; and Ryan Hass and Abraham Denmark, *More Pain Than Gain: How the US-China Trade War Hurt America*, Washington, D.C.: Brookings Institution, August 7, 2020.

<sup>3</sup> Joseph R. Biden, Jr., *Interim National Security Strategic Guidance*, Washington, D.C., March 2021, pp. 8 and 20.

<sup>4</sup> Chris Buckley, Dan Bilefsky, and Tracy Sherlock, “China Sentences Canadian Businessman to 11 Years in Prison,” *New York Times*, August 10, 2021; Gabriel Crossley and Brenda Goh, “China Says Canada Should ‘Draw Lessons’ from Huawei Exec Case,” Reuters, September 27, 2021.

national security grounds. If the purchase had been permitted to go through, it would have placed a Chinese SOE within 100 miles of an early-warning NORAD facility. Ultimately, Canadian-based Agnico Eagle purchased TMAC Resources.<sup>5</sup> Canada has even been reluctant to welcome Chinese infrastructure related to scientific activities. Plans by the Polar Research Institute of China to build a scientific research post in the Northwest Territories to collect data that could both further China's understanding of climate change and help with potential future energy development in the region did not receive any positive response from Canadian authorities.<sup>6</sup>

China's relations are warmer with Greenland, which opened a representation in Beijing in November 2021. However, this has not always been the case. After Greenland played a friendly soccer game against Tibet in 2001—a game in which, Gad et al., 2021, noted, “the Chinese government alongside Denmark, was positioned as an oppressor intruding on a peaceful, Indigenous people”—China retaliated by threatening to reduce its Greenlandic shrimp imports.<sup>7</sup> Although the relationship has improved over the past decade and Greenland has been particularly active in its efforts to attract Chinese investment to reduce its reliance on the annual Danish block grant (which comprises approximately 50 percent of its annual budget), its ability to do so is limited by the continued oversight of Copenhagen over foreign affairs and defense issues. So far, Denmark has appeared willing to intervene to limit China's presence in Greenland—in part to protect its bilateral relationship with the United States—as evidenced by the failed 2018–2019 attempt by a Chinese state-owned company to win a bid to refurbish several airports in Greenland.<sup>8</sup>

As a result of these tense (Canada, Denmark) or even hostile (United States) relations, as well as the fact that Arctic states in the North American Arctic are allies, China's entry points in the region remain fairly limited.

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<sup>5</sup> Oddleifson, Alton, and Romaniuk, 2021; Jessica Shadian and Erica Wallis, “When It Comes to Canada-China Relations, It Is Time to Look North,” *IRPP Policy Options*, July 7, 2020; and Robert Fife and Steven Chase, “Top Defence Official Says China Is a Threat to the Arctic,” *Globe and Mail*, March 11, 2021.

<sup>6</sup> Nathan Vanderklippe, “Chinese Scientists Look to Canadian Arctic for Research Outpost,” *Globe and Mail*, March 18, 2015.

<sup>7</sup> Ulrik Pram Gad, Naja Dyrendom Graugaard, Anders Holgersen, Marc Jacobsen, Nina Lave, and Nikoline Schriver, “Imagining China on Greenland's Road to Independence,” in Lassi Heininen and Heather Exner-Pirot, eds., *Arctic Yearbook 2018, Special Section: China & the Arctic*, Akureyri, Iceland: Northern Research Forum, November 2018; Ulrik Pram Gad, “Opposition to the Kuannersuit Project Offers an Opportunity for the EU and the United States to Pursue Closer Cooperation with Greenland,” *London School of Economics Phelan US Centre*, blog post, May 15, 2021.

<sup>8</sup> “China Withdraws Bid for Greenland Airport Projects: Sermitsiaq Newspaper,” Reuters, June 4, 2019.

## Arctic States Have Historically Agreed to Keep Arctic Matters Among Arctic States

China's ability to integrate the formal and informal structures of Arctic governance—one of its stated goals—is also limited by the historic insistence of Arctic states to keep Arctic matters among themselves. Russia, in particular, has been a staunch defender of this principle. Arctic states' consensus on this matter is reflected in the 2008 Ilulissat Declaration, which reiterated that Arctic states defer to UNCLOS as the governing rule for the region—making clear that no other governance system, such as an Arctic treaty, is needed.<sup>9</sup> Adding observer states to the Arctic Council—where they play, overall, a limited role—has been a lengthy process, as some Arctic states (Canada, Russia) proved particularly reluctant to open the Arctic Council to non-Arctic states. Limiting the number of countries involved in Arctic governance represents a way, for Arctic states, to keep more control on all Arctic matters. It also allows smaller countries (e.g., Denmark) to have a voice at a table with the U.S. and Russian heavyweights without being drowned out in a larger crowd.

Arctic states have been less in agreement on the question of whether they should invite military activity from non-Arctic states. Norway, in particular, has called for a greater NATO role in the Arctic, with Norwegian State Secretary Roger Ingebrigtsen stating in 2014 that “our ambition is a clear NATO footprint in the north.”<sup>10</sup> Norway has put words in action by hosting numerous exercises, such as the large-scale 2018 Trident Juncture. The United States and Norway included the UK in the exercise that they conducted in the Barents Sea, with Danish air support, in September 2020.<sup>11</sup> Meanwhile, Canada opposed the inclusion of the Arctic in the Lisbon Declaration and the 2010 Strategic Concept, and proved reluctant to see NATO getting more involved in Arctic security matters.<sup>12</sup> However, Canada's position has evolved: In June 2017, for the first time, its defense policy mentioned a possible NATO exercise in the Arctic.<sup>13</sup>

According to conclusions from Aleman and Weidacher Hsiung, 2022, and other analyses, Russia seems unlikely to welcome a Chinese military presence in the Arctic, because of the

<sup>9</sup> For example, as noted in the declaration:

Notably, the law of the sea provides for important rights and obligations concerning the delineation of the outer limits of the continental shelf, the protection of the marine environment, including ice-covered areas, freedom of navigation, marine scientific research, and other uses of the sea. We remain committed to this legal framework and to the orderly settlement of any possible overlapping claims. (Ilulissat Declaration, Arctic Ocean Conference, Ilulissat, Greenland, May 27–29, 2008)

<sup>10</sup> Norwegian State Secretary Roger Ingebrigtsen as quoted in Thomas Nilsen, “Russia Says No Need for NATO in Arctic, Expands Own Military Presence,” *Barents Observer*, October 22, 2014.

<sup>11</sup> Thomas Nilsen, “In a Controversial Move, Norway Sails Frigate into Russian Arctic EEZ Together with UK, US Navy Ships,” *Barents Observer*, September 9, 2020.

<sup>12</sup> Helga Haftendorn, “NATO and the Arctic: Is the Atlantic Alliance a Cold War Relic in a Peaceful Region Now Faced with Non-Military Challenges?” *European Security*, Vol. 20, No. 3, 2011, pp. 342 and 349.

<sup>13</sup> Andrea Charron, *NATO, Canada and the Arctic*, Calgary, Canada: Canadian Global Affairs Institute/Institut Canadien des Affaires Mondiales, September 2017, p. 1.

strategic importance of this region for Russia and the persistent concerns about Chinese military power more broadly.<sup>14</sup> This situation, however, could change if Russia begins to rely much more heavily on its relationship with China—in all domains—to compensate for the impact of the sanctions imposed by the United States and its allies following its invasion of Ukraine in February 2022. This would be in line with the joint statement that Russia and China issued earlier that month, and that called for more bilateral cooperation in the Arctic, among other areas, declaring a “friendship” with “no limits.”<sup>15</sup> It would also be consistent with past experience, as Russia sought a tighter relationship with China to pursue its ambition of developing economically and militarily its Arctic region following the international sanctions issued against Russia following its annexation of Crimea in 2014. Although not condemning Russia’s actions in Ukraine, China’s support has been timid at most, and the two countries still have issues of disagreement.<sup>16</sup> China will need to navigate its relationship with Russia while avoiding antagonizing too deeply its other economic partners, particularly at a time when the Chinese economy is slowing down.<sup>17</sup> Carrying out its joint activities with Russia under the constraint of international sanctions, in particular, might prove difficult or at least sufficiently costly that it could delay some joint projects, or push China to put them on hold.<sup>18</sup>

## Arctic States Have Fairly Strict Regulations That Prevent Potentially Damaging Chinese Activities

Arctic states seem fairly well equipped legally, politically, and socially to prevent potentially damaging activities to take place on their territory.<sup>19</sup> These safeguards extend to natural resource extraction because all of these activities occur under the law of the various Arctic states regarding foreign investments, and these laws can be fairly stringent, explaining (along with other factors, such as low commodity prices) why there are overall so few Chinese energy and natural resource development efforts ongoing in the region.<sup>20</sup> As noted by Lackenbauer et al., risks of investments translating into political influence is limited, due to the fact that “cor-

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<sup>14</sup> Almén and Weidacher Hsiung, 2022; Yun Sun, “Why China’s Interests in the Arctic Are Constrained,” *The Wire China*, June 29, 2020.

<sup>15</sup> Mathiew Leiser, “Russia and China to Deepen Cooperation in the Arctic,” *Eye on the Arctic*, February 4, 2022.

<sup>16</sup> Elizabeth Wishnick and Andrew Taffer, “Ukraine Invasion Tests the Relationship Between Russia and China,” Monkey Cage, *Washington Post*, March 14, 2022.

<sup>17</sup> Jeremy Greenwood and Shuxian Luo, “Could the Arctic Be a Wedge Between Russia and China?” *War on the Rocks*, April 4, 2022.

<sup>18</sup> Greenwood and Luo, 2022.

<sup>19</sup> Sun, 2020.

<sup>20</sup> P. Whitney Lackenbauer, Adam Lajeunesse, James Manicom, and Frédéric Lasserre, *China’s Arctic Ambitions and What They Mean for Canada*, Calgary, Canada: University of Calgary Press, January 2018, p. 101; Bowman and Quingchao Xu, 2020, p. 9.

ruption in Western Arctic countries is simply too uncommon, and the rule of law too strong.<sup>21</sup> Although Greenland is not listed in Transparency International's 2021 Corruptions Perceptions Index, Denmark ranks as number one (or the country with the lowest perceived levels of public sector corruption) out of 180. Canada ranks 13th and the United States is 27th.<sup>22</sup>

Although Greenland does not have any FDI screening laws (and is exempted from Danish ones), Lackenbauer and colleagues noted that "Greenland has been working with Canada's National Energy Board to strengthen its own regulatory processes ahead of anticipated resource development."<sup>23</sup> Additionally, Copenhagen has found ways to prevent Chinese investments in infrastructure projects that they deemed sensitive in Greenland.<sup>24</sup> The failed attempt by General Nice Group to purchase an abandoned Danish naval base at Grønneidal, and by China Communications Construction Company (CCCC) to win a bid to expand two of Greenland's international airports and construct a third (see Chapter Three) are two such examples.

Canada has a great deal of leeway to block Chinese investments on national security grounds when it wishes to—without needing to provide further explanations.<sup>25</sup> Chinese investments in Canada are subject to the Investment Canada Act, under which "foreign investments of a certain size and nature must first be approved by the government as being 'of net benefit to Canada.' There is a separate review process that can be invoked to determine if a foreign investment could be 'injurious' to national security."<sup>26</sup> The Canadian government has a great deal of flexibility in deciding what constitutes a "net benefit to Canada" and what can be "injurious."<sup>27</sup> Some potential Chinese investments have accordingly been denied in the Canadian Arctic. In 2020, it used a similar justification to stop Shandong Gold from purchasing Canadian company TMAC, which operates the Doris gold mine in Hope Bay, Nunavut.<sup>28</sup> China has long protested those provisions of the Canadian law, and pushed for, in particular, an increased ability on the part of China to import high technologies from Canada.<sup>29</sup>

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<sup>21</sup> Lackenbauer et al., 2018, p. 127.

<sup>22</sup> Transparency International, "Corruption Perceptions Index, 2021," webpage, undated.

<sup>23</sup> Lackenbauer et al., 2018, p. 128.

<sup>24</sup> Cornell Overfield, Anthony Miller, Eleanore Douglas, Kasey Stricklin, Mary Ellen Connell, *Foreign Direct Investment Screening in the Arctic*, Arlington, Va.: Center for Naval Analyses, January 2022, pp. 74–75.

<sup>25</sup> Tom Daly and Jeff Lewis, "Canada Rejects Bid by China's Shandong for Arctic Gold Mine on Security Grounds," Reuters, December 22, 2020.

<sup>26</sup> Mark Katz, "The Investment Canada Act and Chinese Investment in Canada," Canadian Bar Association, August 15, 2012.

<sup>27</sup> Katz, 2012.

<sup>28</sup> Tom Daly and Jeff Lewis, "Canada Rejects Bid by China's Shandong for Arctic Gold Mine on Security Grounds," Reuters, December 22, 2020.

<sup>29</sup> Steven Chase and Robert Fife, "China's Premier Urges Trudeau to Relax Controls on High-Tech Exports," *Globe and Mail*, April 18, 2017. In several instances, however, China was allowed to proceed with the acquisition of sensitive or high-tech firms, showing the limits of these safeguards. See Stephen Noakes

Like Canada, the United States has FDI screening laws that apply to the entire country rather than Arctic-specific ones.<sup>30</sup> In Overfield et al., 2022, which undertook an exhaustive analysis of FDI screening mechanisms in the Arctic, the authors describe the U.S. process in this regard as “highly formal and structured,” and note that “the 2018 Foreign Investment Risk Review Modernization Act (FIRRMA) amendment to the DPA [Defense Production Act] established formal sector-specific screening requirements in real estate, infrastructure, technology, and data.”<sup>31</sup> Such screening is done by the interagency Committee on Foreign Investment in the United States (CFIUS). At the state level, Alaska requires companies with “alien affiliates” to disclose who these affiliates are, and a failure to comply could potentially lead to the company’s dissolution.<sup>32</sup>

These FDI screening mechanisms—or, in the case of Greenland, Copenhagen’s vigilance and use of its remaining prerogatives in its relationship with the island—contrast with the laxity observed in several cases described in Chapter Four. These mechanisms provide states with some degree of control over what investments and activities get approved, making it easier to stop in its track any that might pose a risk to security or more broadly present a threat to Arctic states’ strategic interests.

## Local Populations Can Prevent Activities They Deem Threatening

Local Arctic populations, including members of indigenous groups, are sometimes described as a potential vector of Chinese influence—as they might be susceptible to buy into China’s discourse on how these populations should be empowered, and they might be welcoming of Chinese investments that provide the development and infrastructure that they are lacking and, in the case of Greenland, could hasten their progress on the road to financial independence from Copenhagen.<sup>33</sup> Yet, in practice, China’s track record at engaging these populations has been mixed.<sup>34</sup> Author Deng Beixi notes that in the Arctic,

Chinese actors appear unable to provide the necessary disclosure to satisfy the transparency demands of the Indigenous community or offer an explicit explanation of the intentions underlying their investment at all times. They also have difficulty in navigating through the confusing relations and conflicting interests of central government, regional administrations, and Indigenous communities in general, as these parties have varied

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and Charles Burton, “Economic Statecraft and the Making of Bilateral Relationships: Canada-China and New Zealand-China Interactions Compared,” *Journal of Chinese Political Science*, Vol. 24, 2019, p. 422.

<sup>30</sup> Overfield et al., 2022, p. 17.

<sup>31</sup> Overfield et al., 2022, p. 49.

<sup>32</sup> Overfield et al., 2022, p. 52.

<sup>33</sup> See, for example, David Auerswald, “China’s Multifaceted Arctic Strategy,” *War on the Rocks*, May 24, 2019.

<sup>34</sup> Discussion with TTX participants.

perspectives towards Arctic resource development within their respective sovereignties or regional/local administrative competences.<sup>35</sup>

In several instances, the value of Chinese investments for local communities have been questioned, sometimes resulting in a slowing down of these activities. In Greenland, the issue of the potential adverse effects on the environment of the Isua mine led to local protests in 2012.<sup>36</sup> Additionally, the controversial issue of the number of foreign workers that would eventually be allowed to work on the mine (and in Greenland more broadly)—as well as the question of whether this constituted “social dumping”—contributed to a change of government in the March 2013 parliamentary elections, with the victory of a party who advocated for closer monitoring of foreign investments in Greenland.<sup>37</sup> Even the very small number of Chinese workers who have come to work in Greenlandic fisheries has proven problematic—not because of the number of them or their working conditions but because Greenland’s need to import workers to perform tasks perceived as traditionally Greenlandic “came as an embarrassment.”<sup>38</sup>

One particularly problematic impact of some Chinese investments in regions other than the Arctic has been their devastation of the environment, but local populations in the North American Arctic appear to have been particularly vigilant about that matter. In 2011, leaders for the Inuit people (who live in Alaska, Canada, and Greenland) signed a Declaration on Resource Development Principle that emphasizes sustainable development, benefits from local populations, and economic diversification.<sup>39</sup> In Canada’s Arctic provinces, as Lackenbauer et al. noted, “drilling . . . has been inhibited by heavy regulation, protests from environmental groups, and caution in the wake of the catastrophic Deepwater Horizon oil spill.”<sup>40</sup> Another interesting case is the ongoing debate in Greenland about uranium extraction. The Greenlandic government established a regulatory nonproliferation framework in 2016 but did not ban FDI in uranium mining outright.<sup>41</sup> The coalition government that won the April 2021 election ran on a platform opposed to the exploitation of the Kvanefjeld/Kuannersuit Field, which is close to the town of Narsaq. Greenlandic Prime Minister Egede has since said the government is not absolutely opposed to the mine, just concerned about the environmental impacts and radioactive by-products. In July 2021, the government introduced legislation to forbid the mining and export of uranium, essentially reinstating the zero-tolerance policy on uranium mining in effect between 1988 and 2013. The legislation would limit the amount

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<sup>35</sup> Deng Beixi, 2018, pp. 222–223.

<sup>36</sup> Volpe, 2020, p. 14.

<sup>37</sup> Lackenbauer et al., 2018, pp. 107–108; Gad et al., 2018, p. 148.

<sup>38</sup> Gad et al., 2018, p. 150.

<sup>39</sup> Lackenbauer et al., 2018, p. 128.

<sup>40</sup> Lackenbauer et al., 2018, p. 119.

<sup>41</sup> Yang Jiang, Tonami, and Fejerskov, 2016, p. 16.

of uranium present as a by-product in any mining operations to 100 parts per million—which would likely prevent the Kvanefjeld operation going ahead.<sup>42</sup>

## High Costs of Investments in the Arctic Limit the Region’s Attractiveness

Not only have Chinese investments remained fairly limited in the North American Arctic, due to intense scrutiny by the Arctic states where these investments are taking place, but of those Chinese investments that have been approved by government regulatory agencies, few have succeeded financially. A primary explanation for this lack of profitability is the relatively low value of certain resources, such as iron ore. As noted by Lackenbauer et al., even though, all things considered, Chinese companies have been at times less risk-averse than Western companies in the Arctic, overall they have still been careful to engage in, and maintain, activities that were financially sustainable.<sup>43</sup> Extraction costs are higher than in other countries with similar resources, such as Brazil or Australia.<sup>44</sup> Additionally, the lack of infrastructure both to support economic activity (ports, railways, pipelines) and to ensure proper safety of the personnel operating under Arctic conditions further increases costs and risks.<sup>45</sup> This situation may change over time as sea ice recedes, new technology for deep water drilling develops, and new infrastructure gets built, but for the time being the economic incentives to invest in the Arctic remain limited.

This profitability issue appears particularly important for China. Although economic value is obviously but one aspect of investments, which can also be strategic politically or economically—and China’s ventures into REE extraction in the Arctic, as part of its effort to dominate the market, is a case in point<sup>46</sup>—China has appeared reluctant to invest in activities that show unclear or low return on investments.<sup>47</sup> As Andersson, Zeuthen, and Kalvig noted, “Chinese control over capital outflows means that both political support and commercial viability are increasingly required.”<sup>48</sup> In Greenland, Chinese company General Nice

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<sup>42</sup> Mingming Shi and Marc Lanteigne, “Turning Off the Taps? Greenland Says No to Oil Development Plans,” *Over the Circle*, August 2, 2021; Jenny Denton, “‘Red-Carded’ Australian Miner Signals Intention to Play on in Greenland,” *Mongabay*, July 12, 2021.

<sup>43</sup> Lackenbauer et al., 2018, pp. 100 and 103. See also Brady, 2017, p. 95.

<sup>44</sup> Lackenbauer et al., 2018, p. 109.

<sup>45</sup> Deng Beixi, 2018, p. 222.

<sup>46</sup> Elizabeth Wishnick, *China’s Interests and Goals in the Arctic: Implications for the United States*, Carlisle, Pa.: Strategic Studies Institute and U.S. Army War College Press, March 2017, p. 48. However, Lackenbauer and colleagues show that China’s attempt to dominate the RRE market has been effectively countered by other nations with new, large mining projects, such as Mt. Weld in Australia and Mountain Pass in the United States (Lackenbauer et al., 2018, p. 212).

<sup>47</sup> Deng Beixi, 2018, p. 221.

