

Arctic Resources and China's Rising Demand

Speaking about the North Pole, it's obvious that its significance is not limited by scientific research only. Now it is called a "global construction site." What does this mean? It means that economic activities there are not clearly described by the international agreements. So, the one who starts first will most likely ensure one's advantages for the future. As we know, the planet's resources are limited. This means it's impossible to turn a blind eye to the natural deposits in the area of the North Pole. One can say, it's the [Middle East] of the future or the second [Middle East].

COLONEL LE LI,
PRC Army (2012)¹

With the possible exception of Russia, there is no country whose Arctic ambitions are viewed with more apprehension in the Western world than China. Wealthy and increasingly assertive, China's interest in the region's resources is growing, raising the spectre of a powerful communist dictatorship controlling strategically vital elements of the circumpolar economy. Since the early 1990s, the rapid growth of Chinese industry has transformed the country from a net exporter of raw materials into the world's largest importer, a transition that resulted in the formation of some of the world's largest state-owned mining and oil companies, which were sent overseas to secure new reserves. Over the past decade, these state-owned enterprises (SOEs) have spent billions establishing themselves as leaders in global resource extraction. In 2013 alone, China's overseas resource investments soared to \$53.3 billion, up

from \$8.2 billion in 2005, and a rapidly growing percentage of this investment is being funnelled into the Arctic.² The attraction is obvious: the circumpolar region is one of the last, largely undeveloped regions in the world and is purported to hold a significant share of the planet's remaining minerals, oil, and gas.³ In the years to come this investment will almost certainly increase and China's role in northern development will become even more pronounced. In spite of this, China's role in Arctic resource development should not be exaggerated. China has been cautious in moving forward on risky Arctic ventures and many of Chinese-owned projects have stalled in the face of low resource prices. This chapter examines China's growing interest and investment in Arctic resources and places these activities into context to show the role and intent of Chinese companies, and to demonstrate that popular fears of a "resource grab" are largely unfounded.

Canadian Policy and Chinese Resources

One of the most prominent aspects of China's resource strategy, and one that reinforces its Arctic interests, is its effort to diversify the geographical source of its imports so as to mitigate the risks associated with supply disruption.⁴ China thus has a natural interest in developing the Arctic and has been particularly active in cultivating new economic ties with Greenland, Iceland, and Russia.⁵ This is not to say that China's aim is to control these nations' resources per se, but rather to play a role in bringing them online (or at the very least to have that option). A Chinese-owned mine in the Arctic may not necessarily export its product to China; nevertheless, controlling world-class Arctic resource deposits will strengthen Chinese companies by increasing revenue and reserve life. From a broader Chinese national perspective, Arctic production will increase supply, thereby lowering commodity prices, reducing capital outflows, and positively affecting China's balance of payments.

According to Taiwanese scholar Wang Kuan-Hsung, China's "nightmare scenario" is one in which the Arctic coastal states divide the region's resources among themselves and exclude Chinese companies.⁶ In the West this approach has some supporters – commentators who point to the participation of a communist dictatorship in circumpolar development as a potential threat.⁷ Yet, in spite of its history of caution when it comes to China, Canada's federal government has recognized that foreign (including Chinese) investment is an essential part of its development strategy in the Arctic. Canada's *Northern*

Strategy and its *Statement on Arctic Foreign Policy* both uphold resource development as a main conduit to “unleashing the true potential of Canada’s North.”⁸ Likewise, it is recognized that this development hinges on foreign capital and that these new economic ties will improve Canada’s trade relations “not only with our immediate Northern neighbours but also with other states such as those in central Asia and Eastern Europe.”⁹ Details are scant on how this might play out in practical terms, but a desire to attract foreign capital is clear.