<sup>48</sup> Andersson, Zeuthen and Kalvig, 2018, p. 116.

paused its efforts to develop the Isua iron ore mine (acquired in 2015, making it at the time the first Chinese company to be allowed to mine in Greenland) because low commodity prices did not make it profitable.<sup>49</sup> In 2021, this lack of activity at the site (as well as reported failure, by General Nice, to make agreed guarantee payments) prompted the government of Greenland to take back its license, which should eventually be reissued to one or more other companies.<sup>50</sup> The Isua mine has been a learning experience for Chinese operators in general, and has increased the degree of caution they give to investing in the Arctic.<sup>51</sup> A few years earlier in northern Canada, the Nunavik nickel project (carried out by Jilin Jien Nickel Industry Company Ltd. after its acquisition of Canadian Royalties Inc.) ran into financial issues because of the lower-than-expected navigability of the Northwest Passage.<sup>52</sup> In the Russian Arctic, China expert Yun Sun attributes China's slow pacing of its investments in infrastructure along the NSR to the lack of "Russian strategic and business concessions," as well as "the unfavorable assessment of the economic practicality of the Northern Sea Route."<sup>53</sup>

In that perspective, a red flag to look for might be when China starts making investments that do not make economic sense—in the sense that they are unlikely to generate benefits in the foreseeable future or do not help solidify China's economic position globally, because this could indicate that more political interests are at play. One example would be the attempt by a Chinese billionaire to purchase a sizable plot of land in Iceland to develop a golf course in one of the windiest regions of the world.<sup>54</sup> Another example is China's investments in zinc mining in Greenland, which Andersson, Zeuthen, and Kalvig, 2018, describe as an economic decision mostly driven by foreign policy considerations rather than by an interest in the resource itself.<sup>55</sup>

Additionally, low return on investment in one domain does not mean that China cannot build presence and influence in others. Gad et al. noted that although China's interest in resource extraction in Greenland is currently limited, "[Greenlandic] Government efforts have instead been invested in promoting Greenland's seal fur, seafood and tourist destinations to Asian economies. Simultaneously, the array of possible connections seems to widen, particularly in spheres with a more or less obvious role for the Chinese state: science, tech-

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<sup>49</sup> Conley, Heather A., Matthew Melino, Nikos Tsafos, and Ian Williams, *America's Arctic Moment: Great Power Competition in the Arctic to 2050*, Washington, D.C.: Center for Strategic and International Studies, 2020, p. 16.

<sup>50</sup> "Greenland Strips Chinese Mining Firm of Licence to Iron Ore Deposit," Reuters, November 22, 2021.

<sup>51</sup> Deng Beixi, 2018, p. 222.

<sup>52</sup> Deng Beixi, 2018, pp. 227–228.

<sup>53</sup> Sun, 2018b, pp. 12 and 14.

<sup>54</sup> Andrew Higgins, "Teeing Off at Edge of the Arctic? A Chinese Plan Baffles Iceland," *New York Times*, March 22, 2013.

<sup>55</sup> Andersson, Zeuthen, and Kalvig, 2018, p. 129.

nology and communication.”<sup>56</sup> In that perspective, scrutiny of these different areas might be warranted, especially because science policy, for instance, falls squarely into Nuuk’s prerogatives, with no involvement from Copenhagen.<sup>57</sup>

## Arctic States’ Level of Technological Development Limits China’s Appeal

The risks of China expanding access to its BeiDou navigation satellite system to Arctic countries as part of its “Space Silk Road” appear limited, particularly in the North American Arctic. So far, most countries that have been granted access or have adopted BeiDou are part of the BRI and are located in the Indo-Pacific region, Eastern Europe, Africa and the Arab world.<sup>58</sup> In the Arctic, two nations out of eight operate their own global navigation satellite system (GNSS): the United States (with GPS) and Russia (with GLONASS). Furthermore, although BeiDou’s accuracy appears to outperform GPS in some cases, it does not provide such a comparative advantage that Arctic nations might adopt it, especially because the system collects information in addition to sending it (unlike GPS), creating potential security and data confidentiality issues.<sup>59</sup>

Arctic countries’ level of technological development means that they can usually replace Chinese systems if they deem them unsafe. For instance, the *South China Morning Post* released a story, then contested by other sources, that four underwater sensors installed by China along the coast of Canada, as part of a collection of sensors operated by the University of Victoria’s Ocean Network Canada (ONC), could potentially collect intelligence about activities at the U.S. naval base at Kitsap, which is located approximately 190 miles away.<sup>60</sup> ONC denied that the four sensors could be used for purposes other than research on hydrothermal vents, with one expert adding that modifying sensors to give them a military use would be both challenging and noticeable by Canadian authorities.<sup>61</sup> Regardless of the feasibility of such modifications, what matters here is that Canada could easily replace these sensors if it decided it represents a risk to its national security (or to its U.S. ally). In other words,

<sup>56</sup> Gad et al., 2018, p. 151.

<sup>57</sup> Gad et al., 2018, p. 152.

<sup>58</sup> Ryan Woo and Liangping Gao, “China Set to Complete Beidou network Rivaling GPS in Global Navigation,” Reuters, June 11, 2020; U.S.-China Economic and Security Review Commission, *2019 Report to Congress*, Washington, D.C., November 2019, pp. 369–370; Anjani Trivedi, “GPS, Watch Out. Here Comes China’s System,” *Washington Post*, August 12, 2020.

<sup>59</sup> Anjani Trivedi, 2020; John Xie, “China’s Rival to GPS Navigation Carries Big Risks,” *VoA News*, July 8, 2020.

<sup>60</sup> Stephen Chen, “Canada Installs Chinese Underwater Monitoring Devices Next to US Nuclear Submarine Base,” *South China Morning Post*, October 22, 2018; Ian J. Keddie, “No, China Hasn’t Hijacked Canadian Sea Sensors to Spy on US Subs,” *Vice*, November 2, 2018.

<sup>61</sup> Keddie, 2018.

China is not providing technologies that are essential or unique to Arctic nations, unlike what it does in other regions of the world (see Chapter Four). China benefits from scientific cooperation in the Arctic, and it needs Arctic states to provide it with the access that will provide that Arctic-specific knowledge. As a result, it has limited incentives to misbehave, as this access could be denied as quickly as it has been granted.

Safe Cities and Smart Cities are also unlikely to be an issue in North American Arctic countries that are not relying on Chinese telecommunication providers for their 5G networks. As mentioned in Chapter Four, a main concern is that Smart City and Safe City concepts are backed by Chinese-provided technology through such companies as Huawei and ZTE that are required by the Chinese National Security Act to relay all data in their possession to Beijing's intelligence service. Experts also warn that these concepts may enable China to hit a kill switch on a city's operations in extreme scenarios.<sup>62</sup> However, with North American Arctic states banning (United States) or moving away (Canada, Greenland) from Huawei and other Chinese telecommunication providers, China cannot develop such systems.

Doing without—or, in some cases, replacing—Chinese technology, which is often cheaper than its competitors, might, however, come at a cost. As Arctic experts Mia Bennett and Benjamin Lucca Iaquinto noted, “These bans [such as Huawei's] may undermine the ability to build affordable telecommunications infrastructure where it is most lacking in the Arctic, largely in rural, remote and Indigenous communities.”<sup>63</sup> After Huawei was banned from developing 5G networks in the United States, there were some concerns in some rural areas, including in Alaska, about the cost of replacing existing Chinese infrastructure to be in compliance with the new law. In response, the FCC established in October 2021 a \$1.9 billion program, mostly aimed at supporting rural carriers, to help replace communications equipment from already-installed equipment from listed companies.<sup>64</sup>

## Arctic States' Relative Wealth Protects Them from Predatory Lending Practices

Arctic states are unlikely to fall prey to opaque and predatory lending practices that other countries—such as Sri Lanka and Pakistan—have experienced. The main reason is that most Arctic states are fairly wealthy to begin with—even though they might experience some income and development disparities between Arctic and non-Arctic regions and communities. The United States, Canada, and Greenland are all high income, according to the World

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<sup>62</sup> James Kynge, Valerie Hopkins, Helen Warrell, and Kathrin Hille, “Exporting Chinese Surveillance: The Security Risks of ‘Smart Cities,’” *Financial Times*, June 9, 2021.

<sup>63</sup> Bennett and Lucca Iaquinto, 2021, p. 14.

<sup>64</sup> Elizabeth Earl, “Rural Telecoms, Including Alaska, Worry Over Huawei Order,” *Alaska Journal of Commerce*, June 5, 2019; “U.S. to Open Program to Replace Huawei Equipment in U.S. Networks,” Reuters, September 27, 2021.

Bank.<sup>65</sup> In 2015, Alaska had a median household income of more than \$71,000, making it the third-richest state in the United States.<sup>66</sup> In the case of Canada, both Yukon and Northwest Territories (including Nunavut) had substantially higher household income per capita in 2012–2016 than Canada as a whole. On its own, however, Nunavut shows a household income per capita slightly inferior to Canada’s over that same period.<sup>67</sup> Thus, overall, while being interested in attracting foreign investments and developing trade—including with China—Arctic states have some leeway to set their conditions. This has proven true even for Russia—the Arctic country that has so far undertaken the largest and most ambitious co-development project with China—with the Yamal LNG project: For instance, Russia has been careful to fund on its own Yamal LNG’s Sabetta port, which is a key infrastructure of the project.<sup>68</sup>

An example of Arctic resilience in that regard is the case of Iceland. In spite of having welcomed Chinese financial help at the time of a devastating banking crisis that left the country close to bankrupt in 2008 and signing a free trade agreement with China in 2013, Iceland’s governance has protected its national interests while maintaining normal relations with China. Iceland has not joined China’s BRI and has at times pushed back on Chinese efforts to be more present on the island, such as when Chinese businessman Huang Nubo sought to purchase 100 square miles of land to build a golf course and other amenities for tourists. The project lacked economic sense and raised suspicion from Icelandic authorities.<sup>69</sup> The Icelandic Chairmanship of the Arctic Council in 2019–2021 did not provide China with any substantial inroads into a larger role in the Arctic Council or in Arctic governance more broadly, as China may have hoped.<sup>70</sup> Iceland has also joined consensus with other NATO allies in declaring that China’s growing influence and international policies can present challenges to the security interests of the alliance.<sup>71</sup>

The case of Greenland, however, presents unique challenges. Greenland’s partial financial dependence on Copenhagen’s annual block subsidy—and the expressed desire of the coalition Inuit Ataqatigiit party (IA)-Naleraq government that came to power in April 2021 to achieve greater autonomy and eventually full independence—has led some observers to speculate that it might invite more Chinese investments to reach that objective. However, so far the government has pursued diverse international investment with careful consideration of Greenlandic interests, as reflected in the decision to halt the Kvanefjeld/Kuannersuit REE mining project because of environmental concerns. In addition, Denmark’s continuing efforts to ensure Greenland’s economic sovereignty and security—in addition, growing

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<sup>65</sup> World Bank, “High Income,” webpage, undated.

<sup>66</sup> Dora Mekouar, “These are America’s Richest and Poorest States,” *VoA News* blog, September 21, 2015.

<sup>67</sup> Statistics Canada, “Long-Run Provincial and Territorial Data,” February 12, 2015.

<sup>68</sup> Sun, 2020.

<sup>69</sup> Brookings, p. 21; Heritage, p. 14; Lackenbauer et al., 2018, p. 114.

<sup>70</sup> Conley et al., 2020, p. 16.

<sup>71</sup> NATO, “Brussels Summit Communiqué,” press release, June 14, 2021, Paragraph 3.

U.S. engagement with the Greenlandic provide additional safeguards against malign Chinese investments and activities.<sup>72</sup>

That being said, it is important to keep an eye on potential Chinese pressure on Arctic economies that are reliant on trade with China for a large part of their exports. In Chapter Five, we discussed the concerns in Alaska following the announcement of staunch trade measures against China by the Trump administration. The Faroe Islands is another case in point. They, too, export large amounts of salmon to China—although this share has decreased in recent years.<sup>73</sup> In 2019, China suggested that it could increase its trade with the Faroe Islands if it chose Huawei to build its 5G network, while the United States sought to convince Faroe leaders to refrain from doing so.<sup>74</sup> Although Huawei was not chosen in the end, it is worth noting that economies that rely on a limited number of commodities for their trade might be more vulnerable to Chinese pressure, unless the United States—or another country—is ready to step in to help compensate the costs of potential retaliatory measures on the part of China.

## Gaps in Arctic Resilience and Uncertainties

Although these factors of resilience mitigate many of the risks of Chinese investments and activities identified in Chapter Four, they do not fully protect North American Arctic states and populations from some of the adverse outcomes observed elsewhere. This section examines gaps in these factors of resilience and uncertainties about the future that deserve particular scrutiny.

### Russia's Relationship with China Creates Uncertainties

If Chinese-Russian relations continue to deepen over the coming decade, this could give Beijing increased influence in and access to the Arctic. Russia has come a long way in this regard. As Christopher Weidacher Hsiung noted, “Russia has long cautioned against greater involvement from China, evident with its hesitant acceptance of China’s permanent observer status in the Arctic Council (AC).”<sup>75</sup> Yet cooperation between the two countries has deepened in the aftermath of Russia’s illegal annexation of Crimea—which Beijing still does not recognize. Both governments tout the development of the large-scale LNG project in the Yamal

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<sup>72</sup> Erin Parsons, “Is China’s ‘Debt-Trap Diplomacy’ in Greenland Simply on Ice?” *The Diplomat*, January 5, 2022; and Mikkel Schøler and Marc Lanteigne, “China and Greenland: Debunking the ‘Debt Trap’ Scenario,” *The Diplomat*, January 8, 2022.

<sup>73</sup> Bennett and Lucca Iaquinto, 2021, p. 13.

<sup>74</sup> Adam Satariano, “At the Edge of the World, A New Battleground for the U.S. and China,” *New York Times*, December 20, 2019.

<sup>75</sup> Weidacher Hsiung, 2020, p. 23.

Peninsula—where Chinese investors have provided up to 60 percent of the capital and have acquired almost 30-percent equity in the project—and are discussing the development of an additional project nearby. China and Russia have signed several commercial and official agreements concerning shipping along the NSR and, in 2017, endorsed joint development of a Polar Silk Road. However, the two governments have yet to initiate other concrete projects.<sup>76</sup>

From China’s viewpoint, there are clear benefits to cooperating with Russia in these areas. Shipping represents more than 90 percent of China’s international trade transportation and the opening of Arctic routes would reduce maritime transportation costs as well as risks in other transportation routes, alleviate China’s energy shortage, and make China a hub for transporting Arctic energy to the world. China therefore needs development partners in order to capitalize on the immense potential benefits of a developed NSR. Moreover, China and Russia share a foundation of mutual hostility toward the United States.<sup>77</sup> In 2019, Xi Jinping and Vladimir Putin issued a statement proposing joint Arctic cooperation focused on sustainable development, infrastructure, resource extraction, tourism, and environmental protection.<sup>78</sup>

The commitments that Presidents Putin and Xi made in their February 2022 joint statement to a friendship with “no limits” and to a wide array of political, economic, security, and military cooperation suggests that the two countries might solidify their joint development of projects in the Russian Arctic and elsewhere.<sup>79</sup> The two leaders underscored their efforts in the “reform and development of the global governance system,” and contended their joint efforts will initiate “a new era or international relations,” replacing what they labeled as the U.S.-led order.<sup>80</sup> The joint statement included two specific and significant references to the Arctic. The two governments agreed to “intensifying practical cooperation for the sustainable development of the Arctic,” and called upon all countries to “strengthen cooperation in sustainable transport . . . including smart development and use of Arctic routes.”<sup>81</sup>

Our collaborative research with FOI and our discussion among TTX participants make clear that the evolving nature of Chinese-Russian relations will be a major factor in shaping Chinese activities and presence in the Arctic. In the aftermath of its invasion of Ukraine,

<sup>76</sup> Weidacher Hsiung, 2020, p. 24.

<sup>77</sup> Li Zhenfu [李振福], Wang Wenya [王文雅], Mitko Valery Bronislavich [米季科·瓦列里·布罗尼斯拉维奇], “Construction of Sino-Russian Arctic Cooperation Corridor [中俄北极合作走廊建设构想],” *Northeast Asia Forum* [东北亚论坛], Issue 1, February 2017.

<sup>78</sup> Wu Leizhao [吴雷钊], “Arctic Geopolitics and Security Situation and China’s Participation in Arctic Governance [北极地缘政治和安全态势及我国参与的北极治理],” March 2021.

<sup>79</sup> Russian Federation and the People’s Republic of China, “Joint Statement of the Russian Federation and the People’s Republic of China on the International Relations Entering a New Era and the Global Sustainable Development,” Beijing, February 4, 2022.

<sup>80</sup> Chen Qingqing and Hu Yuwei, “Unprecedented China-Russia Ties to Start a New Era of Intl Relations Not Defined by US,” *Global Times*, February 5, 2022.

<sup>81</sup> Russian Federation and the People’s Republic of China, 2022, Part II.

unprecedented Western sanctions, and diminished trade flows, if they hold, seem likely to exacerbate Russia's economic decline and shortcomings in advanced technologies. In this context, Moscow may look to China for help in realization of its Arctic development goals, including investments in energy extraction and development of the NSR for commercial shipping. Although TTX participants disagreed on whether Russia was a "gatekeeper" in the Arctic—in the sense that other countries than Russia might invite a larger Chinese presence—they noted that Russia is likely to remain wary of a Chinese military presence in the Arctic. In that perspective, two scenarios could potentially lead to such presence: one that sees a weakening of Russia, and its inability to hold back a Chinese presence it remains suspicious of; and another that sees, on the opposite, a strengthening and emboldening of Russia, which feels it can benefit from a Chinese presence it does not fear anymore.<sup>82</sup>

A related uncertainty on Arctic governance concerns the March 2022 decision of the other seven members of the Arctic Council to pause participation in all meetings of the Arctic Council and its subsidiary bodies in light of Russia's invasion of Ukraine until new modalities for continued cooperation can be established.<sup>83</sup> If engagement with Russia in the Arctic Council is resumed, the nature of cooperation will likely be more circumscribed. If some or all of the other governments refuse to reengage with Moscow, that could drive Russia to pursue further collaboration with China on Arctic issues as part of both countries' efforts to reform the global governance in line with their respective strategic interests.

## Uncertainty Related to Greenland's Independence

Greenland—a former Danish colony and a member of the Kingdom of Denmark since 1953—has progressively gained more autonomy, first with Home Rule in 1979, which gave it control over its domestic policy, then in 2009–2010 with a self-government that has authority over health, education, fiscal policy, and mineral resources. Copenhagen, however, is still in charge of Greenland's foreign and defense policy—and the line between what falls under the foreign policy and economic realms is sometimes blurred, leading to occasional disagreements between Nuuk and Copenhagen as to whether the latter might be overstepping the boundaries of its remaining authority over the island's matters.<sup>84</sup> Chinese investments could speed up Greenland's independence by providing the Greenlandic autonomous government with the financial means to compensate the annual block subsidy that Copenhagen provides and move faster toward independence—a move that a 2019 poll shows is supported by close to 68 percent of Greenlanders.<sup>85</sup> In recent years, Greenland has sought Chinese investments,

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<sup>82</sup> Discussions with TTX participants.

<sup>83</sup> U.S. Department of State, Office of the Spokesperson, Media Note, "Joint Statement on Arctic Council Cooperation Following Russia's Invasion of Ukraine," March 3, 2022.

<sup>84</sup> Rasmussen, 2019, pp. 174–175 and p. 178.

<sup>85</sup> Gad et al., 2018, p. 145; Martin Breum, "A Rare Poll Hints at Real Differences Between Danish and Greenlandic Thinking on Greenland's Independence," *Arctic Today*, January 22, 2019.

while Copenhagen remains suspicious of Chinese intentions.<sup>86</sup> In 2018, Copenhagen's decision to step in to renovate and operate three airports, hence preventing a Chinese company from possibly winning that contract, resulted in pro-independence party Partii Naleraq to quit the governing coalition in response.<sup>87</sup>

There are some major uncertainties relating to whether an independent Greenland could be politically influenced by China if it came to rely on Chinese investments to maintain its current standards of living without Copenhagen's block subsidy. Greenland's ability to steer its own course might be limited if its economy relies on a limited number of resources and activities—and China plays a strong role in all or most of them.<sup>88</sup> This factor goes beyond mining—as discussed in Chapter Three, the Chinese market is particularly important for Greenlandic fisheries, which represent more than 90 percent of the country's exports.<sup>89</sup> Furthermore, an independent Greenland may take time to build strong regulations, resulting potentially in a more lax policy when it comes to screening investments.<sup>90</sup>

That being said, the risk of an independent Greenland aligning with China—or moving significantly away from NATO—should not be overstated. As noted earlier, Greenland is already working with Canada on developing stricter regulations for future investments.<sup>91</sup> Arctic experts generally believe that an independent Greenland's defense and security would remain largely aligned with the United States.<sup>92</sup> Potential options could include some partnership with the United States, or even a NATO membership following the Iceland model (i.e., with limited militarization of the island). Additionally, calls from Greenlandic authorities for more maritime awareness capabilities suggest that there might be room for more security cooperation activities with the United States.<sup>93</sup>

It is also worth noting that, as Jon Rabbek-Clemmensen noted, “Full Greenlandic independence is not around the corner.”<sup>94</sup> It will take time to create the additional revenue streams that will allow Greenlanders to enjoy an economically sustainable independence—one that does not result in lower standards of living. As of 2021, Greenland still had to increase its GDP by 50 percent to reach the level of development it needs to reach that sustainability. Reaching that objective would require a drastic increase in commodity prices or an unprecedented

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<sup>86</sup> Erik Matzen and Tom Daly, “Greenland's Courting of China for Airport Projects Worries Denmark,” Reuters, March 22, 2018.

<sup>87</sup> Mia M. Bennett, “Controversy Over Greenland Airports Shows China Still Unwelcome in the Arctic,” *Cryopolitics*, September 12, 2018.

<sup>88</sup> Lackenbauer et al., 2018, p. 127.

<sup>89</sup> Central Intelligence Agency, “Greenland,” *CIA World Factbook*, undated.

<sup>90</sup> Lackenbauer et al., 2018, p. 127.

<sup>91</sup> Lackenbauer et al., 2018, p. 128.

<sup>92</sup> Rasmussen, 2019, p. 171; Jon Rabbek-Clemmensen, presentation at RAND, August 2021.

<sup>93</sup> Jon Rabbek-Clemmensen, presentation at RAND, August 2021.

<sup>94</sup> Jon Rabbek-Clemmensen, presentation at RAND, August 2021.

boom in fisheries. Mineral extraction and tourism represent additional sources of revenue, but these areas have limited potential.<sup>95</sup> In other words, there is time for the United States—as well as other Arctic states—to continue building a sound economic and political relationship with Greenland that would make Chinese contributions to the economy less attractive.

## Opportunities for Investments (from China and Others) Will Grow

These different factors of resilience have resulted in an overall limited number of Chinese investments in the North American Arctic. Not only are these investments limited, but they are fairly small, with none even remotely close to the size of the Yamal LNG project that China developed with Russia. Overall, the Arctic is a small market for investments due to—among other factors—the difficulties of operating in the region and the resulting high costs in comparison to expected benefits. This means that the North American Arctic is still a new area for Chinese development—there are no dependency paths yet. China is slowly increasing its interest in the region, but by now the United States, Canada, and Denmark not only work together but are also keenly aware of the potential risks that Chinese activities can pose to their countries, resulting in a higher level of scrutiny.

However, this situation could change over time. The Arctic is not a top priority for China, but it could become so given different circumstances—for instance, if China experiences food scarcity, a water crisis, or some other type of domestic crisis that it believes a deeper foray into the Arctic could help address.<sup>96</sup> Another factor that could change China's level of interest in the region is whether commodity prices increase and make it worthwhile to invest more assertively in resource extraction in the Arctic. As noted by Lackenbauer et al., “Mineral concentrations at Mary River, Izok Lake, Isua, Kvanefjeld, and others are world class and, with better infrastructure, can present excellent economies of scale. When resource prices justify activity, many of these projects will almost certainly be revisited.”<sup>97</sup> One red flag suggesting that China might become more involved in Arctic resource extraction might be its increased involvement in Arctic shipping, because the latter is largely a precondition of the former.<sup>98</sup> Opening maritime routes would require substantial infrastructure along the way, although when these routes would be viable for large volumes of traffic is still unclear. One TTX participant highlighted the radical changes that would need to occur to make the NSR an economical route for large-scale container shipping. The threshold is even higher for the Northwest Passage, which is largely undeveloped.<sup>99</sup>

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<sup>95</sup> Jon Rahbek-Clemmensen, presentation at RAND, August 2021.

<sup>96</sup> Discussions with TTX participants.

<sup>97</sup> Lackenbauer et al., 2018, p. 110.

<sup>98</sup> Deng Beixi, 2018, p. 223.

<sup>99</sup> Discussions with TTX participants.

Meanwhile, Arctic regions will continue to need investments, services, and infrastructure. Marco Volpe notes that “the need for diversified income opportunities means that developing the mining sector could be a chance to increase Greenland’s economy and offer a solution to the unemployment rate, which reached 9.4 percent in 2015.”<sup>100</sup> Increased access to the Arctic as a consequence of climate change will increase demand for infrastructure overall, at the same time that whatever infrastructure already exists will likely need to be replaced or upgraded due to permafrost thawing.<sup>101</sup> Although the limited volume of Chinese investments in the Arctic has allowed Arctic states to step in when they thought this was required, it is not clear whether it might be possible to do so when that volume increases.

## Increased Influence Is Difficult to Track

China’s ability to exert influence remains difficult to measure, even once all of its vectors of presence in the Arctic have been listed. For one, as a Congressional Research Service report notes, “No comprehensive, standardized, or authoritative data are available on all Chinese overseas economic activities—from either the Chinese government or international organizations.”<sup>102</sup> As a result, providing a clear picture of these activities in a particular region or in a specific domain is challenging, and can be prone to errors.<sup>103</sup> This issue is compounded for certain soft activities, such as China’s cultural influence. In the Arctic, this influence is difficult to assess. Between 2008 and about 2016, the University of Alaska-Anchorage hosted a Confucius Institute,<sup>104</sup> identified by some U.S. officials as a form of Chinese public diplomacy and soft power.<sup>105</sup> Alaska and Heilongjiang Province in China have a long-standing relationship, and Anchorage now has a similar relationship with Harbin (in Heilongjiang Province).<sup>106</sup>

<sup>100</sup> Volpe, 2020, p. 14.

<sup>101</sup> As researchers previously noted,

Arctic infrastructure upgrades will become a near permanent fixture, not only to meet the needs of increased human and commercial activity but also due to extensive damage caused by permafrost thaw. For example, it was recently announced that Greenland’s main airport will close in five years due to runway damage caused by permafrost thaw, requiring a new airport to be constructed. (Conley et al., 2020, p. 16)

<sup>102</sup> Andres B. Schwarzenberg, *Tracking China’s Global Economic Activities: Data Challenges and Issues for Congress*, Washington, D.C.: Congressional Research Service, R46302, July 14, 2020, p. 4.

<sup>103</sup> Schwarzenberg, 2020, pp. 4–5.

<sup>104</sup> University of Alaska, “Annie Zeng,” webpage, undated .

<sup>105</sup> Ethan Epstein, “How China Infiltrated U.S. Classrooms,” *Politico Magazine*, January 17, 2018; and Luwei Rose Luqui and John D. McCarthy, “Confucius Institutes: The Successful ‘Soft Power’ Penetration of American Universities,” *Journal of Higher Education*, Vol. 90, No. 4, 2019, pp. 620–643.

<sup>106</sup> Liz Bowman and Quingchao Xu, *China in the Arctic: Policies, Strategies, and Opportunities for Alaska*, Center for Arctic Policy Studies, University of Alaska Fairbanks, 2020, p. 18.

Tourism can also be a vector of such influence. Not only does it facilitate cultural exchanges, but, in some cases, tourism has led to the adoption in Arctic countries of software intended to facilitate the experience of these tourists—such as when Finland allowed Chinese tourists to use a Chinese payment platform to pay for services and goods in Finland.<sup>107</sup> More broadly, Mia Bennett and Benjamin Iaquinto show how China conceives of mass tourism as an opportunity to gather and disseminate data on various aspects of the tourists' experience, from weather to security conditions.<sup>108</sup>

## China May Realize It Is Often Its Own Worst Enemy in the Arctic

Although a particularly aggressive style of Chinese diplomacy—dubbed the *Wolf Warrior diplomacy* after a successful Chinese movie franchise—has not played out particularly well in the Arctic, as evidenced by China's checkered bilateral relations with several Arctic states, China might change its approach to make its presence and influence more palatable, if given sufficient incentives to do so.<sup>109</sup> To some extent, it has already started doing so, showing a clear ability to “step back” when its efforts in the Arctic met with suspicion or hostility, particularly with those countries that are also U.S. allies.<sup>110</sup> China has also been careful not to appear to directly threaten the strategic interests of various Arctic states. During the controversy over a Chinese company's bid over the airport renovation contract in Greenland, a high-ranking Chinese general asserted that “China has a one-Denmark policy,” possibly to reassure Copenhagen that China's ambition is not to help Greenland on its path to independence.<sup>111</sup> This relative “tactical retreat,” in the words of Camilla T. N. Sørensen, comes at a small cost for China, because the Arctic is not currently a top strategic priority in comparison to other more pressing matters.<sup>112</sup> Tactical retreat, however, might also be part of a longer-term approach of “non-contention” that emphasizes instead cooperation to reach more effectively one's strategic objectives.<sup>113</sup>

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<sup>107</sup> Bennett and Lucca Iaquinto, 2021, p. 13.

<sup>108</sup> Bennett and Lucca Iaquinto, 2021, p. 14.

<sup>109</sup> For more on China's Wolf Warrior style of diplomacy, see Zhanna Malekos Smith, “New Tail for China's ‘Wolf Warrior’ Diplomats,” commentary, Center for Strategic and International Studies, October 13, 2021; and Zhiqun Zhu, “Interpreting China's ‘Wolf-Warrior Diplomacy,’” *The Diplomat*, May 15, 2020.

<sup>110</sup> Sørensen and Weidacher Hsiung, 2021, p. 11.

<sup>111</sup> Rasmussen, 2019, p. 180.

<sup>112</sup> Camilla T. N. Sørensen, “Intensifying U.S.-China Security Dilemma Dynamics Play Out in the Arctic: Implications for China's Arctic Strategy,” in Lassi Heininen, Heather Exner-Pirot, and Justin Barnes eds., *Redefining Arctic Security: Arctic Yearbook 2019*, Akureyri, Iceland: Arctic Portal, 2019.

<sup>113</sup> Smith, 2021. See also Aidan Powers-Riggs and Eduardo Jaramillo, “Is China Putting ‘Wolf Warriors’ on a Leash?” *The Diplomat*, January 22, 2022.

China could also foster goodwill on the part of Arctic states and populations by showing more effectively that it adds value for the region.<sup>114</sup> If it was able to deliver on its promises to improve the common good in the Arctic through efforts related to search and rescue (SAR) or the protection of the environment, for instance, there might be less of a resistance on the part of both national and local actors to welcome Chinese participation in various activities on their territory. China has already started doing so by framing its involvement in the Arctic as responsible, environmentally conscious, and sustainability minded, as evidenced, for instance, in the language it uses in its 2018 Arctic Policy.<sup>115</sup>

Providing new technologies to help solve some issues particularly salient for the Arctic might be another way to reach that goal. China already perceives technological advances as a mean to develop its relations with Arctic states and present itself as an involved, useful, and responsible Arctic stakeholder.<sup>116</sup> Camilla T. N. Sørensen and Christopher Weidacher Hsiung noted that due to the difficulty of operating in the Arctic, “improvement of knowledge and technology are . . . always in demand among Arctic states and other Arctic stakeholders, and there is a room to manoeuvre here for China in the region.”<sup>117</sup> As of late 2022, China was still behind most Arctic countries when it comes to polar-capable technologies (for applications ranging from transportation to drilling under Arctic conditions), other important domains, such as decarbonization technologies, could be particularly appealing to Arctic states and populations grappling with the consequences of climate change.<sup>118</sup> The issue of black carbon emissions, which are particularly problematic in the Arctic, is a domain where China has been particularly involved within the Arctic Council.<sup>119</sup> China is knowledgeable in other Arctic-relevant technologies, such as permafrost engineering, that it could use to present itself as a valuable partner in the Arctic.<sup>120</sup>

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<sup>114</sup> Discussions with TTX participants.

<sup>115</sup> Luke Coffey, *China’s Increasing Role in the Arctic*, Washington, D.C.: Heritage Foundation, February 11, 2020; Bennett and Lucca Iaquinto, 2021, p. 5.

<sup>116</sup> Sørensen and Weidacher Hsiung, 2021, pp. 1–2.

<sup>117</sup> Sørensen and Weidacher Hsiung, 2021, p. 4.

<sup>118</sup> Sørensen and Weidacher Hsiung, 2021, p. 7; Lackenbauer et al., 2019, p. 120; discussions with TTX participants.

<sup>119</sup> Yulia Yamineva, “Reducing China’s Black Carbon Emissions: An Arctic Dimension,” in Sanna Kopra, ed., *The Arctic Institute’s China Series 2020*, Washington, D.C.: The Arctic Institute, 2020, p. 23.

<sup>120</sup> Deng Beixi, 2018, p. 227.



## Conclusion and Policy Options

Overall, Chinese investments and presence remain fairly limited in the North American sections of the Arctic. This situation has not been the result of a lack of effort on the part of Chinese companies, investment firms, and scientific organizations, including some linked to the Chinese state. Rather, it has stemmed from U.S., Danish, and increasingly Canadian efforts to block or otherwise restrict Chinese investments in industries identified as being critical to national and NATO security interests. Additionally, Arctic subnational actors have been cautious in their welcoming of Chinese activities for a variety of reasons. More broadly, the Arctic presents strong factors of resilience that make it unlikely that Chinese investments in infrastructure or other activities could present the negative security, political, economic, social, and environmental outcomes that other regions of the world have experienced. As a result, China has limited levers to increase its influence in the Arctic beyond the margins. Drawing from Table 4.1 and the risks of negative outcomes of Chinese activities identified in other regions, Table 6.1 provides a qualitative assessment of each outcome's plausibility of occurring in the North American Arctic, based, in part, on the assessments provided by 11 of our TTX participants and observers (out of a total of 29 participants and observers) in a preparatory exercise to the TTX.

TTX participants received Table 6.1 ahead of the TTX and were given the following instructions: "The table in the next slide presents various types of Chinese investments and activities that have taken place in other regions of the world than the Arctic. We would like you to assess, based on your general expertise on the Arctic and/or China, how plausible such investments and activities are in the Arctic (by 2035). Please simply add a number in the second column indicating whether this development is highly implausible (1), fairly implausible (2), neither plausible or implausible (3), fairly plausible (4), or highly plausible (5)."

Although all participants and observers to the TTX were experts in the Arctic, China, or both, it is important to note that their assessments of the likelihood of each negative outcome potentially happening in the Arctic exhibited variation, with some questions showing wide discrepancies between the values that participants assigned. The narrowest ranges of responses were given on access to the BeiDou system expanding (ranging from neither plausible nor implausible [3] to highly plausible [5]) and on the provision of large-scale surveillance technology (ranging from fairly implausible [2] to fairly plausible [4]). Although the very limited size of our sample (11 observations) prevents us from drawing broad conclusions from this set of responses, we nonetheless mention it here because the color-coding in the

TABLE 6.1

### Risk Assessment for the Arctic of Negative Outcomes of Chinese Activities Identified in Other Regions

Potential Chinese Investment or Activity	Plausibility That It Happens in the Arctic?
Infrastructure building in proximity to U.S. and/or U.S.-ally military installation or asset	Green
Provision of large-scale surveillance technology (e.g., Smart City, Safe City concepts)	Yellow
Access to or development of commercial ports with dual-use potential	Yellow
Access to or development of scientific facilities with dual-use potential	Red
Access to or establishment of overseas military installations	Green
Expansion of access to the BeiDou navigation satellite system (including ground satellite monitoring stations)	Yellow
Development and control of cyber physical architecture (e.g., undersea cable networks)	Yellow
Development of investment project(s) that cause political/social instability	Yellow
Development of investment project(s) that involve predatory lending practices and/or provide significant political leverage over host country	Yellow
Development of investment project(s) that cause large-scale pollution	Yellow

NOTE: Color-coding is based on the average of responses collected among the 11 participants and observers who completed this activity. An average above 4 was coded as red (meaning that it is plausible). An average between 3 and 4 was coded as amber (meaning that it is not seen as particularly plausible, but could happen nonetheless). An average below 3 was coded as green (meaning that it is implausible).

table is largely consistent with the analysis conducted in Chapter Five. Activities that appear least likely are the ones involving some form of military deployment or presence, while activities most likely are those focusing on scientific or technological developments.

In addition to the types of risks that might be most likely in relation to China's presence in the Arctic, another important consideration relates to the permanence (or potential for change) of factors of resilience identified in Chapter Five. One decisive factor in that regard is whether those factors are mostly within or mostly outside the control of the United States and its allies and partners, as summarized in Table 6.2.

Although Arctic states can largely decide on their diplomacy, support for Arctic-centric governance, investment screening and regulations, and—to some extent—local checks, some factors of resilience are harder to influence. In some sense, Arctic states happen to benefit from them at the moment, but there are some scenarios, partly or largely out of their control, that could weaken or thwart these factors of resilience. For instance, a major financial crisis could compel one Arctic nation to accept predatory lending practices out of desperation (although we have seen that even hard-hit Iceland successfully avoided that outcome).

**TABLE 6.2**  
**Level of Agency of the United States and Allies on Arctic Factors of Resilience**

	Factors of Resilience
Mostly within control of the United States and allies/partners	<ul style="list-style-type: none"> <li>• Strains in bilateral relations with China and Arctic solidarity</li> <li>• Arctic-centric governance</li> <li>• Strong investment screening and regulations</li> <li>• Strong environmental and local checks</li> </ul>
Mostly outside control of the United States and allies/partners	<ul style="list-style-type: none"> <li>• High costs of investment</li> <li>• High level of technology</li> <li>• High level of wealth</li> </ul>

A major technological breakthrough could make Arctic investments in domains, such as deepwater drilling and mining, much more attractive than they are currently. China could potentially overcome some of these obstacles to a greater presence in the Arctic through some of its own efforts—for instance, if it showed added value for the region through breakthrough developments in decarbonization techniques (or other technologies seeking to mitigate climate change), or if it provided investments in areas where there is a local need and no one else wants to invest. Although the Arctic is still not high on China’s priorities (see Chapter One), resulting in limited overall efforts to overcome the obstacles that Arctic states have put to a Chinese Arctic expansion, this could change if new incentives—for instance, a drastically increased price of commodities—provided new motivation for China to establish a greater presence in the Arctic.<sup>1</sup>

Such scenarios thus suggest potential red flags—warning signs that some of these factors of resilience are not as strong as they have been in the past—for which to watch. Such red flags can be found for factors of resilience that are mostly within and also mostly outside the control of the United States and allies/partners. Table 6.3 lists these red flags for the factors of resilience identified in Chapter Five.

In addition to monitoring Arctic developments for these red flags, the U.S. government and DoD, in particular, can take some specific steps to maintain and reinforce current factors of resilience, and to address some of the gaps and uncertainties that remain. Next, we highlight five specific recommendations for DoD, working in collaboration with interagency and international partners.

A first recommendation is to not only **maintain solidarity among U.S. allies and partners in the Arctic, but also to strengthen it wherever possible**. There is a strong consensus among Arctic states to maintain the governance of Arctic affairs among themselves, and this remains a powerful obstacle to undesirable Chinese involvement in the region. This recommendation calls for sustaining active multilateral and bilateral diplomatic activities with Arctic allies and partners. In addition, DoD and the USCG have important roles to

<sup>1</sup> Discussions with TTX participants.

**TABLE 6.3**  
**Potential Red Flags Suggesting Weakening of Resilience**

Factor of Resilience	Red Flag: This Factor May Be Weakening If . . .
Strains in bilateral relations with China	China-Russia relations deepen and China makes inroads with one or more other Arctic nations
Arctic-centric governance	China's efforts to frame the Arctic as a global governance issue gain traction
Strong investment screening and regulations	Screenings and regulations are relaxed in the context of a major economic downturn
Strong environmental and local checks	A lasting increase in commodity prices pushes for more supply
Arctic solidarity	The Arctic Council becomes fragmented over engagement with Russia and/or China
High cost of investments	China prioritizes the Arctic in its strategy
High level of technology	Technological breakthrough facilitates access to Arctic resources
High level of wealth	Financial/economic crisis affects Arctic states or creates a higher reliance on trade with China

play in maintaining, and in some cases enhancing, engagement with other Arctic states—minus Russia—through security cooperation activities that range from high-level exchanges to exercises to joint training to maritime domain awareness and safety activities. DoD and USCG cooperation with Canadian counterparts, including in the context of NORAD maritime domain awareness activities, can ensure timely intelligence-sharing on developments in the Arctic and near Arctic and enhance both government's Arctic infrastructure, communications, and operational capabilities.<sup>2</sup> So too, security cooperation with Norway—which has played a leading role in shaping NATO's policy and strategy concerning the Arctic for many years—and Denmark—given its enduring security responsibilities in Greenland and military presence in the Arctic—remain critical. The closer defense and security cooperation that has been taking place since 2016 with Finland and Sweden, in accordance with two bilateral Statements of Intent and the 2018 Trilateral Statement of Intent, shows that creating a closer relationship is viable also for countries that are not yet members of NATO.<sup>3</sup> Norway,

<sup>2</sup> Andrea Charron and James Fergusson, "NORAD's Maritime Warning Role: Origins and Future," *Canadian Naval Review*, Vol. 17, No. 2, 2021; NORAD and NORTHCOM, *Strategy: Executive Summary*, Colorado Springs, Colo., March 2021.

<sup>3</sup> Ministry of Defence of the Kingdom of Sweden, "Statement of Defense Between the Secretary of Defense of the United States of America and the Minister of Defense of Sweden," June 8, 2016; Ministry of Defence of the Republic of Finland, "Statement of Intent Between the Department of Defense of the United States of America and the Ministry of Defense of the Republic of Finland," October 7, 2016; Ministry of Defence of the Republic of Finland, the Ministry of Defence of the Kingdom of Norway, and the Ministry of Defence

Finland, and Sweden are also deepening their defense cooperation in their Arctic regions (North Calotte) under a 2020 Statement of Intent on Enhanced Operational Cooperation.<sup>4</sup> These governments have welcomed U.S. and UK engagement in various consultations and exercises, including the annual Arctic Challenge.

A second recommendation is to **explore the conditions and possible pathways for restoring some level of engagement with Russia on Arctic issues in the wake of its war on Ukraine.** The suspension of the cooperation within the Arctic Council under the Russian chairmanship represents a break with previous periods of tension (e.g., after Russia's 2014 illegal annexation of Crimea and aggression in Eastern Ukraine) that had seen the continuation of the Arctic Council's activities. Although reengagement does not have to be immediate, or to cover all topics, concertation and common work in such areas as SAR or pollution prevention would benefit all Arctic Council members, including the United States. Some degree of reengagement might also help maintain Russia's commitment to the Arctic Council—an organization that the United States values, with U.S. Coordinator for the Arctic Region James DeHart noting that it wanted to maintain it in its current structure and with the current membership.<sup>5</sup> A potential adverse outcome of the current paralysis of the Arctic Council could be a push from Russia for a new (or drastically changed) Arctic governance institution, in which it would not be the only non-NATO member (in the expectation that Finland and Sweden join NATO), and where other Arctic-interested states—such as China—might have a louder voice.<sup>6</sup> Although Russia has not yet shown signs that it wished to move on from the Arctic Council (calling instead for a resumption of the Council's activities), complete and protracted paralysis could harm current Arctic governance and provide an opening for China to insert itself more decisively in that system.<sup>7</sup> Such engagement could help convince Russia that it has more to gain from maintaining the status quo (that has worked fairly well for Moscow so far) in the Arctic rather than take the chance of bringing in another—bigger—player. Although defense and security cooperation with Russia remains unlikely for the foreseeable future, the Arctic is a place where cooperation can and has taken place on other areas of mutual interest during periods of tension. Western cooperation with Russia on Arctic SAR, which has implications for military and commercial activities, was continued

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of the Kingdom of Sweden, “Trilateral Statement of Intent Among the Department of Defense of the United States of America and the Ministry of Defence of the Republic of Finland and the Ministry of Defence of the Kingdom of Sweden,” May 2018.