While Canadian policy does not single out China as a partner in Arctic development, the fact that Chinese SOEs are some of the best funded in the resource industry makes the connection inevitable. China is now Canada’s second largest trading partner¹⁰ after the United States, and has shown keen interest in the Canadian energy and resource sector. Public opinion polls also indicate that a solid majority of Canadians view Asian economies as vital to Canada’s economic well-being, and that a majority believe Canada will benefit from increased Asian investment. Polls also suggest that, while many Canadians view China with suspicion, they also consider it important to Canada’s prosperity (second only to the United States and far ahead of other Asian countries).¹¹

China is clearly an important customer and investment partner – but do its Arctic interests present a risk to Canada and other circumpolar states? The evidence suggests that fears of a Chinese resource grab are unfounded, at least in the short to medium term. The simple fact remains that, at present, all of the Arctic’s commercially viable resources are either onshore or (in the case of oil and gas) in waters well within Arctic coastal states’ respective jurisdictions.¹² Chinese participation will thus occur under the laws of the Arctic states – unless of course China aspires to conquer one of these states, which are all either armed with nuclear weapons, members of NATO, or both.

Arctic Resources: Speculation and Anticipation

The theoretical resource potential of the Arctic is huge. The US Geological Survey estimated in July 2008 that 90 billion barrels of oil, 1,670 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids may remain undiscovered in the Arctic, with 84 per cent lying in offshore areas.¹³ The region also contains virtually every strategic or commercially important mineral, including iron ore, zinc, rare earth elements, gold, base metals, and

diamonds. Interest in northern fisheries, tourism, and freshwater are also expected to expand as global warming opens up easier access to the region. As a result, the notion that this treasure-laden frontier may hold the key to Canada's future prosperity has reentered the popular consciousness.

Development issues are intrinsically both domestic and international. As the wild price fluctuations of 2014 demonstrated, oil and gas exploration and production is driven by international energy supply and demand, as well as issues of energy security and diversity of supply. Mineral prices are likewise determined by volatile international markets, leaving the North susceptible to the same "boom and bust" cycles that have short-circuited past attempts at development.¹⁴ Adding to this uncertainty is the Arctic's position as a high-cost environment, where operations are difficult and infrastructure is either poor or non-existent. Investment in the region requires a great deal of capital, a long timeframe, and comfort with risk. While resource prices have been unpredictable in recent years, longer-term international demand for energy and raw materials will likely continue to rise as China, India, and many of the world's developing countries industrialize and aspire to higher standards of living. Meanwhile, traditional resource bases remain unstable. The rise of the Islamic State in Syria and Iraq (and a host of other militant groups) has put Middle Eastern oil supplies in jeopardy while the Russian invasion of Ukraine, and the subsequent Western sanctions, has called into question the long-term viability of relying on Russian oil and gas. In the midst of Middle-Eastern civil wars and broader geopolitical strife, Canada (and much of the Arctic) remains a safe haven for resource investment; as former NWT Premier Floyd Roland noted, "the bottom line is that Canada's Arctic remains one of the last politically stable places on Earth with abundant energy resources."¹⁵

China and the Mining Sector

Over the past thirty-five years China's resource consumption has risen in tandem with its massive industrial growth. In the twenty-first century, the country became a major importer of raw materials and Chinese overseas investment skyrocketed as its SOEs financed new mines and purchased existing operations around the world. Canada has been the recipient of \$3.3 billion of this investment in the past decade – a substantial sum, but a tiny percentage of China's broader investment program. Chinese companies have spent the lion's share of their raw materials capital in Australia (\$31.9 billion), South

America (\$23.51 billion), and Africa (\$26.73 billion). In Canada, Chinese investment has been directed at the energy sector (and the oil sands in particular), where these SOEs have invested over \$34 billion in the past decade.¹⁶ This investment history has built a certain level of comfort operating in Canada, and Chinese mining companies are beginning to pay attention to the long-term potential of the Canadian Arctic. In April 2011 Patricia Moore, a commodity specialist with Scotiabank, told the Nunavut Mining Symposium that she saw “no end” to the “tsunami” of Chinese money flowing into Canada’s energy and mining sectors, with Chinese investors “eyeing Nunavut with far more interest than before.”¹⁷