<sup>4</sup> Ministry of Defence of the Republic of Finland, the Ministry of Defence of the Kingdom of Norway, and the Ministry of Defence of the Kingdom of Sweden, “Statement of Intent on Enhanced Operational Cooperation among the Ministry of Defence of the Republic of Finland and the Ministry of Defence of the Kingdom of Norway and the Ministry of Defence of the Kingdom of Sweden,” September 2020.

<sup>5</sup> James DeHart at 2022 Arctic Frontiers Conference, quoted in Eilís Quinn, “Senior Arctic Officials Working on Plan Forward Amidst Arctic Council Pause,” *Eye on the Arctic*, May 10, 2022.

<sup>6</sup> Greenwood and Luo, 2022.

<sup>7</sup> Astri Edvardson, “Russian Chair of the Arctic Council: ‘The Council’s Work Should Be Resumed as Soon as Possible,’” *High North News*, June 1, 2022.

after other defense and scientific engagement was suspended in 2014 following Moscow's 2014 illegal annexation of Crimea and aggression in eastern Ukraine. Another (large) area of mutual interest with Russia and China will be countering the effects of climate change in the Arctic region, including engaging on infrastructure resilience.

A third recommendation is for the United States to work closely with other Arctic states, particularly Denmark and Canada, to **maintain active engagement with the Greenlandic government to promote mutual interests and sustainable economic development**. The United States has taken positive steps in this regard, including reopening a consulate in Nuuk in 2020, initiating cooperation on education, trade and investment, science, minerals and energy, and economic growth; and a May 2021 visit by Secretary of State Antony Blinken to Greenland during which he pledged to further this partnership.<sup>8</sup> This cooperation should be designed first and foremost with the interests of the Greenlandic population in mind—the key question being: How can U.S. engagement benefit as clearly and directly as possible Greenlanders, and make the United States appear as a long-term, promising partner? The new arrangement, negotiated in 2020, regarding Thule Air Base—whose maintenance will now largely be undertaken by Greenlandic companies rather than U.S. ones—is an example that the DoD's presence can add value by supporting the local economy and contributing to addressing long-standing unemployment issues in Greenland.<sup>9</sup>

The United States has to walk a fine line supporting Greenlanders while maintaining its close relationship with Copenhagen, but it should also remember that China is not unambiguously or wholeheartedly welcome in Greenland. As noted in Gad et al.: “Every now and then, the Tibetan issue resurfaces in Greenlandic politics, implicitly bringing along the negative casting of China.”<sup>10</sup> Yet economic considerations are of paramount importance for Greenland, because they offer the path to independence. Thus, as Rasmus Kjærgaard Rasmussen argues, “Greenlandic politicians appear to have a habit of taking security out of defense and security policy, focusing instead on economic considerations.”<sup>11</sup> China is seen as a means to independence rather than a privileged partner; and the United States and other Arctic states could occupy the space sought by China by taking Greenlanders to their word that although they are “not for sale,” they are “open for business,” as Greenland's foreign minister Ane Lone Bagger famously put it in her response to former President Trump's 2019 offer

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<sup>8</sup> Kevin McGwin, “Blinken's Stop-Over in Greenland Highlights Its Importance to the U.S.,” *Arctic Today*, May 21, 2021.

<sup>9</sup> Martin Breum, “U.S., Greenland Reach Agreement on Thule Air Base Contract, Long A Source of Dispute,” *Arctic Today*, October 29, 2020.

<sup>10</sup> Gad et al., 2018, p. 144.

<sup>11</sup> Rasmus Kjærgaard Rasmussen, “The Desecuritization of Greenland's Security? How the Greenlandic Self-Government Envisions Post-Independence National Defense and Security Policy,” in Lassi Heininen, Heather Exner-Pirot, and Justin Barnes eds., *Redefining Arctic Security: Arctic Yearbook 2019*, Akureyri, Iceland: Arctic Portal, 2019.

to purchase the island.<sup>12</sup> This approach might be more effective than presenting China as a threat to Greenland—an argument that gets somewhat lost in a debate where independence supporters perceive Copenhagen as a threat of its own.<sup>13</sup> This approach must be done in concert with Copenhagen, though, to ensure that it does not lead to perceptions by the latter that the United States is hastening an independence process that will end Denmark’s position as an Arctic power.<sup>14</sup>

A fourth recommendation is for the United States to **continue to elevate its engagement in the Arctic**. Our TTX participants highlighted the importance of making it clear both to other Arctic and non-Arctic states that the U.S. commitment to the region is solid. This commitment should not be solely based on the role that the Arctic plays in strategic competition with Russia and China, but rather is the continuation, at an ever more sustained level, of the long history of U.S. diplomacy, stewardship, and scientific research in the region.

A fifth recommendation is to curtail some of China’s appeal and elevate U.S. commitment to those living in the Arctic by **working more closely with indigenous populations**. An example that could be replicated is the cooperation between the Alaska Federation of Natives with DoD, which has resulted in more information-sharing and a closer partnership overall.<sup>15</sup> This could be done through working with the Arctic Council’s Permanent Participants, four of which (the Aleut International Association, the Arctic Athabaskan Council, Gwich’in Council International, the Inuit Circumpolar Council) represent populations living in Alaska. Such initiatives could be undertaken as a joint U.S.-Canada effort (with the Arctic Athabaskan Council and Gwich’in Council International) or as a joint U.S.-Canada-Greenlandic effort, with the Inuit Circumpolar Council, because indigenous populations live across national boundaries. This would require identifying issues of overlap between the national security interests of the United States and its Canadian and Danish allies, and the human security interests of indigenous people living in these states. Working with indigenous communities to develop secure telecommunications infrastructure in the Arctic, or to develop sustainable local renewable energy sources, might be some areas where overlap could be found.

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<sup>12</sup> Jacob Gronholt-Pedersen, “Greenland Tells Trump It Is Open for Business But Not for Sale,” Reuters, August 16, 2019a.

<sup>13</sup> Gad et al, 2018, pp. 146–147.

<sup>14</sup> Rasmussen, 2019, p. 180.

<sup>15</sup> Kennedy Scarle, “Alaskan NORAD Command Region, Alaskan Command, and Eleventh Air Force Commander Presents Public Service Award,” *NORAD News*, North American Aerospace Defense Command, April 30, 2020.



# “China’s Arctic Reach” Background and Scenario

Note: The background, scenario assumptions, and scenario narrative in this appendix were distributed to participants ahead of the TTX that took place virtually on January 21, 2022.

## Background

This scenario will be used at an international, virtually hosted tabletop exercise focusing on China’s presence and influence in the Arctic in the 2030s. Participants represent a variety of primarily research and academic institutions, with some in government or industry positions. They will be given a list of starting assumptions and a scenario about the state of the Arctic in the early 2030s, which features China having achieved a major role in Arctic affairs. The task of the participants during the exercise will be to assess: (1) What could plausibly have happened in a decade or so that could lead to this substantially increased role of China in the Arctic? (2) How could this have been mitigated in the intervening years between present day and the 2030s?

Facilitators will guide the discussion by asking what might have happened in various domains (economics, governance, military, etc.) and organizations (e.g., Arctic Council).

## Scenario Assumptions

Global agreements on climate change are beginning to contain greenhouse gas emissions growth, but global temperature increases are still on track to surpass 1.5°C above pre-industrial levels by 2040 due to the slow uptake in the 2020s of measures to contain greenhouse gas emissions. Climate change impacts are also being felt even faster than expected when the Paris Climate Accords were adopted in 2015.

In the Arctic, use of the Northern Sea Route (NSR) has grown to all months of the year, through a combination of climate change and technological improvements to mobile and fixed infrastructure, and it is used in particular to export Russian natural gas, petroleum, minerals, and timber to Asian markets. There is moderate growth in trans-Arctic shipping (between Asia and Europe); there are now several thousand cargo transits through the NSR

annually (~5-10% of Suez Canal annual traffic), concentrated during summer months. However, there is much more limited use of other Arctic routes for commercial purposes. The Northwest Passage and trans-polar route have both experienced increases in multinational scientific vessel traffic. The Northwest Passage, in particular, is used more heavily during the summer for mineral exports and tourism.

Possibilities for food production have grown exponentially in the Arctic and sub-Arctic; most of this food is derived from the ocean, but some is also being grown on land. The demand for this food production has been increasing due to a growing crisis in food production related to climate change, population growth, and agricultural practices further south. China, India, and other large developing countries have continued to slowly but steadily increase the share of petroleum and natural gas they use at the expense of coal, even as they also transition toward a larger reliance on renewable energies. In particular, energy storage is not yet sufficiently reliable to enable developing economies or those with very large populations to overcome dependence on fossil fuels.

New commercial sectors have blossomed in the Arctic, including ecotourism. The development of clean, smart cities has also taken off in the Nordic countries and parts of North America. Growing demand for computing resources has created a need for vast server farms in environments where cooling is inexpensive, so many of these server farms are now ensconced in the Arctic. The Arctic has also been increasingly investigated as a region that could support decarbonization technologies.

China, Russia, the United States, France, and the United Kingdom have increased the tempo of their surface and subsurface naval operations and exercises in the central Arctic Ocean and adjacent seas. Arctic countries have also continued to steadily build military capabilities (including icebreakers, ice-hardened naval vessels, and fixed and mobile infrastructure and communications) for a growing persistent presence in the region. Despite continuing tensions in the Nordic-Baltic and Black Sea regions, NATO and Russia have not had a military incident in the Arctic thanks to agreements on certain deconfliction measures. The United States and Western countries have not conducted freedom of navigation operations along the Northern Sea Route.

## Scenario Narrative

It is 2035. You wake, and your automated home assistant delivers the following news:

- An international Arctic search and rescue exercise planned to take place off Svalbard was canceled at the last minute, due to persistent disagreements among Arctic nations on whether several Chinese Coast Guard vessels should be allowed to take part in the exercise.
- China argues it can uniquely support emerging search and rescue missions—which it describes as “good stewardship of the global commons.” China has launched a constellation of new polar orbiting satellites that provide a constant stream of precise data on

weather and sea conditions. In addition to the satellites, China’s network of sea ice-based scientific stations that contain emergency communications infrastructure gives it unmatched search and rescue capabilities.

- Both the satellites and the scientific stations—the latter of which are emplaced on floating ice islands that experts claim are physically and chemically stabilized to prevent melting—have caused concern about China’s surveillance activities in the Arctic.
- Several Arctic nation governments are suspicious that these surveillance capabilities not only benefit China’s economic activities and exploration, but also provide strategic intelligence and leverage in the upcoming renegotiation of the “International Agreement to Prevent Unregulated Fishing in the High Seas of the Central Arctic Ocean.” China, along with a few other countries, has suggested that they might not sign the updated agreement, currently in draft, citing concerns over the growing food crises in their respective countries and the growing Arctic presence of countries, such as Chile, which have powerful fishing industries and were not party to the original agreement.
- Western media outlets have also been suggesting a major increase in Chinese military or quasi-military posture under the guise of support to Search and Rescue (SAR).
- Several Arctic nation governments have also expressed concerns at the increased use by China of its “Safe Port” technology, which is based on the “Safe City” concept and provides extensive surveillance of Chinese-built port infrastructure along Arctic shipping routes.
- Both NORAD and Norway report a rising number of flights by Chinese transport aircraft, which in the last few years have been experimenting with cloud seeding technologies to help alter the course of global climate change. The pace of these flights has been increasing, thanks to additional access rights secured by China with several Arctic nations.
- A new Confucius Institute is being inaugurated in Iqaluit in northern Canada—the sixteenth such Institute north of the Arctic Circle. As in several other institutes recently established in the region, there is already a waitlist for local residents to attend classes and events.
- China’s Forum for Arctic Native Peoples is concluding in Beijing, with the announcement that China will be providing development aid to indigenous communities hosting Chinese investments. China describes this development aid as part of its overall BRI strategy of “responsible growth.”
- The biennial “Global Arctic Forum” led by China and set to begin in a month, is attracting a fair number of participating nations. While the Forum’s initial purview was restricted to navigational safety and best practices, topics of discussion have broadened over the years to include legal, political, and sometimes security issues. This year’s theme has been announced as: “Reassessing the relevance of UNCLOS in a changing world.”



# “China’s Arctic Reach” Tabletop Exercise

## Key Takeaways

The following key points were expressed by the participants to the China’s Arctic Reach TTX.

### Political and Economic Drivers of Chinese Presence

- There was consensus that the nature of Sino-Russian relations will be a major factor in shaping Chinese activities and presence in the Arctic. Beijing and Moscow have grown closer in the wake of the Ukraine crisis and other developments. Russian economic decline and the need for advanced technologies, perhaps made even more acute by harsh Western sanctions, could cause Moscow to look to China for help in the realization of its Arctic development goals. However, Russia is likely to remain wary of a Chinese military presence in the Arctic.
- If frustration with the pace of economic development in certain Arctic nations grows, China could gain an opening by providing needed capital and critical technology. Greenland, which is moving toward independence and inclined to stick with the West, seems a possibility, as it will be an open economy and seeking new investors.
- Overall, China has limited levers to exert influence in the Arctic. Arctic nations are generally reluctant to give it more space; China is not doing particularly well in its relations with Arctic indigenous populations.
- Current conditions do not really speak for a large increase of Chinese fishing in the Arctic, due to a lack of capacity and technology. It could potentially happen, however, if there was a drastic increase in demand and current sources of supply provided insufficient.

### Maritime Transit

- Heavy commercial transit on the NSR, beyond what Russia uses for its own purposes (such as transit LNG from the Yamal peninsula), was generally seen as implausible by 2035.

## Chinese Military Presence

- A significant Chinese military presence in the Arctic Ocean by 2035 was generally perceived as unlikely. China first needs to refine some key capabilities. A continued scientific presence in the Arctic and Antarctic, however, may be more likely. China is also more likely to use its economic power (rather than military power) to increase its influence in the Arctic. Overall, China has more to gain from economic involvement than a military one, and stability in the region would support these economic gains.
- At present, the PLA, Coast Guard, or Chinese fishing fleet, would struggle to operate in the Arctic. They would need basing capabilities, including refueling platforms.
- It is not clear whether China would choose to operate SSBNs in the Arctic, given the growth in its other nuclear delivery capabilities (e.g., an intercontinental ballistic missile force, hypersonic warheads, and a large stealth bomber under development).

## Technological Developments

- Participants agreed that the Chinese could establish temporary or semipermanent ice stations on ice floes. This could include anchoring an icebreaker along a stable ice flow and drift with it, creating less of a need for land stations and maritime operations at these great distances.
- The development of long-endurance uncrewed systems could dramatically change the nature of China's and other countries' presence and activities in the Arctic.
- China could gain influence by playing a constructive role in mitigating an environmental disaster or launching a high-profile SAR operation, perhaps employing unique maritime or space technology. For example, China could contain a reactor leak from a nuclear warship or help remove reactors (probably Russian) lost in the Arctic Ocean.
- China could also gain influence by showing it adds value for the region, for instance through technological developments that help address challenges created by climate change (e.g., a breakthrough in decarbonization techniques).

## Governance

- There was a broad agreement on the notion that deepening cooperation among Arctic states is the best way to prevent increased Chinese influence on Arctic governance.
- China is pushing its perceived rights in the Arctic as a part of the global commons and under UNCLOS.

- Although China has been very involved in the Arctic Circle Assembly, it remains a conference. China could not use it as a viable alternative to the Arctic Council for governance.
- The Arctic Coast Guard Forum is not a mechanism for governance. It is a forum for cooperation among response agencies on SAR and other operational questions.
- Russia is unlikely to support China’s desired changes in Arctic governance unless it experiences itself major disappointments with this system (so far, this has not been the case).
- Chinese diplomats’ Wolf Warrior tactics have shown their limits and created reputational damage.

## Issues Needing a Closer Look

- The scope of U.S. and European engagement in the Arctic will also have a big impact on China’s ability to exert influence. If U.S. and European involvement wanes, it could provide China with an opening.
- Some participants felt that the United States is already lagging in key capabilities—no icebreakers, polar icebreakers are behind schedule, and no plausible road map to rectify—and sending mixed messages about its intent and commitment. Others noted extensive U.S. interagency activity and engagement in the Arctic Council and highlighted the need to look beyond surface presence.
- Canada’s role did not receive as much attention as warranted considering Canadian investments and efforts to manage its Arctic territories, including Chinese involvement in the region.
- China could seek to increase its role in the Arctic if new incentives justified it making the region a priority (e.g., a drastic increase in commodity prices).



# Chinese Economic Activities in the North American Arctic

Table C.1 lists past and current Chinese activities in the mining, hydrocarbons, and infrastructure sectors in the North American Arctic. The table includes failed projects that never took off the ground or were halted before they could reach completion, and projects that are on hold or undergoing negotiations (as in the case of the research station in Greenland).

**TABLE C.1**  
**Past and Current Chinese Activities in the Mining, Hydrocarbons, and Infrastructure Sectors in the North American Arctic**

Project Name	Type	Period	Chinese Partner	Status
<b>Canada</b>				
Yukon Zinc Project <sup>a</sup>	Mining	2008	Jinduicheng Molybdenum Group	Failed
Peace River Oil Partnership <sup>a</sup>	Hydrocarbons	2010–present	China Investment Group	Failing
Lac Otelnuk Iron Mine <sup>a</sup>	Mining	2012	Wuhan Iron and Steel Company	Failing
Selwyn Project <sup>b,i</sup>	Mining	2014	Yunnan Metallurgical Group Co., Ltd.	Unknown
Kami Iron Ore Project <sup>d</sup>	Mining	2012–2020	Hebei Iron and Steel	Failed
Long Lake Oil Sands (Athabasca Oil Sands) <sup>j</sup>	Hydrocarbons	2013	CNOOC	Completed
TMAC Resources Purchase <sup>b</sup>	Mining	Unknown	Shandong Gold Mining	Failed
Grays Bay and Road Project <sup>c</sup>	Infrastructure	2011–2013; 2019–present	MMG	Ongoing
Izok Corridor Project <sup>d</sup>	Mining	2011–2013; 2019–present	MMG	Ongoing
Nunavik Nickel Mine <sup>e,k</sup>	Mining	Unknown–present	Zhongze Holding Group Ltd. (acquired Canadian Royalties in 2011)	Ongoing

Table C.1—Continued

Project Name	Type	Period	Chinese Partner	Status
<b>Greenland</b>				
Kvanefjeld REE Field <sup>a,n</sup>	Mining	2014–present	China Nonferrous Metal Industry and Shenghe Resources	On hold
Isua Iron Ore Field <sup>a,m</sup>	Mining	2015–2021	General Nice Group	On hold
Grønnedal Naval Base <sup>a</sup>	Infrastructure	2016	General Nice Group	Failed
Greenland Airports <sup>a</sup>	Infrastructure	2018–2019	China Communications Construction Company	Failed
Citronen Fjord <sup>a</sup>	Mining	2017–present	China Nonferrous Metal Mining Group	Ongoing
Wegener Halvø Copper Mine <sup>g</sup>	Mining	Unknown	Jiangxi Zhongrun	Unknown
Greenland Research Station <sup>h</sup>	Infrastructure	2017–present	Unknown	Unknown
<b>United States</b>				
Alaska LNG Project <sup>l</sup>	Hydrocarbons	2017–2019	Bank of China/Sinopec/China Investment Corporation	Failed
Red Dog Mine <sup>f</sup>	Mining	2009–present	China Investment Corporation	Ongoing

## SOURCES:

<sup>a</sup> Doshi, Dale-Huang, and Zhang, 2021.

<sup>b</sup> Oddeifson, Alton, and Romaniuk, 2021.

<sup>c</sup> Gloria Dickie, “China Wants to Invest in the Arctic: Why Doesn’t Canada?” *The Walrus*, webpage, January 29, 2021.

<sup>d</sup> Wilson Center Arctic Infrastructure Inventory, “Izok Corridor Project,” webpage, undated.

<sup>e</sup> Sevunts, 2017.

<sup>f</sup> Wolf, 2019.

<sup>g</sup> Jichang Lulu, “Shock and Ore: Chinese Interest in Greenland’s Mines,” *The Asia Dialogue*, webpage, March 25, 2015.

<sup>h</sup> Camilla T. N. Sørensen, “China Is in the Arctic to Stay as a Great Power: How China’s Increasingly Confident, Proactive & Sophisticated Arctic Diplomacy Plays into Kingdom of Denmark Tensions,” in Lassi Heininen and Heather Exner-Pirot, eds., *Arctic Yearbook 2018, Special Section: China & the Arctic*, Akureyri, Iceland: Northern Research Forum, November 2018.

<sup>i</sup> Selwyn Chihong, homepage, undated.

<sup>j</sup> CNOOC, “Oil Sands,” webpage, undated-b.