Complicating the picture for Western nations, Chinese investment has not only been growing, but replacing that of the world’s private mining companies. The recession of 2008 and the soft recovery that followed severely damaged many mining companies, slowing merger and acquisition activity, deferring major capital expenditures, and limiting companies’ ability to finance on good terms.¹⁸ As a result, many firms have entered a period of retrenchment and consolidation. In a 2013 survey of mining companies undertaken by the Fraser Institute, over 90 per cent responded that they found it more difficult to raise capital for new projects.¹⁹ Consequently, only 46 per cent of companies surveyed planned to increase their exploration budgets in 2013 – down from 68 per cent in 2012 and 82 per cent in 2011.²⁰ North America’s junior exploration firms have been hit the hardest. These companies have long relied on the multinationals to acquire them or on private investors to fund them. With capital being held back, many now face bankruptcy.²¹ In a response to the Fraser Institute survey, the manager of one exploration company stated that, while there is money in the West to develop new mines, it simply is not flowing to the companies that need it. “Eastern countries,” meanwhile, “have a more optimistic outlook and hence dominate investment in the mining industry.”²² When asked about Chinese money replacing European or American funds, Jens-Erik Kirkegaard, Greenland’s minister of industry and minerals, likewise noted that there were simply no Western investors coming forward to support Arctic projects and that “the more risk-friendly money is in Asia.”²³ Chinese money is, therefore, not only coming to the Arctic, it is moving in when many of the private sector mining firms are limiting their own expansion.

In Canada this trend has led to a greater Chinese presence in the north. Quebec, for instance, is looking to China for investment to realize its Plan

Nord (an \$80-billion, twenty-five-year plan). China's third largest steel company is already involved in a joint venture with a Canadian company to build an iron mine at Lac Otelnuik in Nunavik (northern Quebec).²⁴ In the Raglan District on the Ungava Peninsula, Jilin Jien Nickel Industry Co. spent \$735 million building a mine and the accompanying infrastructure to produce nickel, copper, platinum, and palladium.²⁵ In September 2014, the first shipment from this mine moved through the Northwest Passage to China.²⁶ In the Yukon, Yunnan Chihong Zinc and Germanium have finalized a \$100 million joint venture proposal with Selwyn Resources to develop the Selwyn lead and zinc project.²⁷ And, in the northern reaches of the territory, the Wolverine zinc and silver mine is in operation after being taken private by Jinduicheng Molybdenum Group Co. Ltd. and Northwest Nonferrous International Investment Company Ltd.²⁸

The most significant Chinese mining investment remains on the drawing board: the Izok Lake (or Corridor) project, proposed by MMG Minerals – an Australian company that is 75 per cent owned by Chinese state enterprise Minmetals Resources Ltd. The project includes plans for two mines in Nunavut and several joint ventures between the Wuhan Iron and Steel Group Corporation and Century Iron Ore in northern Quebec.²⁹ In 2012, MMG submitted its project description to the Nunavut Impact Review Board (NIRB) to initiate the environmental review and permitting process for the project. The proposed plan includes a mine and mill at Izok Lake, a mine at High Lake, and a port at Grays Bay. Infrastructure to service the project will include a 350-kilometre all-weather road, with seventy bridges stretching from Izok Lake to Grays Bay on the central Arctic coast. MMG also plans to construct a processing plant able to handle 6,000 tonnes of ore a day, tank farms for 35 million litres of diesel, two permanent camps totalling 1,000 beds, airstrips, and a port that could accommodate ships that would make sixteen round trips annually (both east and west) through the Northwest Passage during an eighty-day window from mid-July to October.³⁰

The company originally planned to submit a revised project description to the NIRB in late 2013, but has requested that the review be halted in the wake of declining resource prices. Since that time, low resource prices have placed the project in limbo as MMG seeks alternate financing for the infrastructure needed to develop the mine. In an attempt to restart the process, the government of Nunavut has pushed for a federal contribution. Nunavut Senator Dennis Patterson has called the plan a “nation-building project”

and has asked for \$34 million from Ottawa in order to complete the permitting and engineering process.³¹ If MMG secures government assistance the Nunavut Resources Corp. – a wholly-owned subsidiary of the Kitikmeot Inuit Association – would build and own the road and port in a partnership with the Government of Nunavut. The Kitikmeot, thanks to a change in federal policy in 2015, is now eligible for large amounts of federal infrastructure money through the P3 Canada Fund and the New Building Canada Fund.³² If the territorial and federal governments became involved it would represent not only a major Canadian gamble on the economics of the project but also the largest and closest tie-up between the public sector and a Chinese SOE in Canadian history.