<sup>k</sup> Canadian Royalties, Inc., “Who We Are,” webpage, undated.

<sup>l</sup> Elwood Brehmer, “AGDC President Outlines Path Forward; China Deal Is Dead,” *Anchorage Daily News*, July 25, 2019.

<sup>m</sup> “Greenland Strips Chinese Mining Firm of License to Iron Ore Deposit,” 2021.

<sup>n</sup> Andersson, Zeuthen, and Kalvig, 2018.

# Actual and Potential Adverse Impacts of Chinese Economic Activities in Regions Other Than the Arctic: Case Studies

## Military and Security-Related Issues and Concerns

### Intelligence Collection

Shanghai International Port Group Operating New Terminal Port of Haifa in Israel

In 2015, the Shanghai International Port Group (SIPG) obtained a contract “to operate a new terminal port next to the port of Haifa for 25 years” starting in 2021.<sup>1</sup> SIPG is the exclusive operator of all public terminals in the port of Shanghai, China. The company is a major SOE. Its controlling ownership is the Shanghai municipal government and its second-largest shareholder is China Merchants Port Holdings Company Limited (CMPHCL), a subsidiary of the state-owned China Merchants Group.<sup>2</sup> Despite U.S. officials’ efforts to encourage U.S. companies to bid on the contract in 2015, no U.S. firms submitted bids, and SIPG won the contract.<sup>3</sup> SIPG’s 2020 annual report, published in March 2021, noted that the port terminal is still in the construction phase, with no operating cash flow, and that it still requires external financing to meet its funding needs.<sup>4</sup> The concerns associated with this Chinese investment project are that the Haifa port is of particular significance to both the United States and Israel not only because it is Israel’s largest port but because this is where Israel’s submarines are based and U.S. Navy ships regularly deploy to the area for exercises and “to bolster Israel’s land-based ballistic missile defenses by providing sea-based ballistic missile defense (BMD)

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<sup>1</sup> Efron, Schwindt, and Haskel, 2020, p. xxi.

<sup>2</sup> Moody’s Investors Service, “Shanghai International Port’s 1H 2016 Results in Line with its Rating,” September 1, 2016.

<sup>3</sup> Ivan Levingston, “US Firms Interested In Israel Port After Passing Last Time,” *Bloomberg News*, October 29, 2020.

<sup>4</sup> Shanghai International Port Group Co., Ltd., *2020 Annual Report* [上海国际港务(集团)股份有限公司2020年年度报告], March 30, 2021.

support.”<sup>5</sup> The frequent stops and closeness of U.S. Navy ships to the Haifa port makes them vulnerable to China potentially identifying the ships’ electronic warfare capabilities, the signatures that the ships are emitting, or the radars they have on board.<sup>6</sup> In this light, the Chinese operation of the new terminal next to the Haifa port could present significant security risks to U.S. Navy operations in the area.<sup>7</sup>

The Israeli side tried to mitigate some of the risks associated with the Chinese operation of the new port terminal by including a classified annex to the contract, which places “limitations on the Chinese operator and workers and specifies what types of data, and via which means, are to be shared with Israel’s General Security Service (the Shin Bet),” although these provisions might be difficult to enforce.<sup>8</sup> The U.S. government has also put pressure on Israel to limit Chinese investments in key infrastructure projects in the country. Although it reportedly rejected a request by the United States to inspect the Haifa port for Chinese surveillance capabilities, Israel established a Committee for Approving Strategic Investments in October 2020 to regulate foreign investment and screen projects that would allow China to access data on Israeli or U.S. citizens or cybersecurity technology.<sup>9</sup>

#### Lease of Darwin Port in Australia

In 2015, the Chinese-owned Landbridge Group acquired a 99-year lease to operate Darwin Port in Australia, which raised concerns about potential Chinese intelligence collection activities against U.S. and Australian forces based nearby. Joint military training between Australian forces and a U.S. Marine Expeditionary Unit takes place at a naval base close to Darwin port for six months each year. Some 1,700 U.S. personnel attend the exercises, including some highly capable combat aviation units.<sup>10</sup> Military officials and an Australian Senate report raised concerns that Chinese control of the port would not only “facilitate intelligence collection on U.S. and Australian military forces stationed nearby,” but it would also result in potential sabotage and cyberattacks conducted against U.S. naval assets.<sup>11</sup>

Landbridge’s chairman is tied to the CCP via his membership in the 12th National Chinese People’s Political Consultative Conference (CPPCC) Committee of the United Front, in

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<sup>5</sup> Efron, Schwindt, and Haskel, 2020, p. xxi.

<sup>6</sup> Efron, Schwindt, and Haskel, 2020, p. xx.

<sup>7</sup> David Feith, “Israel’s Growing Ties to China Are Testing Its Relationship with the U.S.,” *Washington Post*, July 6, 2021.

<sup>8</sup> Efron, Schwindt, and Haskel 2020, pp. xix–xx.

<sup>9</sup> Mustafa Abu Sneineh, “Chinese Investment in Haifa Port Could Compromise U.S.-Israel Intelligence Sharing: Report,” *Middle East Eye*, February 1, 2021.

<sup>10</sup> Russel and Berger, 2020, p. 39.

<sup>11</sup> Russel and Berger, 2020, p. 39.

which he represents the All China Federation of Taiwan Compatriots civilian group.<sup>12</sup> The Australian Strategic Policy Institute describes the Landbridge Group as “a commercial front intimately tied to state-owned operations, the party and the PLA.”<sup>13</sup> As of mid-2021, Darwin Port remained controlled by Landbridge Group and appears to be operating at full capacity.<sup>14</sup>

In 2019, the Australian government conducted preliminary planning to develop a new commercial maritime facility in Darwin that could be used in the future by the Australian Navy and U.S. Marines to “counterbalance” China’s port operations.<sup>15</sup> Furthermore, in May 2021, the Australian government announced that it was reviewing whether or not to do away with Landbridge’s lease. This review was prompted by Australia’s increasingly vigilant foreign investment laws initiated in 2016; the concerns of its U.S. ally; and the pressure of a domestic audience increasingly suspicious of Chinese activities in Australia.<sup>16</sup> As of June 2021, 60 percent of Australians supported their government’s recent review of the port’s ownership agreement based on national security concerns.<sup>17</sup>

### Space Monitoring Station in Las Lajas, Argentina

In 2015, the Argentine National Congress approved an agreement that allowed China to set up a space monitoring station in Las Lajas, Argentina. Las Lajas is a remote area in Patagonia located “directly south of Washington [D.C] and therefore is in line with geostationary satellites servicing the American east coast.”<sup>18</sup> The negotiations between China and Argentina regarding the space station took place in 2013 and 2014, but satellite images show that the building of the station started in 2013, prior to Argentina’s 2015 congressional approval of the 50-year tax free land lease to China.<sup>19</sup>

The contract has raised suspicions since its beginning both inside Argentina and in other countries in the Western Hemisphere, including the United States, regarding the actual use

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<sup>12</sup> The CCPCC is an advisory body to the CCP that supports “united front” work, including as a liaison with non-CCP members and relations with other countries to promote Chinese concepts of “socialist modernization” and reunification with Taiwan. See Shannon Tiezzi, “What Is the CPPCC Anyway?” *The Diplomat*, March 4, 2021.

<sup>13</sup> Paul Barnes, Sam Bateman, Allan Behm, Phoebe Benich, Anthony Bergin, Patrick Cronin, Neil James, Peter Jennings, Geoff Wade, and Feng Zhang, *Chinese Investment in the Port of Darwin: A Strategic Risk for Australia?* Australian Strategic Policy Institute, Strategic Insights No. 101, December 2015.

<sup>14</sup> Darwin Port, “About Darwin Port,” webpage, undated.

<sup>15</sup> Jano Gibson, “New Darwin Port Would ‘Counterbalance’ 99-Year Chinese Company Lease, Liberal MP Argues,” ABC News, June 24, 2019.

<sup>16</sup> Jamie Smyth, “Chinese Port Company Warns Australian Review Raises Sovereign Risk,” *Financial Times*, June 23, 2021; Rob Taylor, “Australia Raises Bar for Foreign Investments in Infrastructure,” *Wall Street Journal*, March 18, 2016.

<sup>17</sup> David Crowe, “Australians Want Nation to ‘Stick to its Values’ in China Dealings,” *Sydney Morning Herald*, June 18, 2021.

<sup>18</sup> Robert I. Rotberg, “China in Patagonia . . . and Space,” *China-US Focus*, April 27, 2017.

<sup>19</sup> Rotberg, 2017.

of the space station. The main concerns associated with the station have been that it monitors satellite activities over the Western Hemisphere and operates as an intelligence collection facility.<sup>20</sup> In addition, U.S. defense experts have noted that the facility could be used to collect intelligence on missile launches and drone movements; it could also interfere with communications, networks, and electromagnetic systems in the region.<sup>21</sup> The Chinese presence and activities at the Las Lajas space monitoring station raised several red flags: The station was built by CHEC, which is a subsidiary of the Chinese state-owned CCCC; the station has links to the PLA's General Armaments Department and Xi'an Satellite Control Center;<sup>22</sup> contractual terms stipulate that the government of Argentina "is not permitted to 'interrupt' the station's activities;" the station's staff follow and are governed by Chinese law (not Argentinian law), all staff members of the station are PLA members,<sup>23</sup> and there is limited to no oversight or enforcement on the part of the Argentine government of the activities that take place within the perimeter of the space monitoring station.<sup>24</sup>

Because of the concerns raised in Argentina and throughout the region about the use of the space station for military purposes, the Chinese government in 2016 updated the contract to add a provision stating that the station would only be used for civilian purposes, such as "peaceful space observation and exploration."<sup>25</sup> However, suspicions regarding the intelligence collection mission of the space station have remained. U.S. Southern Command Commander ADM Craig Faller issued a warning in his February 2019 congressional testimony regarding the dangers of expanding Chinese activities in Latin America, including China's investment "in key infrastructure, such as a deep-space tracking facility in Argentina."<sup>26</sup>

Meanwhile, Argentina has been seeking to reduce its economic and commercial dependence on China.<sup>27</sup> To diversify its lending sources and lower its borrowing costs, Argentina issued \$9 billion in sovereign bonds for the international bond market in 2018.<sup>28</sup> The Inter-

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<sup>20</sup> Efron et al., 2019, p. 91; Efron, Schwindt, and Haskel, 2020, pp. 46–47; Jana Robinson, "Deterring Chinese and Russian Space Hybrid Warfare by Economic and Financial Means," *Space Review*, September 18, 2017.

<sup>21</sup> Lara Seligman, "U.S. Military Warns of Threat from Chinese-Run Space Station in Argentina," *Foreign Policy*, February 8, 2019.

<sup>22</sup> Efron et al., 2019, p. 91.

<sup>23</sup> Efron, Schwindt, and Haskel, 2020, pp. 46–47; Robinson, 2017; Rotberg, 2017.

<sup>24</sup> Peltier, Nurkin, and O'Connor, 2020, p. 38.

<sup>25</sup> Peltier, Nurkin, and O'Connor, 2020, p. 38.

<sup>26</sup> Seligman, 2019.

<sup>27</sup> Thiago de Aragao, "China's Military and Security Activities in Latin America and the Caribbean," testimony before the U.S.-China Economic and Security Review Commission, Washington, D.C., May 20, 2021; Dipanjan Roy Chaudhury, "Anti-China Protests Rise in Argentina, the Recipient of Maximum Chinese FDI in Latin America," *Economic Times*, November 18, 2020.

<sup>28</sup> Economic Commission for Latin America and the Caribbean–Washington Office, *Capital Flows to Latin America and the Caribbean: Recent Developments*, Washington, D.C.: United Nations, June 28, 2018.

national Monetary Fund (IMF) and Argentina announced a three-year \$50 billion credit line agreement to cover the country's financing shortfall later that year.<sup>29</sup>

### Expanding Access to Its BeiDou Navigation Satellite System

Another way China has sought to deepen military ties or signal a rapprochement with some countries recently has been through expanding access to its BeiDou navigation satellite system. In 2018, Pakistan became the only country thus far that China has granted access to the BeiDou system's military service, which provides enhanced guidance information for the operation of Pakistan's missiles, naval vessels, and aircraft.<sup>30</sup> Pakistan is also buying defense equipment from China that will likely be fully integrated with the BeiDou system, including air defense, artillery, uncrewed aerial vehicles (UAVs), ships, submarines, and fighter aircraft.<sup>31</sup> More countries are likely to seek access to the BeiDou military service, as an alternative to the U.S. GPS, risking exposure of sensitive data to Chinese intelligence collection capabilities.<sup>32</sup>

In addition, Pakistan and more than 30 other countries have adopted the BeiDou system for civilian purposes as part of their BRI cooperation, thereby becoming heavily reliant on China for position, navigation, and timing information. As of June 28, 2019, signals from BeiDou satellites were observed more frequently than GPS satellites in 130 of 195 countries in the world, and 100 of 137 countries that have signed on to the BRI, with most being in Africa and Southeast Asia.<sup>33</sup> This dependence, together with the Digital Silk Road, is likely to give

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<sup>29</sup> International Monetary Fund, "International Monetary Fund Statement on Argentina," press release No. 18/173, Washington, D.C., May 14, 2018; Katherine Koleski and Alec Blivas, *China's Engagement with Latin America and the Caribbean*, Washington, D.C.: U.S.-China Economic and Security Review Commission, October 17, 2018.

<sup>30</sup> Maria Abi-Habib, "China's 'Belt and Road' Plan in Pakistan Takes a Military Turn," *New York Times*, December 19, 2018b.

<sup>31</sup> "Pakistan Military to Use Chinese Navigation System BeiDou to Improve Interoperability," *Economic Times*, August 21, 2020.

<sup>32</sup> Russel and Berger, 2020, p. 34.

<sup>33</sup> Resilient Navigation and Timing Foundation, "More BeiDou Than GPS in 130 of 195 Countries," blog post, August 22, 2019. Chinese media citing a *Nikkei Asian Review* report claimed BeiDou signals were in greater use than GPS signals in 165 of 195 national capitals (85 percent) (see "In How Many Countries Does Beidou Navigation Surpass the US GPS? Japanese Media Announces Surprising Answers, [北斗导航在多少国家超过美国GPS? 日本媒体公布惊人答案]," *Sinha News* [新浪新闻], November 27, 2020). Some countries use BeiDou in place of the U.S. GPS, while other countries host installations that support the BeiDou system. The larger the constellation of satellites, the more accurate the positioning system. BeiDou satellites have been observed with almost the same frequency as U.S. and European satellites over New York and London. Although Japan's four quasi-zenith satellites operate together with around ten GPS satellites, more than 20 BeiDou satellites can be observed daily over Japan. Raffaello Pantucci, "The Many Faces of China's Belt and Road Initiative," *Current History*, Vol. 120, No. 822, January 2021, pp. 28–34.

China additional influence over BRI signatories and access to valuable economic and commercial data.<sup>34</sup>

Unlike GPS, which sends one-way signals, BeiDou sends two-way signals that can identify the location of receivers, a fact that has caused concern among the U.S. national security establishment. Experts assess that BeiDou compatible navigation systems may be able to transmit a car's location and that BeiDou satellites could jam signals in specific areas.<sup>35</sup> Although BeiDou is not inherently threatening, its application in securing Chinese influence and data extraction could harm commercial and security interests of the United States and other countries.<sup>36</sup>

### Control of Undersea Cable Networks

Another opportunity for China's intelligence collection efforts (including cyber espionage) is for Chinese telecommunication providers, such as Huawei, to develop and maintain control over some of the network of undersea cables that transmit internet data and other communications worldwide.<sup>37</sup> Undersea cables are estimated to carry some 99 percent of all voice, data, and video international communications traffic, with most of the data moving across ocean floors.<sup>38</sup> Chinese companies can become involved in projects that build and maintain the fiber-optic cable networks as well as the "landing points anchoring [the cables] above ground, and other physical internet infrastructure," which may result in cyber vulnerabilities and other security risks.<sup>39</sup>

In 2019, Huawei was reported to be involved in some 30 undersea cable projects.<sup>40</sup> Some observers have expressed concerns about Huawei or other Chinese companies with access to the network of cables inserting "the capability to monitor or interrupt data traffic" at the request of the Chinese government.<sup>41</sup> As a result of the concerns over its potential cyber espionage activities, Huawei decided in June 2019 to sell its undersea telecom cable business.<sup>42</sup>

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<sup>34</sup> Russel and Berger, 2020, p. 35.

<sup>35</sup> Resilient Navigation and Timing Foundation, 2019.

<sup>36</sup> U.S.-China Economic and Security Review Commission, *China in Space: Strategic Competition?* Washington, D.C., hearing before the One Hundred Sixteenth Congress First Session, April 25, 2019.

<sup>37</sup> Jeremy Page, Kate O'Keeffe, and Rob Taylor, "America's Undersea Battle with China for Control of the Global Internet Grid," *Wall Street Journal*, March 12, 2019.

<sup>38</sup> Lisa Crewe, "Undersea Fiber Cables Are Connecting Our World," Acacia Communications, blog post, January 8, 2020; Adam Satariano, "How the Internet Travels Across Oceans," *New York Times*, March 10, 2019.

<sup>39</sup> Justin Sherman, "The US-China Battle Over the Internet Goes Under the Sea," *Wired*, June 24, 2020.

<sup>40</sup> Hiroyuki Akita, "Undersea Cables—Huawei's Ace in the Hole," *Nikkei Asia*, May 28, 2019.

<sup>41</sup> Russel and Berger, 2020, p. 35.

<sup>42</sup> Sijia Jiang, "China's Huawei to sell Undersea Cable Business, Buyer's Exchange Filing Shows," Reuters, June 2, 2019.

However, the company remains involved in providing technology for Smart and Safe Cities, as discussed in the next section.

### Providing of Technology for Smart and Safe Cities

Chinese entities have the capability to conduct intelligence collection not only on governments, but also on private citizens by way of the Smart City and Safe City concepts that are often deployed across several countries in which China has BRI projects. These Smart packages are marketed to governments that wish to automate traffic management, sewage systems, and public safety while also monitoring social behavior. The main difference between Smart Cities and Safe Cities is that Smart Cities are aimed at automating municipal functions while incorporating surveillance capabilities, while Safe Cities are focused on surveilling the identity and behavior of the population.<sup>43</sup>

In general, the packages promise a host-nation economic or security benefits that come attached to the country's agreement to partner with China for a BRI infrastructure project. The Smart City and Safe City concepts are backed by Chinese-provided technology through companies, such as Huawei and ZTE, that are required by the Chinese National Security Act to relay all data in their possession to Beijing's intelligence service. Experts note that Smart Cities increase the risk of cyber intrusion, both in terms of data security and cyber security, as these tech systems are subject to Chinese laws and governance structures.<sup>44</sup> Hence, access to Chinese technology comes with the vulnerability of the Chinese government gaining access to sensitive data and potentially exploiting security vulnerabilities in the systems provided.

For example, Belgrade's Republic Square in Serbia employs surveillance equipment made by the Chinese telecommunications provider Huawei. Huawei technology monitors people's behavior in the square and in the surrounding areas and is designed to recognize faces, identify license plate numbers, and assess suspicious activity. The surveillance system, still in its initial stages, is part of Huawei's comprehensive Safe City partnership with Belgrade that will ultimately result in the installation of 8,000 such cameras. The Safe City project was officially rolled out in 2019 in the Serbian cities of Belgrade, Novi Sad, and Smederevo by Huawei and HIKVision. The details of the project are labeled "confidential" and cannot be disclosed by Serbia's Minister for Internal Affairs.<sup>45</sup>

A Huawei case study from 2018 reported that the project in Belgrade had already quietly deployed over 100 cameras throughout the city five months before the project was announced. Although thousands of Serbians have organized in protest of the country's growing lack of media freedom, autocratic rule and corruption, the comprehensive facial recognition database provided by Huawei's surveillance system could potentially deter public anti-

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<sup>43</sup> James Kynge and Nian Liu, "From AI to Facial Recognition: How China Is Setting the Rules in New Tech," *Financial Times*, October 7, 2020.

<sup>44</sup> Kynge and Liu, 2020.

<sup>45</sup> European Parliament, "Safe City Project in Serbia—China Penetrating into Europe," answer to parliamentary question, October 2, 2019.

government organization in the future.<sup>46</sup> Serbian NGOs, such as the Share Foundation, have mounted opposition toward the city's Chinese surveillance tech by creating a database of crowdsourcing photos of Huawei cameras.<sup>47</sup>

In addition to state surveillance capabilities and access to sensitive information provided by these technologies, experts also warn that they may enable China to hit a kill switch on a city's operations in extreme scenarios.<sup>48</sup> Huawei data centers and communications equipment have been accused of being designed to exploit vulnerabilities and steal data from the systems it claims to benefit, most notably in Papua New Guinea and the African Union building in Addis Ababa, Ethiopia.<sup>49</sup> The U.S. government has repeatedly warned of Chinese surveillance technologies and their associated human and civil rights abuses, blacklisting more than 60 Chinese defense and surveillance tech companies.

## Access to or Development of Commercial Ports with Dual-Use Potential

### The Port of Gwadar in Pakistan

The Pakistani port of Gwadar is in a remote fishing village close to the border with Iran. Next to Djibouti, Gwadar is one of seven locations Chinese experts considered in 2014 as a viable candidate for China's future overseas military installation.<sup>50</sup> Since 2017, the port has been operated exclusively by China Overseas Port Holdings, which is a Chinese SOE that signed a 40-year lease agreement with the Pakistani government.<sup>51</sup>

With a depth of 11.5 meters, the port is assessed to be sufficient to host submarines and aircraft carriers.<sup>52</sup> Because of its low commercial traffic, the port has been used by the Pakistani Navy, which operates Chinese-made frigates and patrol vessels. The Pakistani Navy also plans on fielding submarines produced in China.<sup>53</sup> The Chinese media have reported that PLAN ships and units of the People's Liberation Army Navy Marine Corps (PLANMC) could be deployed to Gwadar port in the future.<sup>54</sup> Granting such access to Chinese military

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<sup>46</sup> Bojan Stojkovski, "Big Brother Comes to Belgrade," *Foreign Policy*, June 18, 2019.

<sup>47</sup> James Kyngge, Valerie Hopkins, Helen Warrell, and Kathrin Hille, "Exporting Chinese Surveillance: The Security Risks of 'Smart Cities,'" *Financial Times*, June 9, 2021.

<sup>48</sup> Kyngge et al., 2021.

<sup>49</sup> Russel and Berger, 2020, p. 35.

<sup>50</sup> Peltier, Nurkin, and O'Connor, 2020, pp. 30–31.

<sup>51</sup> Russel and Berger, 2020, p. 26.

<sup>52</sup> Russel and Berger, 2020, p. 24.

<sup>53</sup> Isaac Kardon, "China's Geopolitical Gambit in Gwadar," Wilson Center, blog post, October 2020.

<sup>54</sup> Russel and Berger, 2020, p. 24.

assets is highly possible given the strengthening of Sino-Pakistani military cooperation in recent years.<sup>55</sup>

Besides the inherent characteristics—depth and pier space—that allow the Gwadar port to be used for military purposes (including port calls by the largest vessels in the PLAN) without any additional improvements, Gwadar’s geographic location allows it to serve “as a gateway between western China and the Indian Ocean.”<sup>56</sup> Moreover, the road system that connects the port to major cities in Pakistan, and subsequently to Afghanistan, Central Asia, India, and Iran,<sup>57</sup> could potentially be useful in supporting China’s efforts to counter potential terrorist acts against its investments and lending in Pakistan and Central Asia.<sup>58</sup> Furthermore, there are concerns that the port could also function as a “listening post” for the monitoring of U.S. Navy operations in the Indian Ocean and Persian Gulf.<sup>59</sup>

The Pakistani government has labeled allegations that the Port of Gwadar is used for Chinese military or security purposes as propaganda and appears to support the project and other Chinese investments unequivocally.<sup>60</sup> Although a new Pakistani administration took office in 2018 after running on the promise of a harder and more transparent stance toward dealings with China, Pakistan’s economic crisis precluded any action on the issue.<sup>61</sup>

In November 2019, the U.S. State Department’s Bureau of South and Central Asian Affairs criticized the China-Pakistan Economic Corridor (CPEC), calling attention to its high costs, debt burden on Pakistan’s economy, and lack of transparency. Similar to Pakistani public sentiment, Pakistani generals have reportedly gradually shifted from an overly optimistic view of CPEC in 2015 to a more careful stance, “though they remain firmly committed to a close strategic partnership with China.”<sup>62</sup> In response to these concerns, one expert has suggested that the United States and regional allies counter China’s strategic outreach by networking with other like-minded countries on cooperative security frameworks for the Indo-Pacific.<sup>63</sup>

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<sup>55</sup> Leah Dreyfuss and Mara Karlin, *All that Xi Wants: China Attempts to Ace Bases Overseas*, Washington, D.C.: Brookings Institution, September 30, 2019, p. 5.

<sup>56</sup> Kardon, 2020.

<sup>57</sup> Dreyfuss and Karlin, 2019, p. 5.

<sup>58</sup> Russel and Berger, 2020, p. 24.

<sup>59</sup> Scobell et al., 2018, pp. 137–138.

<sup>60</sup> “Pakistan Denies Reports of Chinese Military Base Near Gwadar,” *Economic Times*, January 4, 2018.

<sup>61</sup> Katharine Adeney and Filippo Boni, “How China and Pakistan Negotiate,” Carnegie Endowment for International Peace, May 24, 2021.

<sup>62</sup> Daniel Markey, “How the United States Should Deal with China in Pakistan,” Carnegie Endowment for International Peace, April 8, 2020.

<sup>63</sup> Gurmeet Kanwal, “Pakistan’s Gwadar Port: A New Naval Base in China’s String of Pearls in the Indo-Pacific,” brief, Center for Strategic and International Studies, April 2, 2018.

## Dara Sakor Airport and Koh Kong Port in Cambodia

As part of the Cambodia-China Investment Development Zone, China is developing the Dara Sakor Airport and Koh Kong Port in Cambodia. The Cambodia-China Investment Development Zone is one of the largest BRI projects China has undertaken. At the core of the project is a 99-year lease by the Union Development Group (UDG), which has been characterized as “an obscure Chinese company with no international footprint apart from its 110,000-acre Cambodia acquisition.”<sup>64</sup> The UDG lease covers land three times the size allowed by Cambodian law and was exempted from payments for a decade. UDG also reportedly gave the Cambodian prime minister a check for \$1 million for the Cambodian Red Cross, which is run by his wife, and has close ties with the country’s defense minister.<sup>65</sup> The U.S. Department of the Treasury sanctioned UDG under the Global Magnitsky Act in September 2020 labeling it as a PRC SOE “acting for or on behalf of a PRC official,” that falsely registered as a Cambodian entity, and cited concerns about corrupt practices, human rights abuses, and environmental degradation associated with the project.<sup>66</sup>

Experts and U.S. officials assess that China is undertaking the two projects because of their potential military utility. The Dara Sakor Airport has a two-mile-long runway, which is the longest runway in the country and, according to a Pentagon spokesperson, exceeds the needs of takeoff and landing for civilian cargo planes.<sup>67</sup> The runway at Dara Sakor could accommodate Chinese bombers,<sup>68</sup> and it is alleged to have a “tight turning bay favored by fighter jet pilots.” China’s UDG was responsible for the airport construction project; and its only international arm, Dara Sakor Acquisition, won the construction contract without an open competitive bidding process.<sup>69</sup>

Koh Kong Port is located on the Gulf of Thailand near the Malacca Strait, a critical sea lane between East Asia and the Indian Ocean. Chinese control of Koh Kong Port, which has the capacity to host Chinese destroyers, and of Kyaukphyu Port in Myanmar could facilitate China’s overall control over the Strait. The combination of access and dual-use functionality of Dara Sakor airport and Koh Kong port would allow the PLA to expand its airborne and maritime capabilities in Southeast Asia.<sup>70</sup> The project is also located in proximity to the Ream Naval Base. The base was reportedly secretly leased to China in 2019 for 30 years; and

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<sup>64</sup> Hannah Beech, “A Jungle Airstrip Stirs Suspicions About China’s Plans for Cambodia,” *New York Times*, December 22, 2019.

<sup>65</sup> Beech, 2019.

<sup>66</sup> U.S. Department of the Treasury, “Treasury Sanctions Chinese Entity in Cambodia Under Global Magnitsky Authority,” press release, September 15, 2020.

<sup>67</sup> Russel and Berger, 2020, p. 26; Peltier, Nurkin, and O’Connor, 2020, p. 29.

<sup>68</sup> Christopher Woody, “Cambodia Ream Base Changes Add to Fears About China Military Presence,” *Business Insider*, October 5, 2020.

<sup>69</sup> Peltier, Nurkin, and O’Connor, 2020, p. 29.

<sup>70</sup> Russel and Berger, 2020, pp. 25–26.

Pompeo, the former U.S. Secretary of State, in announcing sanctions against the Chinese firm building the airport, stated that there were “credible reports” that it could host the Chinese military. Open source satellite images suggest that the Ream Naval Base has the characteristics that would allow it to become an alternative PLAN support base.<sup>71</sup>

Although both Beijing and Phnom Penh have denied that they are collaborating on construction of military facilities,<sup>72</sup> some analysts argue that Cambodia, next to Pakistan and North Korea, is one of the countries with the highest potential to cooperate with China covertly and to provide access to PLA forces.<sup>73</sup> In addition, similar to what has been observed near bases in Japan, several Chinese firms have leased land around the Ream Naval Base, with one of them carrying out land-reclamation work three miles north of the base.<sup>74</sup>

## China’s Access to or Establishment of Overseas Military Installations

### Djibouti Military Facility in Doraleh Port

China’s military facility in Djibouti’s Doraleh Port was officially inaugurated in August 2017, and it is China’s first overseas military base.<sup>75</sup> The opening of the base was several years in the making, starting in February 2014 when “Djibouti signed a security and defense strategic partnership agreement with China that granted port access to PLAN ships in exchange for Chinese assistance to Djibouti’s navy and air force.”<sup>76</sup> This agreement was followed in May 2015 by the announcement that Djibouti and China were negotiating the creation of a Chinese military facility, which ultimately was announced in November of 2015 and officially inaugurated in August 2017.<sup>77</sup> The military facility was stood up in proximity to the Chinese-built and -operated Doraleh Port.

Prior to completing the construction for the military base, China referred to the installation as an “overseas logistical supply facility,” but now calls it a “supply base.”<sup>78</sup> However, satellite images have revealed that the Chinese base benefits from several layers of security fortifications and extensive underground storage capability. After the opening of the base, Chinese troops “have conducted at least one live-fire exercise with the stated purpose of test-

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<sup>71</sup> Woody, 2020.

<sup>72</sup> Philip Heijmans, “China-Backed Dara Sakor Project in Cambodia Rings Alarm Bells in Washington,” *Bloomberg*, July 20, 2019.

<sup>73</sup> Peltier, Nurkin, and O’Connor, 2020, p. 29.

<sup>74</sup> Woody, 2020.

<sup>75</sup> U.S. Senate, *Implications of China’s Presence and Investment in Africa*, hearing before the Subcommittee on Emerging Threats and Capabilities of the Committee on Armed Services, U.S. Senate, One Hundred-Fifteenth Congress, Second Session, Washington, D.C.: U.S. Government Publishing Office, December 12, 2018.

<sup>76</sup> Scobell et al., 2018, p. 205.

<sup>77</sup> Scobell et al., 2018, pp. 205–206.

<sup>78</sup> U.S. Senate, 2018.

ing their capacity to handle a variety of tasks and weapons in extreme heat and humidity.”<sup>79</sup> PLANMC personnel were reported to be stationed at the base.<sup>80</sup>

Similar to other examples presented in this appendix, China's Djibouti base is located in proximity to a critical U.S. military base, Camp Lemonnier.<sup>81</sup> Camp Lemonnier is the only enduring U.S. military installation on the continent and, since 2003, has been headquarters for U.S. Africa Command's Combined Joint Task Force-Horn of Africa, which supports regional security cooperation activities and counterterrorism operations.<sup>82</sup> DoD has reported that Chinese personnel at Doraleh Port have interfered with U.S. flights by lasing pilots and flying drones and have “sought to restrict Djiboutian sovereign airspace over their base.”<sup>83</sup> Concerns regarding potential Chinese surveillance of the activities that take place on the U.S. military base have also been raised.<sup>84</sup>

The government of Djibouti does not seem to share the U.S. government's concerns regarding the Chinese military facility. By offering similar terms of lease (duration and rent payments) for the Chinese facility in Doraleh Port and for the U.S. base at Camp Lemonnier, Djiboutian officials appear to seek neutrality in the geopolitical competition between China and the United States. Djibouti has also granted France, Italy, Japan, and Saudi Arabia military bases in the country.

#### Military Facilities in Tajikistan Adjacent to Afghanistan's Wakhan Corridor

A 2019 analysis from the National Bureau of Asian Research estimated that most likely in 2016, China established a military outpost in Tajikistan and joint patrols with the Afghan National Army on the Wakhan Corridor facility in Tajikistan.<sup>85</sup> The development of the facility came in the context of China owning some 52 percent of Tajikistan's foreign debt and Tajikistan failing to honor some of the payments due. While there has been speculation that the Tajik government gave up some of its sovereign territory to China in exchange for the unpaid debt, it is more likely that the Tajik government agreed to provide China with military basing rights on its territory in the context of a series of secret bilateral agreements in 2015 and 2016. As part of these agreements, China got the right to build or refurbish 30 to 40

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<sup>79</sup> Scobell et al., 2018, pp. 205–206.

<sup>80</sup> “China Eyes Military Facilities in Pak, Myanmar, 10 Other Nations: Pentagon,” *Business Standard News*, September 3, 2020.

<sup>81</sup> U.S. Senate, 2018.

<sup>82</sup> U.S. Africa Command, “Combined Joint Task Force–Horn of Africa,” webpage, undated; Eric Schmidt, “U.S. Signs New Lease to Keep Strategic Military Installation in the Horn of Africa,” *New York Times*, May 5, 2014.

<sup>83</sup> Office of the Secretary of Defense, 2020, p. 129.

<sup>84</sup> Efron et al., 2019, pp. 104–105.

<sup>85</sup> Rolland, 2019.

guard posts on the Tajik border with Afghanistan.<sup>86</sup> However, the increase in Tajik debt to China has paralleled the expansion of China's military presence in the country, an increase in bilateral military exercises and in Chinese military projects in Tajikistan.

In 2017, a Chinese think tank, the Development Research Center, gave a seminar to Russian researchers in Beijing in which it confirmed the existence of the Tajikistan outpost, assuring that it was not intended as military presence of the Central Asian country. Researchers seemed to be gauging Moscow's perceptions toward Chinese military expansion into the area and even asked if it would be "more palatable if China deployed mercenaries rather than uniformed soldiers."<sup>87</sup> The facility is currently staffed by members of the paramilitary Peoples Armed Police (PAP), which is subordinate to PLA command, and can host a battalion-sized force and light infantry.<sup>88</sup> Chinese officials have both denied the outpost's existence and claimed it was developed for training and logistics purposes.<sup>89</sup> But a Tajik official noted that in some areas of Tajikistan, "the Chinese have taken over border control completely" and that "they patrol on their own."<sup>90</sup> In 2019, the existence of a second military base was confirmed 12 kilometers from the Wakhan Corridor.<sup>91</sup>

Beijing argues that its joint military operations with the Tajik and Afghan security forces, and its military expansion in Central Asia, protect vulnerable BRI projects and provide counterterrorism defenses that are beyond the capabilities of the Tajik armed forces.<sup>92</sup> However, its military presence is also well positioned to take advantage of the U.S. withdrawal from Afghanistan and ensure that China's border does not become an exit path for terrorists in Afghanistan.<sup>93</sup> The border between China's Xinjiang province and Tajikistan and Afghanistan is a focus for Beijing due to fears of terrorist groups or secessionists from Central Asia collaborating with Chinese Uighurs.<sup>94</sup>

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<sup>86</sup> Russel and Berger, 2020.

<sup>87</sup> Stephen Blank, "China's Military Base in Tajikistan: What Does it Mean?" Central Asia-Caucasus Institute, April 18, 2019.

<sup>88</sup> Joel Wuthnow, *China's Other Army: The People's Armed Police in an Era of Reform*, Center for the Study of Chinese Military Affairs, Institute for National Strategic Studies, Washington, D.C.: National Defense University Press, China Strategic Perspectives No. 14, April 2019, p. 30.

<sup>89</sup> Blank, 2019.

<sup>90</sup> Russel and Berger, 2020.

<sup>91</sup> Vinayat Bhat, "China Has Built Second Foreign Military Base Near Key Afghan Corridor—Just North of PoK," *The Print*, February 22, 2019.

<sup>92</sup> Rolland, 2019.

<sup>93</sup> Russel and Berger, 2020.

<sup>94</sup> Russel and Berger, 2020.

## Governance-Related Issues and Concerns

### Political and Sovereignty Issues

#### Chinese Investments in the Piraeus Port, Greece

In 2016, the SOE China COSCO Shipping Corporation purchased a majority stake in Piraeus Port, which is strategically located between the Asian and European continents.<sup>95</sup> Its subsidiary Piraeus Container Terminal (PCT) has run two piers in Piraeus Port since 2009. The privatization of Piraeus Port and its transfer to Chinese hands met with strong opposition in Greece due to economic, labor, and environmental concerns. While the conservative Greek government that signed the 2008 concession agreement with COSCO imposed lenient regulatory standards favorable to the Chinese management of the port, a new Greek government in 2015 sought a stricter enforcement of the regulatory framework. Since 2016, COSCO has submitted seven versions of its master plan for port operations and future infrastructure upgrades, all of which the Greek government rejected for technical, financial, and environmental reasons. Yet due to the volume of Chinese imports coming through Piraeus and the fragile state of the Greek economy, Greek officials have remained accommodating to COSCO continuing uninterrupted the operation of the port.<sup>96</sup> In 2020, COSCO launched the development of a new shipping port in Piraeus' Peiraiki district during the COVID-19 lockdown despite several reports of potential environmental damage and unfulfilled regulatory requirements.<sup>97</sup>

In the context of the expanding Chinese investments, the Greek government's policies toward China have been in sharp contrast to the EU's imposition of sanctions on Beijing for human rights violations in Xinjiang. After having benefited from three (rather controversial) EU bailout programs, one of which was not completed, Greece ended up looking to Chinese investments as an essential source of income and favoring its engagement in the BRI, which it joined in August 2018.<sup>98</sup> There is evidence that COSCO used coercive measures in 2018 to pressure Greece to block an EU statement at the UN criticizing China's human rights record.<sup>99</sup> China's success in gaining political leverage in such cases as the Piraeus Port project indicate a potential risk during crises where countries may be forced to choose between the

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<sup>95</sup> Andreas Bloom, "Greeks Wage a Court Battle Against Chinese-Funded Port That May Poison the Environment," *Global Voices*, May 27, 2021.

<sup>96</sup> "Environmental Issues and Chinese Capital in Greece: Piraeus Port," *Environment Watch South East Europe*, May 22, 2020.

<sup>97</sup> Bloom, 2021.

<sup>98</sup> Silvia Amaro, "Greece Is Not Abandoning China Even Though Others Are, Ambassador Says," *CNBC*, June 14, 2021.

<sup>99</sup> Christopher R. O'Dea, "China's Commercial Maritime Expansion Raises Security Concerns," *National Review*, May 8, 2018.

United States and China.<sup>100</sup> Until the present, there has not been any credible evidence of dual use, although COSCO's ownership of Piraeus Port could likely facilitate future PLAN visits, much like it did in 2015 and 2017.<sup>101</sup>

In response to China's investments in Piraeus Port, in early 2020, U.S. ambassador to Greece Geoffrey Pyatt warned that "China itself has identified [Greece] as the dragon's head of the Belt and Road in Europe."<sup>102</sup> In September 2020, Adam Bohler, head of the U.S. International Development Finance Corporation (DFC), visited Greece to convince the country's leadership that Greece's second-largest (but failing) shipyard in Elefsina should accept the investment of the DFC, created in 2019 as an alternative to China's BRI.<sup>103</sup> U.S. attempts to influence Greece to reject future Chinese port investments can be considered somewhat successful because COSCO had a more difficult time obtaining approval for its fourth port terminal, though Greek officials attributed the delay to local opposition.

Greek policy toward China has recently become more aligned with EU and U.S. positions. In the context of Greece's efforts to deepen security cooperation with the United States due to escalating tensions with Turkey, former Secretary of State Pompeo found success in 2020 convincing Greece to sign up to the U.S. telecommunications Clean Network initiative, an alternative to Huawei's 5G technology, in return for homeporting of a major U.S. naval vessel in Crete for the first time in over 40 years.<sup>104</sup>

## Political Instability and Civil Strife

### Chinese Investments in the Mining Sector, Zambia

In 2012, Zambia experienced political instability and civil strife as a result of anti-Chinese sentiment resulting from Chinese investments in the mining sector.<sup>105</sup> The Zambia-China economic and trade cooperation zone was established in 2006 and was touted as having created 6,000 jobs. That same year, however, then-presidential hopeful Michael Sata criticized Chinese investment in Zambia, saying that it had "added [no] value to the people of Zambia" and that he would recognize the independence of Taiwan if he became president. Following Sata's anti-Chinese rhetoric, the Chinese ambassador to Zambia said that China may sever diplomatic ties with Zambia should Sata be elected and recognize the independence of Taiwan. Some political analysts at the time said that Sata was exploiting the popular undercurrent of anti-Chinese resentment, specifically targeting Zambia's poor and uneducated

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<sup>100</sup> Marshalee E. M. Clarke, *China's Global Port Expansion: A Maritime Security Threat to U.S. Geographic Combatant Commands*, Newport, R.I.: National War College, March 24, 2020.

<sup>101</sup> "Chinese Naval Fleet Arrives in Greece for Friendly Visit," Xinhua, July 23, 2017.

<sup>102</sup> Stuart Lau, "U.S. Pushes Greece to Stop Acting as China's 'Dragon's Head' into Europe," *South China Morning Post*, November 3, 2020.

<sup>103</sup> Lau, 2020.

<sup>104</sup> Lau, 2020.