For MMG the payoff from the project would be one of the largest copper and zinc mines in the world, capable of producing 180,000 tonnes of zinc and 50,000 tonnes of copper in concentrate per year. The quality of the resource is as significant as quantity: the reserve's 12 per cent zinc and 2.5 per cent copper grade make it twice as rich as other major projects now going forward around the world. As the world's largest consumer of zinc (a key ingredient in making galvanized steel), China is anxious to see large new deposits brought online. For MMG, Izok Lake could also be the large hole in production that will be left when the company winds down its massive Century mine in northern Australia.³³

Mining in Greenland

Canada's eastern neighbour, Greenland (population 57,000), is also looking to resource development as a way to transform its economy. Dozens of international mining companies – including several Chinese – are exploring the island for minerals they hope will become more accessible as the ice cover retreats on both Greenland and its surrounding waters. In 2009, Jiangxi Zhongrun Mining joined Britain's Nordic Mining to search for gold on the island's south. That same year Jiangxi Union Mining became the first Chinese mining concern with operations inside the Arctic Circle. In 2014 China Non-Ferrous Metal Industry's Foreign Engineering and Construction Co. Ltd. entered into two memoranda of understanding, with Ironbark Zinc to finance 70 per cent of the Citronen Zinc project in northern Greenland, and with Greenland Minerals and Energy Limited to develop its massive Kvanefjeld rare earths deposit, and to ship those raw materials to China for processing.³⁴

These developments are particularly interesting in light of the 2009 Act on Greenland Self-Government, the preamble of which recognizes Greenlanders (who are predominantly Inuit) as a people with rights to self-determination under international law. “A principal objective of introducing self-government has been to facilitate the transfer of additional authority, and thus responsibility, to Greenlandic authorities in fields where this is constitutionally possible and based on the principle of accordance between rights and obligations,” the Danish Statsministeriet notes. Although foreign, security, and defence policy remains with Copenhagen, the Greenlandic government will assume greater responsibility for law enforcement and transportation. Most significantly, the act has “radically changed” Danish-Greenlandic relations regarding mineral resource activities. The Greenland Self-Government authorities assumed the right to use the mineral resources found in the subsoil effective January 1, 2010, and will accrue revenues from these activities.³⁵

In their study on new strategic dynamics in the Arctic, Charles M. Perry and Bobby Andersen note that most commentators believe that full Greenlandic independence remains decades away. Most Greenlanders take a long view as well and assume that “the long-term objective of independence relies almost mechanically on harnessing the region’s enormous mineral potential on land and at sea.”³⁶ When Ove Karl Berthelsen, Greenland’s minister of industry and mineral resources, led a delegation of Greenlanders to the China International Mining Conference in November 2011 in search of Chinese investment, he indicated that mining was key to the island’s economic development and to realizing its desire to “shake off its Danish dependency.” Berthelsen told Chinese reporters that “our goal is to change Greenland into a land of mining resources.”

In recent years China and Greenland/Denmark have made every effort to strengthen relations. In April 2014, Queen Margrethe II of Denmark paid a state visit to China and was received by President Xi Jinping. During the visit the two states signed maritime technology and energy conservation agreements to strengthen ties.³⁷ In a sign of how highly China values this developing relationship, Denmark was also offered a loan of two pandas. “It’s the ultimate symbol of the friendship” said Danish Foreign Minister Martin Lidegaard, “and something that only happens on very rare occasions.”³⁸ Chinese “panda diplomacy” is often used to mark important occasions or cement strategically important ties; Mao Tse-tung offered bears to North Korea and the Soviet Union in the 1950s, and Premier Zhou Enlai presented two

to Richard Nixon as a symbol of China's Cold War rapprochement with the US. While this remained unspoken, China's interest in Denmark likely has more to do with Greenlandic resources than with securing strategic supplies of LEGO and wooden shoes.