<sup>105</sup> Eleanor Albert, *China in Africa: Backgrounder*, New York: Council on Foreign Relations, July 12, 2017.

voters, such as miners.<sup>106</sup> A visit to Zambia by Chinese president Hu Jintao in 2007 was called off due to threats of widespread protest.<sup>107</sup>

In the context of the Zambia-China economic and trade cooperation zone, the Chinese company Collum Coal Mine became a major supplier of coal in Zambia.<sup>108</sup> Multiple clashes have occurred between Collum's Chinese managers and local miners. In October 2010, 12 local workers were shot and injured by two Chinese managers when hundreds of workers gathered outside a shaft to protest for higher wages and better conditions.<sup>109</sup> Locals were also harmed by the mine polluting their main source of drinking water.<sup>110</sup>

As a result of the safety, health, and environmental incidents, Collum lost its license in 2012. In 2013, the Zambian government seized and closed the mine over labor and safety violations as well as unpaid taxes, saying it would own and operate the mine until a new investor could be found. The mine was reopened in 2015, however, to mitigate overreliance on imported coal.<sup>111</sup> The Zambian government granted Collum the right to reopen the mine "after reassurance that necessary measures have been taken to improve the operations," according to a presidential spokesperson.<sup>112</sup> However, in 2016, 50 locals were left homeless due to the collapse of a mining tunnel that had lacked a proper impact assessment.<sup>113</sup>

### Bolstering Authoritarian Controls by Export of Citizen Surveillance Technologies ZTE Surveillance Technology in Venezuela

In addition to concerns associated with Chinese intelligence collection, cyber technologies provided by Chinese firms (often in the context of Smart and Safe City packages) help recipient governments to surveil their citizens and crush anti-government dissent.<sup>114</sup> In Venezuela, the telecommunications company ZTE, partially owned by the Chinese state, has provided support to the Maduro government to institute the "fatherland identity card" (known in Spanish as the "carnet de la patria") program. On the one hand, the card allows citizens to access government "subsidized food, health and other social programs most Venezuelans

<sup>106</sup> Joseph J. Schatz, "Zambian Hopeful Takes a Swing at China," *Washington Post*, September 25, 2006.

<sup>107</sup> Ching Kwan Lee, *Raw Encounters: Chinese Managers, African Workers and the Politics of Casualization in Africa's Chinese Enclaves*, Los Angeles, Calif.: Institute for Research of Labor and Employment, University of California, Los Angeles, February 2009.

<sup>108</sup> Nicholas Bariyo, "Zambia Reopens Chinese-owned Collum Coal Mine," *Wall Street Journal*, April 17, 2015.

<sup>109</sup> Environmental Justice Atlas, "Collum Coal Mine, Zambia," webpage, last updated on August 18, 2019.

<sup>110</sup> Matuna Chanda, "China in Zambia: Jobs or Exploitation?" BBC News, December 13, 2010.

<sup>111</sup> Bariyo, 2015.

<sup>112</sup> Environmental Justice Atlas, 2019.

<sup>113</sup> Business and Human Rights Resource Centre, "Zambia: Homes Crumbling Due to Collapsing Nkan-dabwe Coal Mines Tunnels—Member of Parliament Urges Company to Compensate Displaced Families," webpage, January 27, 2016.

<sup>114</sup> Ellis, 2021.

rely on to survive.”<sup>115</sup> On the other hand, the card allows the government “to track citizens’ voting records, medical history, and other metrics that the regime uses to adjust their public benefits.”<sup>116</sup> During turmoil in Venezuela following the fraudulent reelection of Nicolas Maduro to the presidency in May 2018, the China National Electronics Import & Export Corporation (CEIEC) provided the Maduro camp with “information on the activities of members of the opposition” and facilitated the authoritarian forces’ ability to maintain their grip on power. Moreover, in Venezuela, the financial resources China provides have exacerbated corruption, administrative inefficiency, and economic stagnation.<sup>117</sup>

## Corruption and Fraudulent Bidding Practices

### Upgrade to the Budapest-Belgrade Railway Line

The Budapest-Belgrade railway line upgrade, announced at the second summit of China’s 16+1 initiative, a mechanism for engaging Central and Eastern European countries, became the flagship project of both the 16+1 (a grouping initiated by China in 2012 to further its cooperation with Central and Eastern European countries) and the BRI in the region.<sup>118</sup> The project was initiated by a tripartite MOU among China, Serbia, and Hungary and signed during the 2014 Belgrade 16+1 summit. Designs were finalized and construction began in Hungary in late 2015. Construction in Serbia started in 2017, as a collaborative effort by both China Railway International (CRI) and the Russian company RDZ International. Serbia divided the project into sections to satisfy both China and Russia—awarding the Stara Pazova-Novi Sad section contract to Russia and granting the Novi Sad-Subotica section of the contract to both CRI and CCCC.<sup>119</sup>

The railway, ending at the Piraeus Port, is seen by China as the key link between the land-trade corridor of Eastern Europe and the terminal of its Maritime Silk Road in the Mediterranean, or what it calls the “China-Europe land-sea fast intermodal transport route.”<sup>120</sup> The Export-Import Bank of China agreed to finance the project through a 20-year loan of \$1.8 billion to Hungary and \$1.3 billion to Serbia, covering 85 percent of the project’s cost.<sup>121</sup>

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<sup>115</sup> Angus Berwick, “How ZTE Helps Venezuela Create China-Style Social Control,” Reuters, November 14, 2018.

<sup>116</sup> Ellis, 2021.

<sup>117</sup> Ellis, 2021.

<sup>118</sup> China initiated the 16+1 dialogue in 2012 and it was expanded to 17+1 with the addition of Greece in 2019. Horia Ciurtin, “The “16+1” Becomes the “17+1”: Greece Joins China’s Dwindling Cooperation Framework in Central and Eastern Europe,” *Jamestown Foundation, China Brief*, Vol. 19, No. 10, May 29, 2019.

<sup>119</sup> Andreea Brînză, “China and the Budapest-Belgrade Railway Saga,” *The Diplomat*, April 28, 2020.

<sup>120</sup> Brînză, 2020.

<sup>121</sup> Brînză, 2020.

The project has turned out to be problematic due to “suspicions surrounding the tender on the Hungarian side and has not yet been completed.”<sup>122</sup> In 2020, the project came to a temporary standstill because of its disregard for EU norms and the hesitancy of stakeholders. The EC initiated an infringement proceeding against Hungary’s investment in the project in 2016 under suspicions of corruption due to the irregular tender procedure, the purpose of the project, and the role of Hungarian National Railways (MAV Zrt.) in the project. MAV Zrt., the project’s only EU representative, has only a 15-percent stake in the project. Hungary responded to the EC that the contract agreement (deemed the ‘Suzhou agreement’) does not fall under the purview of European commercial policies. The Hungarian National Ministry of Development also said that the economic impact report for the project would not be made public until 2025, when the project is estimated to be completed.<sup>123</sup>

Some of the main concerns associated with the project are that the upgrade does not seem to benefit either Hungary or Serbia.<sup>124</sup> Many find it odd that, although Hungary receives, on average, 85-percent funding from the EU for such projects, it has chosen to place an immense burden on its taxpayers by agreeing to work with China.<sup>125</sup> Some experts believe that Hungary has agreed to the risky project with the prospect of becoming a distribution hub for China.<sup>126</sup> The Hungarian government, under pressure from skeptics and critics of the project’s legitimacy, moved to classify the project as a state secret in April 2020.<sup>127</sup>

Systemic corruption is allegedly very high in Hungary, with the country’s public procurement system being suspected to inflate government contracts by more than 20 percent, in this way deterring many private companies from even attempting to bid on government contracts. In the case of the Budapest-Belgrade railway line, the bidding process was very short, and the tender bidders have not been made public, leading many observers to believe that the project had been designed to benefit Hungary’s oligarchy.<sup>128</sup> For instance, the consortium owned by Lorinc Meszaros, a childhood friend of Hungarian Prime Minister Victor Orban

<sup>122</sup> Stefan Vladislavljev, Konstantinas Andrijauskas and Filip Šebok, “Chapter One: Political Relations: Beyond Proclamations,” in Ivana Karásková, Alicja Bachulska, Ágnes Szunomár, Stefan Vladislavljev, Una Aleksandra Bērziņa-Čerenkova, Konstantinas Andrijauskas, Liisi Karindi, Andreea Leonte, Nina Pejić, and Filip Šebok, *Empty Shell No More: China’s Growing Footprint in Central and Eastern Europe*, Prague, Czech Republic: China Observers in Central and Eastern Europe, Association for International Affairs, April 2020, pp. 14–34.

<sup>123</sup> Justin Spike, “EC Launches Infringement Proceeding Concerning Budapest-Belgrade Railway Project,” *Budapest Beacon*, September 16, 2016.

<sup>124</sup> Nick Miller, “‘Why Are They Giving Us the money?’ Behind China’s Plans to ‘Rescue’ a Decrepit Rail Link,” *Sydney Morning Herald*, June 20, 2018.

<sup>125</sup> Spike, 2016.

<sup>126</sup> Miller, 2018.

<sup>127</sup> Ábrahám Vass, “Gov’t Proposes Changes on Debated Issues: Liget Project, Budapest-Belgrade Railway Classification, Many More,” *Hungary Today*, April 3, 2020.

<sup>128</sup> Miller, 2018.

who rose to become Hungary's richest person in just a few years, received a substantial contract for the project's construction work.<sup>129</sup>

Furthermore, allegations of corruption against CCCC and its subsidiaries are not new and are not limited to the case of Hungary. In 2009, the company was accused of having engaged in fraudulent bidding practices on a highway contract in the Philippines where CCCC's road-building subsidiary engaged in a collusive scheme to artificially raise bid prices for a highway construction project. Also in 2009, the same CCCC road building subsidiary "allegedly paid \$19 million to a son of the president of Equatorial Guinea to win a highway contract, according to a U.S. asset-forfeiture case filed in Los Angeles in 2013."<sup>130</sup> In Sri Lanka, authorities investigated a CCCC transfer of \$8.1 million in USD to the staff of President Mahinda Rajapaksa, who had granted the 2010 contract to build a port in his home district of Hambantota to a subsidiary of CCCC, during Rajapaksa's failed 2015 bid for a third term.<sup>131</sup> In 2018, Malaysia tried to stop the ECRL project on allegations of corrupt practices associated with the contract (as discussed in this appendix), with CCCC having overbilled the Malaysian government. Also in 2018, CCCC allegedly bribed a Bangladeshi official linked to the process of awarding a highway building contract.<sup>132</sup>

Although Hungary does not seem to have taken any specific measures to mitigate the concerns associated with the Chinese investment in the upgrade of the Budapest-Belgrade railway, hardening European sentiment in the EU toward China—together with the U.S.-China trade conflict—has broadly diminished interest in Chinese high-speed rail technology. France and Germany have even cooperated on a merger between Alstom and Siemens' rail businesses to allow Europe to better compete with the Chinese rail manufacturer CRRC Corporation, Ltd.<sup>133</sup> The United States has initiated a political and public campaign against Chinese tech in the Central and Eastern Europe region, forcing countries to choose between the security provided by their U.S. alliance and economic ties with China.<sup>134</sup>

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<sup>129</sup> Valerie Hopkins, "Hungary to Keep Details of Beijing-Funded Rail Link Secret," *Financial Times*, April 2, 2020.

<sup>130</sup> Sheridan Prasso, "A Chinese Company Reshaping the World Leaves a Troubled Trail," *Bloomberg Businessweek*, September 18, 2018.

<sup>131</sup> Prasso, 2018. CCCC dismissed as "speculation" that its money funded the Rajapaksa campaign. Rajapaksa denied any wrongdoing, and foreign campaign contributions are not illegal in Sri Lanka.

<sup>132</sup> Prasso, 2018.

<sup>133</sup> Leigh Thomas, "France, Germany Step Up Pressure over Alstom-Siemens Deal," Reuters, January 21, 2019.

<sup>134</sup> Andreea Brînză, "The '17 + 1' Mechanism: Caught Between China and the United States," *China Quarterly of International Strategic Studies*, Vol. 5, No. 2, 2019.

## Economic Issues

### East Coast Rail Link in Malaysia

The ECRL in Malaysia is a \$13 billion project backed by an 85-percent loan from the Export-Import Bank of China and represents the most expensive infrastructure project to date between CCCC and the government of Malaysia.<sup>135</sup> The Malaysian Rail Link Corporation (MRL), a subsidiary of the Minister of Finance, Inc., of Malaysia, is responsible for implementing the ECRL, while CCCC is the main contractor for constructing the project.<sup>136</sup>

The railway project links the west coast of the Malaysian peninsula to the country's undeveloped east coast, with the goal of enhancing the latter region's economic development. The railroad is used for both passenger and freight transportation, and it would support some 80 percent of the world maritime trade that passes through the Straits of Malacca.<sup>137</sup> However, the project came with concerns about government corruption and the Malaysian government's impetus to lock in quickly the project with China without appropriate due diligence.

The entire ECRL initiative unfolded very quickly and with little to no input from Malaysian stakeholders and businesses. The Malaysian government approved the project in October 2016, and the financing and construction agreement was signed in Beijing in the following two weeks. CCCC received the contract in 2016 with no public bidding process. As a result of the very expedient way in which the contract was concluded and awarded to CCCC, "the project's feasibility and design proved to be problematic and local businesses were unable to fully integrate into the project's supply chain."<sup>138</sup>

Several other downsides plagued the project, such as local governments being worried about shifting ownership of valuable land, property, and assets into Chinese hands; and Malaysia being required to purchase the stock for the railway on top of making loan payments to China while awarding only 30 percent of the stock in the project to local Malaysian businesses. Critics also raised concerns that even this 30 percent<sup>139</sup> may be subcontracted back to Chinese businesses due to contractual clauses.<sup>140</sup> In view of these concerns, in 2018,

<sup>135</sup> Peter Hays, "The Impact of Chinese Investments in Malaysia," *Global Risk Insights*, September 30, 2017; Jennifer Fei, *Bridging Regions, Strengthening Ties: The East Coast Rail Line (ECRL) in Malaysia*, Stanford, Calif.: Johns Hopkins University and Stanford University, Leadership Academy for Development, 2019; "China to Build, Finance New East Coast Rail Link in Malaysia," *Straits Times*, October 31, 2016; Jones and Hameiri, "2020.

<sup>136</sup> "Wei Jiayang: East Railway Has Paid 20.3 Billion," *Nanyang Siang Pau* (Malaysia), [要闻 魏家祥:东铁计划已付203亿], August 4, 2020.

<sup>137</sup> Fei, 2019.

<sup>138</sup> Russel and Berger, 2019, p. 12.

<sup>139</sup> In January 2021, China and Malaysia reached an agreement to allot at least 40 percent of the project's civil engineering work to local subcontractors and Malaysian suppliers. The agreement also stipulates that local companies appointed by the CCCC are also eligible to apply for project loans from banks that have signed MOUs with China's MTRC, CCCC, and SME banks for financing. See Ayisy Yusof, "Local Contractors to Get at Least 40pct of ECRL Civil Works Worth RM10bil," *New Straits Times*, January 6, 2021.

<sup>140</sup> Fei, 2019.

the incoming Malaysian Prime Minister Mahathir Mohamad criticized the project as benefiting China more than Malaysia, because it involves “borrowing huge sums of money from China . . . the contract goes to China, and China contractors prefer to use their own workers from China.”<sup>141</sup> Moreover, in July 2018, the Mohamad government uncovered massive corruption, part of the 1MDB scandal. The government’s Anti-Corruption Commission investigated the ECRL project and found that contract prices had been significantly inflated so that funds could be diverted to pay off the debts of 1MDB, a state development fund. In addition to this domestic corruption, the Chinese companies associated with the project were suspected of having engaged in money laundering.<sup>142</sup>

The Malaysian government attempted to cancel the project due to its struggling economy and the unfavorable terms and conditions of the contract, as well as the corrupt practices that led to the approval of the project. The cancellation would have resulted in some \$5.4 billion in USD that Malaysia would have had to pay to China as penalty charges and in compensation for the project. Because of the corrupt practices associated with the project, the initial assessment of the project prior to the contractual agreement was very brief and flawed and underestimated the costs by some \$6 billion in USD. Although the initial estimation of the cost was \$7 billion in USD, the price tag was raised to \$13 billion in USD by the time the work began, and a 65-kilometer difference was uncovered in the length of the rail tracks.<sup>143</sup>

The ECRL example is illustrative of how two major issues—one political and one economic—corruption and the impetus of host governments to lock in projects quickly without proper due diligence can go hand in hand, creating negative political, economic, and social outcomes for the host country.<sup>144</sup>

## Opaque and Predatory Lending Practices

### Hambantota Port in Sri Lanka

The Hambantota Port in Sri Lanka is one of the most-publicized examples of a Chinese overseas loan that translated into an unsustainable debt burden for the host country. The government of Sri Lanka ended up granting China a 99-year land concession to the asset as a way to compensate for its inability to repay its debt. In 2010, then-Sri Lankan President Mahinda Rajapaksa was looking for investment opportunities for his home district, Hambantota. In this context, Sri Lanka granted to China Harbour, a subsidiary of CCCC, the contract to

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<sup>141</sup> Zuraidah Ibrahim and Bhavan Jaipragas, “Nothing to Fear From China, Saays Malaysia’s Mahathir Mohamed, but Lopsided Deals Must End,” *This Week in Asia*, June 19, 2018.

<sup>142</sup> Russel and Berger, 2019, pp. 16–17.

<sup>143</sup> Russel and Berger, 2019, p. 12.

<sup>144</sup> On this issue, see also Jones and Hameiri, 2020, who point to a large responsibility of Malaysia in the overall negative outcome of the project, and state that

The real issue here is not one of geopolitics, but rather—as in Sri Lanka—the recipient government’s efforts to harness Chinese investments and development financing to advance domestic political agendas, reflecting both need and greed.

build a port in Hambantota.<sup>145</sup> As it does in most of its investment infrastructure projects in developing countries, China offered Sri Lanka a loan as a means of financing the port's construction. The project was financed and is now operated by CMPHCL, which also operates the Colombo Port South Terminal through a 35-year build-operate-transfer agreement.<sup>146</sup>

The Hambantota Port has incurred heavy financial losses on the loan Sri Lanka borrowed from China at an interest rate of 6.3 percent.<sup>147</sup> The interest rate on the loan that Sri Lanka agreed to pay China was higher than what the country could have obtained from other international lenders.<sup>148</sup> Unable to generate revenue from the failed project, the Sri Lankan government fell behind in its loan payments and was unable to reimburse its loan to China.

Given the Sri Lankan government's inability to service the debt of more than \$8 billion in USD to Chinese companies involved in the construction of the port, Sri Lanka agreed in December 2017 to grant China a 99-year lease of the port and 70-percent equity in the 15,000-acre Hambantota Port project.<sup>149</sup>

Several analysts have focused on Hambantota Port as a case of Chinese predatory lending—although others have argued that Malaysian and U.S. officials have instrumentalized the Hambantota Port story for political purposes.<sup>150</sup> A number of other analysts cast Hambantota Port as representing “just one significant example of high-risk debt financing to be followed by land concessions.”<sup>151</sup> However, other analysts contend that the commercial viability of Hambantota Port is very low, and suggest the port could also serve as a logistics point for the PLA in the Indian Ocean.<sup>152</sup> The government in Colombo denied the potential for the PLA using the Hambantota Port. In response to national security concerns that were raised, the government of President Gotabaya Rajapaksa stated in 2019 that it was considering ways to undo lease of the port to China.<sup>153</sup> However, the lease remains. Given the precarious state of the country's politics and economy after President Rajapaksa was forced from office in July 2022 by massive public protests, concerns remain that China could end up persuading the Sri Lankans to grant PLAN ships permission to access in Hambantota Port, which has the capability to accommodate PLAN *Corvette*-class vessels.<sup>154</sup> This concern was underscored in

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<sup>145</sup> Prasso, 2018.

<sup>146</sup> Anjelina Patrick, “China-Sri Lanka Strategic Hambantota Port Deal,” National Maritime Foundation, April 13, 2017.

<sup>147</sup> Patrick, 2017.

<sup>148</sup> Maria Abi-Habib, “How China Got Sri Lanka to Cough Up a Port,” *New York Times*, June 25, 2018a.

<sup>149</sup> Russel and Berger, 2020, p. 30.

<sup>150</sup> Brautigam and Rithmire, 2021.

<sup>151</sup> Andresen, 2019, p. 127.

<sup>152</sup> Dreyfuss and Karlin, 2019, p. 4.

<sup>153</sup> Anusha Ondaatjie, “Sri Lanka Leased Hambantota Port to China for 99 Yrs. Now It Wants It back,” *Business Standard*, November 30, 2019.

<sup>154</sup> Russel and Berger, 2020, p. 24; Dreyfuss and Karlin, 2019, p. 4.

August 2022 when a Chinese survey ship docked at Hambantota for resupplies. Sri Lankan and Chinese officials claimed it is a scientific research vessel; however, security experts contended that the ship is used by the PLA Strategic Support Force to track satellites and intercontinental ballistic missiles.<sup>155</sup>

## Cost Overruns and Delays in Construction

### Cat Linh-Ha Dong Urban Railway Project in Vietnam

The Cat Linh-Ha Dong Railway Line project was developed by the Vietnam Railway Association under the Ministry of Transport. The construction of the mass transit railway line began in 2011 and—after several timeline extensions—commenced operations in the November 2021.<sup>156</sup> The project has been funded primarily through preferential official development assistance (ODA) loans from the Export-Import Bank of China. Changes in capital outlays are evaluated by Vietnam’s Ministry of Transport and the Ministry of Finance for fairness and must be endorsed by the National Assembly before operations can commence.<sup>157</sup>

The project was officially approved by Vietnam’s Ministry of Transport in 2008 with a total investment of \$552.86 million in USD, of which \$419 million was financed via preferential loans from the Export-Import Bank of China, while the remaining \$133.86 million was funded by the Vietnamese government. The initial engineering, procurement, and construction (EPC) contract for the railway, granted to China by the local developer, stipulated that construction was not to exceed four years except for uncontrollable delays. Construction of the line began in October 2011 and was initially scheduled to be completed by 2013. In 2013, however, the head of the Railway Project Management Unit (under the Vietnamese Ministry of Transport) said that China Railway Sixth Group was inexperienced with international EPC contracts and that the management unit of the State Audit of Vietnam (SAV) needed to take part in nearly every phase of the project due to the inexperience of the contractor with design, equipment, and execution. Poor oversight and execution were, in part, caused by a lack of specific regulations on the management and execution of EPC contracts and the responsibilities of involved parties.<sup>158</sup> Ultimately, most of the construction took place in the fourth quarter of 2018, followed by operational tests in 2018 and 2019.

Because of numerous discrepancies between the initial design and the actual construction presenting extra components with different pricing, the cost of the investment rose beyond the initial estimate. For instance, although the project design showed two-story terminals,

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<sup>155</sup> Lauren Frayer, “Why a Chinese Ship’s Arrival in Sri Lanka Has Caused Alarm in India and the West,” NPR, August 19, 2022.

<sup>156</sup> Anh Trọng and Theo Tiên Phong, “Khai thác thương mại đường sắt Cát Linh - Hà Đông vào quý III/2021,” webpage, *Kehn 14*, June 20, 2021; and “Vietnam Launches Operations on Cat Linh-Ha Dong Metro Line,” *Railway Technology*, November 8, 2021.

<sup>157</sup> Lam Thanh Ha, 2019.

<sup>158</sup> “State Audit Steps In to Save Hanoi Sky Train,” *Vietnam Plus*, December 13, 2013.

the Chinese contractor built three-story terminals, leading to higher construction costs.<sup>159</sup> As a result, the total cost for the project ballooned by \$315 million to a total of \$868 million. The adjusted outlay sees China loaning \$669.62 million and Vietnam paying \$198.42 million.<sup>160</sup> Although the additional \$250 million in loans from China was approved in 2014, it had not received the green light for disbursement from Export-Import Bank by 2018.<sup>161</sup>

The SAV found in 2019 that the capital for the project was arbitrarily inflated by the Ministry of Transport to 205 percent of the approved initial investment without being reported to the prime minister for approval. The SAV attributed this inflation to miscalculations on the part of the investor, particularly misestimates of construction items and material procurement that were inconsistent with Vietnam's laws on managing unit price norms.<sup>162</sup>

By June 2020, construction was finished, but a safety evaluation was necessary to begin commercial operation. Because of COVID-19 pandemic travel restrictions, the inspection trial began on December 12, 2020. With several missed deadlines to commence operations, the prime minister and the Ministry of Transport handed a plan to the Hanoi People's Committee for approval in June 2021, setting a new timeline to commence operations in the third quarter of 2021.<sup>163</sup>

Delays because of safety concerns, capital outlay adjustments on the Chinese side, and the COVID-19 pandemic have hugely increased Vietnam's financial responsibility for the project, with each day of delay in commencing operations for the urban railway amounting to around \$52,000 in interest payments.<sup>164</sup> A 2018 report submitted to the prime minister by Vietnam's Ministry of Planning and Investment noted that Chinese ODA loans have an annual interest rate of 3 percent, much higher than Japan's (0.4–1.2 percent) or South Korea's (0–2 percent). Chinese loans are also subject to a 0.5-percent commitment fee and a 0.5-percent management fee, while the loan duration is 15 years shorter and the grace period five years shorter than those from other lenders. The report strongly recommends Vietnam limit its reliance on Chinese ODA loans in the future.<sup>165</sup>

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<sup>159</sup> "Chinese-Contracted Railway Project in Hanoi Suffers 57% Cost Overrun," *Tuoi Tre News*, October 27, 2015.

<sup>160</sup> Nguyen Quang Thuan, "China's Strategic Adjustments: Impact on the World, Region and Vietnam," *China Report*, Vol. 53, No. 3, 2017, pp. 367–385.

<sup>161</sup> "HN Urban Railway Told to Start Operation in 2018," *Vietnam News*, March 28, 2017.

<sup>162</sup> Xuan Thao and Huu Tuc, "Why Has the Cat Linh-Ha Dong Urban Railway Missed Its Deadline So Many Times?" *Haiquan Online*, September 28, 2019.

<sup>163</sup> Anh Trọng and Theo Tiên Phong, 2021.

<sup>164</sup> Lam Thanh Ha, 2019.

<sup>165</sup> Anh Minh, "Vietnam Frets Over Chinese ODA, Contractors," *VnExpress International*, August 15, 2018.

## Social Issues

### Land Expropriation and Population Displacement

#### The Nicaragua Canal Project

In June 2013, the Nicaraguan Parliament swiftly approved a 100-year concession for the Chinese HK Nicaragua Canal Development Investment Company Ltd. (HKND) to build an inter-oceanic canal connecting (through Nicaragua) the Atlantic and Pacific oceans. The Nicaragua Canal would rival the Panama Canal, and it would be twice as deep and three times longer. Most of the technical and financial details of the deal have remained secret as well as a 2015 HKND-financed environmental study that concluded that the canal project was “viable.” However, the government of Nicaragua failed to conduct such a study prior to entering the contract in 2013. Using the details available about the contract, the government of Nicaragua “gave HKND powers to expropriate lands, exempted the company from local tax and commercial regulations, and guaranteed HKND that there would be no criminal punishment for breach of contract.”<sup>166</sup> One possible explanation for the use of HKND as a front for the deal and the lack of transparency regarding the details of the agreement is that Nicaragua recognized Taiwan until December 2021 and did not maintain diplomatic relations with the government in Beijing.

The project broke ground in December 2014 but has largely stalled since then. Most of the opposition to the canal’s construction has been related to its social and environmental impact. The canal’s initially proposed course would have crossed indigenous and Afro-Caribbean communities and their lands, resulting in their displacement. In its rush to secure the deal, the Nicaraguan government failed to secure the prior consent of the members of these communities. From an environmental standpoint, the construction would have traversed Lake Nicaragua, which is the largest source of fresh water in Central America. Concerns over the environmental impact and the displacement of rural communities have resulted in several protests across Nicaragua since 2014.<sup>167</sup> The project has been put on hold because of opposition within Nicaragua and also the financial loss by the main investor in the canal deal (Chinese billionaire Wang Jing, who lost 85 percent of his fortune in the 2015 Chinese stock market crisis).<sup>168</sup> As of 2021, the project was allegedly abandoned, but with Nicaragua withdrawing its recognition of Taiwan in December 2021 and restarting diplomatic relations with the PRC, the project could potentially be revived in the future.<sup>169</sup>

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<sup>166</sup> Maureen Taft-Morales, *Nicaragua: In Brief*, Washington, D.C.: Congressional Research Service, RR44560, September 14, 2016, pp. 6–8.

<sup>167</sup> Taft-Morales, 2016, p. 11.

<sup>168</sup> Tom Phillips, “Chinese Mogul Behind Nicaragua Canal Lost 85% of His Fortune in Stock Market,” *The Guardian*, October 2, 2015.

<sup>169</sup> Karol Suarez, Isa Soares and Ben Westcott, “Nicaragua Ends Relations with Taiwan in Diplomatic Victory for China,” CNN, December 10, 2021.

## Workers' Rights and Mistreatment of Workers

### Case of Zambian Miners Working for Chinese Mining Companies

In the past two decades, multiple clashes have occurred between Chinese managers of mining companies and local miners in Zambia. Chinese mining companies in the country have been known to pay base wages that were around a quarter of their competitors' pay, which forced workers who had families to support to borrow money that would need to be paid back with 25-percent to 50-percent interest.<sup>170</sup> Although Chinese managers lived comfortably, local workers remained in poverty and lived in rented huts without basic facilities. Very often mine workers were not supplied with basic protection equipment, such as face masks, safety shoes, or protective clothing.<sup>171</sup>

In Chambishi, home of the operations of Nonferrous China Africa (NFCA) company, which is part of the state-owned China Non-Ferrous Metals Mining Company (CNMC), workers reported two strikes in 2004 and 2006 since the arrival of the Chinese company. The first strike in 2004 was caused by unequal pay between categories of workers, with permanent workers enjoying higher wages than contract workers. The Mine Workers' Union of Zambia (MUZ) convinced workers to resume labor, resulting in accusations that MUZ was corrupt and paid off by the Chinese management of the company that offered union leaders several inducements, including free trips to China. The second strike in 2006 was more violent and also took place without union approval. Because miners' wages were being cut instead of raised as the company's management promised, the protest succeeded in pushing NFCA to raise wages by 23 percent and transition contracted workers to permanent roles.<sup>172</sup>

In 2005, an industrial accident in a CNMC-owned factory near the NFCA mine in Chambishi resulted in the death of 46 "casual" workers who were only paid \$15 to \$30 a month for working in a hazardous environment. The accident resulted in marginally improved safety practices and improved relations between Chinese management and Zambia's two mining unions (MUZ and the National Union of Miners Allied Workers or NUMAW).<sup>173</sup>

Similarly, in October 2010, 12 local workers were shot and injured by two Chinese managers at the Collum Coal Mine, when hundreds of workers gathered outside a shaft to protest for higher wages and better conditions. Injured miners were later paid settlements, although charges against the managers were dropped by the Zambian government. Collum officials blamed the miners' union for the violence.<sup>174</sup> The lack of prosecution of those guilty mobilized a large protest against Chinese labor abuses that lasted into 2011, manifesting as riots at both NFCA and Chambishi Copper Smelter (CCS) mines.

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<sup>170</sup> Matt Wells, "You'll Be Fired If You Refuse": Labor Abuses in Zambia's Chinese State-Owned Copper Mines, New York: Human Rights Watch, November 4, 2011.

<sup>171</sup> Chanda, 2010.

<sup>172</sup> Lee, 2009.

<sup>173</sup> Wells, 2011.

<sup>174</sup> Environmental Justice Atlas, 2019.

Overall, the manifestations of abusive and exploitative Chinese mining operations in Zambia were numerous. A 2011 report from Human Rights Watch stated that conditions in Zambia's Chinese-run mines were worse than other foreign-run mines. The report interviewed miners who described being threatened or bribed to conceal accidents from the government's mines safety department. One major Chinese investor, when interviewed by Chinese media, said that Zambian workers should learn to accept that "inequalities are a reality at every stage."<sup>175</sup> Potable water was rarely provided to workers, and personal protective equipment was often not replaced within a reasonable time frame. For example, workers at NFCA would receive attire that had a six-month expiration for a full year and would have to have the cost of new attire deducted from their salary if replacement was necessary.<sup>176</sup>

Companies often exploited a loophole in Zambian labor law that stated that companies could not employ an individual for more than six months without granting that individual a long-term contract. Companies would therefore repeatedly fire and rehire contract workers to avoid the higher costs associated with long-term employment.<sup>177</sup>

Because government safety offices were often underfunded, understaffed, or corrupt, the responsibility fell to company safety officers to enforce safety regulations. However, company safety officers have little effective authority, because they must defer to negligent management for any degree of change to operations. Workers at Sino Metals regularly reported working 18-hour days, six to seven days per week, for the entire year without days off. At both CCS and Sino Metals, management were found to have threatened to fire workers to block them from joining the stronger mining union, MUZ, and punished workers who were known union officials with unfavorable transfers.<sup>178</sup>

In response to these abuses, by 2009, the Zambian government had become marginally more assertive due to the increasing determination of civil society groups demanding more national share of profits generated by Chinese mining activities. The host government introduced a 25-percent mineral windfall tax and raised corporate tax to 30 percent from 25, demonstrating some leverage gained over exploitation by international investors.<sup>179</sup> However, as demonstrated by the deterioration of conditions and reignition of protests the following year, little progress was made in terms of working conditions.

## Poor Construction and Failing Safety Standards

### The Cat Linh-Ha Dong Urban Railway Project, Vietnam

Vietnam has suffered from delayed construction of Chinese EPC projects due to neglected safety standards. The Cat Linh-Ha Dong urban railway project was suspended several times

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<sup>175</sup> Matt Wells, "China in Zambia: Trouble Down in the Mines," *Huffington Post*, January 21, 2012.

<sup>176</sup> Wells, 2011.

<sup>177</sup> Wells, 2011.

<sup>178</sup> Wells, 2011.

<sup>179</sup> Lee, 2009.

for violations of safety codes, with two serious safety incidents resulting in one death and two injuries in late 2014. These cases led the Minister of Transport Dinh La Thang to publicly castigate the Chinese contractor. Although this boosted the minister's domestic popularity, Chinese state media accused him of inciting anti-Chinese sentiment.<sup>180</sup>

However, in June 2021, the French joint-venture consultancy Apave-Certifer-Tricc (ACT) assessed the safety of the railway and issued a report that cautioned against the presence of 16 technical shortcomings when compared with European technical standards for metro systems. The report noted the Cat Linh-Ha Dong railway's failure to ensure the safety of the electric traction and electric braking systems. It also noted that the project failed eight out of ten emergency procedures that were tested. The Chinese contractor did not provide documentation for the system's operational safety, nor did they provide guarantees of fire safety or viaduct mechanisms at each station. However, the Vietnamese Ministry of Transport brushed these cautions off as differences in technical standards between Europe and China.<sup>181</sup>

This outcome illustrates that even when independent third parties provide unbiased safety assessments, when high financial considerations are at stake—such as when cost overruns and daily interest costs are incurred on investment loans—host countries might compromise on safety standards to start operations sooner and begin recouping some of the financial losses incurred as part of the delayed and over-budget development of the infrastructure project.

## Environmental Issues

### Destruction of Biodiversity: Colombo Port City, Sri Lanka

In April 2011, CCCC submitted an unsolicited proposal to the Sri Lanka Ports Authority “to oversee, among other things, Sri Lanka’s ports and declared port areas.”<sup>182</sup> As part of the proposal, CCCC included the development of Colombo Port City, a financial district in Colombo, Sri Lanka’s capital, that aims to be a hub between Singapore and Dubai.<sup>183</sup> The project was inaugurated in September 2014, and is part of China’s BRI investment portfolio; and its design includes “a marina, a hospital, shopping malls, and 21,000 apartments and homes.”<sup>184</sup> CCCC has a portfolio of more than 700 projects amounting to some \$100 billion in USD, making the company “the largest Belt and Road contractor.”<sup>185</sup> In 2019, CHEC com-

<sup>180</sup> Thanh Trung Nguyen, *Accommodating the Dragon: Vietnam’s Enduring Asymmetric Entanglements with China*, doctoral thesis, Kowloon Tsai, Hong Kong: Hong Kong Baptist University, July 2016.

<sup>181</sup> “French Consultancy Casts Doubts on Operational Safety of Hanoi Metro Line,” *Tuoi Tre News*, June 11, 2021.

<sup>182</sup> Manu Gupta, “Colombo Port City Project: China’s Growing Influence in the Indian Ocean Region,” *The Geopolitics*, June 29, 2021.

<sup>183</sup> Prasso, 2018.

<sup>184</sup> Gupta, 2021; Prasso, 2018.

<sup>185</sup> Prasso, 2018.

pleted the reclamation of 269 hectares of land from the Indian Ocean, and Colombo Port City project is expected to become fully operational by 2041.<sup>186</sup>

The project is highly controversial because of the environmental damage that the extensive land reclamation is expected to have on the coastline north and south of Colombo. A 1992 UN assessment of the environmental impact of port development mentions the potential for disruptions in marine habitats in the context of the development of the coastline.<sup>187</sup> Furthermore, a local environmental advocacy organization estimated that “the Port City will have a ‘severe and highly detrimental’ effect on the surrounding coastline, fish stocks and marine biodiversity.”<sup>188</sup> However, despite several evaluations of the environmental impact of such a development conducted over the years and expert warnings that the project would result into “‘unimaginable’ environmental harm,”<sup>189</sup> a 2017 Sri Lankan environmental impact assessment of the project denies that erosion of the coastline and disruption to fish-stocks and marine biodiversity would occur.<sup>190</sup>

Local fishermen protested the negative impact of the project on their livelihoods and went on a hunger strike in 2016, but to no avail. With herring stock being depleted because of the development of the port city project, local fishermen had to use their savings and any resources they had to purchase fuel for their boats to go farther out in the sea to be able to fish and continue to be able to make a living.<sup>191</sup>

Despite an April 2021 challenge civil society groups in the country brought to the Sri Lankan Supreme Court against the “Colombo Port City Economic Commission Bill,”<sup>192</sup> which aims to establish the Colombo as a special economic zone (SEZ), the act went into effect on May 27, 2021. Next to the creation of the SEZ, the bill also stood up the Colombo Port City Economic Commission (CPCEC), whose members are appointed by the president of Sri Lanka (and not by the democratically elected members of Parliament) and who can be non-Sri Lankan citizens. The CPCEC has a wide range of powers and is “the sole authority to grant registrations, licenses, authorisations, and other approvals to carry on businesses and

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<sup>186</sup> Bureau of Economic and Business Affairs, *2021 Investment Climate Statements: Sri Lanka*, Washington, D.C.: U.S. Department of State, 2021; Gupta, 2021.

<sup>187</sup> Economic and Social Commission for Asia and Pacific, “Chapter Two: Environmental Impacts of Port Development,” in *Assessment of the Environmental Impact of Port Development*, New York: United Nations, 1992, pp. 6–18.

<sup>188</sup> Economic and Social Commission for Asia and Pacific, 1992.

<sup>189</sup> Sajeewa Chamikara, “Colombo Port City Causing ‘Unimaginable’ Environmental Harm,” *Asia News*, April 17, 2015.

<sup>190</sup> Prasso, 2018.

<sup>191</sup> Prasso, 2018.

<sup>192</sup> “Sri Lanka’s Supreme Court Terms Chinese Port City Bill Inconsistent with Constitution: Parliament Told,” *Economic Times*, May 18, 2021.

other activities within the Colombo Port City,<sup>193</sup> raising concerns that—besides the negative environmental impact—the port city of Colombo could lead to a permanent Chinese presence.<sup>194</sup>

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<sup>193</sup> Gulbin Sultana, “‘Colombo Port City Economic Commission Act’ Breeds Economic and Geostrategic Concerns,” *Financial Express*, June 2, 2021.

<sup>194</sup> Krishan Francis, “Sri Lankan Court: China-Built Port Board Needs Public Assent,” *San Diego Union-Tribune*, May 18, 2021.

# Abbreviations

BeiDou	Chinese navigation satellite system
BRI	Belt and Road Initiative
CAOFA	Central Arctic Ocean Fisheries Agreement
CCCC	China Communications Construction Company
CCP	Chinese Communist Party
CCS	Chambishi Copper Smelter, Zambia
CED	Comprehensive Economic Dialogue
CHEC	China Harbour Engineering Company
CIAO	China-Iceland Joint Arctic Observatory
CIC	China Investment Corporation
CMPHCL	China Merchants Port Holdings Company Limited
CNA	Center for Naval Analysis
CNMC	China Nonferrous Metal Mining Group Company
CNOOC	China National Offshore Oil Corporation
COVID-19	coronavirus disease 2019
CPCEC	Colombo Port City Economic Commission
CPEC	China-Pakistan Economic Corridor
CRI	China Railway International
DFC	Development Finance Corporation
DoD	U.S. Department of Defense
EAUFON	Eastern Arctic Undersea Fibre Optic Network
EC	European Commission
ECRL	East Coast Rail Link (Malaysia)
EPC	engineering, procurement, and construction
EU	European Union
FCC	Federal Communications Commission
FDI	foreign direct investment
FOI	Swedish Defence Research Agency ( <i>Totalförsvarets Forskningsinstitut</i> )
FYP	Five-Year Plan
GLONASS	global navigation satellite system (Russia)
GPS	Global Positioning Systems
HKND	Chinese HK Nicaragua Canal Development Investment Company Ltd.

IMO	International Maritime Organization
LNG	liquefied natural gas
MAV Zrt.	Hungarian National Railways
MCF	military-civil fusion
MFA	Ministry of Foreign Affairs
MOU	memorandum of understanding
MUZ	Mine Workers' Union of Zambia
NATO	North Atlantic Treaty Organization
NFCA	Nonferrous China Africa
NGO	nongovernmental organizations
NORAD	North American Aerospace Defense Command
NRI	Chinese Naval Research Institute
NSR	Northern Sea Route
ODA	official development assistance
ONC	University of Victoria's Ocean Network Canada
PLA	People's Liberation Army
PLAAF	PLA Air Force
PLAN	PLA Navy
PLANMC	PLA Navy Marine Corps
PRC	People's Republic of China
PROP	Peace River Oil Partnership (PROP)
REE	rare earth elements
SAR	search and rescue
SAV	State Audit of Vietnam
S&ED	Strategic and Economic Dialogue
SEZ	Special Economic Zone
Sinopec	China Petroleum and Chemical Corporation
SIPG	Shanghai International Port Group
SOA	State Oceanic Administration
SOE	state-owned enterprise
SSBN	nuclear-powered Ballistic Missile Submarine
TTX	tabletop exercise
UDG	Union Development Group
UK	United Kingdom
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea

USAF	U.S. Air Force
USCG	U.S. Coast Guard
USD	U.S. dollars
WTC	World Trade Center



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Although a non-Arctic state, China has become a significant player in the Arctic region, engaging in economic, scientific, cultural, diplomatic, and military activities in and around various Arctic countries. This report assesses the potential implications of Chinese investments and activities in the Arctic for the regional rules-based order and for regional and transatlantic security. In this research, which was conducted as a collaborative effort between the RAND Corporation and the Swedish Defence Research Agency (*Totalförsvarets Forskningsinstitut*, or FOI), the authors evaluate China's strategy and diplomacy in the region and inventory existing activities in the North American Arctic (United States, Canada, Greenland). This study also takes a broader look (which included conducting a scenario-based tabletop exercise) beyond the Arctic region to better understand the types and characteristics of Chinese activities that have been problematic and potentially destabilizing in other parts of the world. The authors assess how some of these risks could also arise in the Arctic—a region whose physical, political, economic, and social characteristics set it apart, in many ways, from the rest of the world. They advance five recommendations that the U.S. government—particularly the U.S. Department of Defense—in collaboration with international partners and indigenous populations could take to maintain and reinforce current factors of Arctic resilience and mitigate undesirable Chinese involvement in the region.

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