As with Canada, Denmark and Greenland see this relationship as mutually beneficial. Greenland is resource rich but capital poor and China is the obvious suitor. For many in Greenland, however, the fear is that Chinese investment will overwhelm this tiny aspiring nation. With less than half the population of Prince Edward Island, Greenland will not be able to provide the necessary labour for this new industry. Foreign companies have, therefore, accepted the need for imported workers (including Chinese labour crews) to operate the mines. Although the Greenlandic government has "stressed that mining projects should provide jobs for the nation's workers," Greenland's population primarily consists of Inuit hunters, fishers, and educated professionals – making local labour hard to come by.³⁹

Greenland is no longer subject to the European Union's labour laws and, in 2012, its parliament passed a law facilitating the opening of large mines, including procedures to permit migrant workers. London Mining, a British company now operating in administration, spent years trying to develop one of the most promising greenfield sites on the island and was the first to include foreign workers in its plans. The company began negotiations in 2011 with Sichuan Xinye Mining Investment Co., a company owned by a provincial mining bureau, to finance its Isua iron ore project. Sichuan Xinye estimated that it would need 700 workers for the project – and as many as 3,000 during the peak construction period. Even when this financing agreement fell apart, London Mining maintained its foreign-worker requirement, estimating that only 10 per cent of the construction jobs and 55 per cent of the mining positions would go to Greenlanders (and this only after five years of operations). The remainder of the positions would go to foreign employees of as yet undisclosed nationality.⁴⁰ Broader estimates for all of Greenland's future projects put the island's requirement at a staggering 10–20,000 imported labourers.⁴¹

Greenland's March 2013 parliamentary elections reaffirmed the controversial nature of this issue. The *Guardian* reported that "voters in Greenland feared that ministers were surrendering their country's interests to China and foreign multinationals and called an end this week to the government of Kuupik Kleist."⁴² The pro-development Kleist was replaced as premier by Aleqa Hammond and her center-left Siumut party who promised a more

careful scrutiny of foreign investment and its impact on Greenlandic lifestyles and human rights.⁴³ Hammond's victory reaffirmed the controversial nature of the resource issue and demonstrated how uneasy many Greenlanders remain with major resource projects. Still, Hammond's election did not represent a decisive change in direction. In October 2013, the Siumut government took the critical step of removing Greenland's long-standing ban on uranium mining. This move not only allows the construction of uranium mines but smoothes the way for mines like Kvanefjeld, where uranium is produced as a by-product.

This pro-development stance was reaffirmed in another Greenlandic general election in 2014. The Inuit Ataqatigiit, Greenland's leading opposition party, campaigned against uranium production and pledged to reinstate the ban.⁴⁴ The victory of Simut, which formed a government with the support of pro-mining parties Demokraatit and Atassut, represents a significant vote of confidence in resource development.⁴⁵ While the island's course is not decisively set, this position will help to attract foreign investment. Still, it is recognized that a more concrete regulatory framework will eventually have to be put in place. Interim Premier Kim Kielsen expressed these concerns in October 2014, saying: "If we change the policy every time a new government takes office, then we lose all foreign investment. We need a stable arrangement."⁴⁶

In spite of China's obvious interest in Greenlandic resources, and the reciprocal Greenlandic interest in Chinese money, fears of a flood of Chinese workers and influence into Greenland are unwarranted thus far. While Chinese companies have financed some projects, the vast majority of investment in the island still comes from North American and European sources. In 2013, for instance, the Greenlandic government approved over 120 requests for permission to undertake oil, gas, and mineral exploration – and none went to Chinese companies.⁴⁷

Dampening the Optimism

In both Canada and Greenland, optimistic projections of resource growth have been tempered by the costs and difficulties of Arctic operations, as well as by the changing dynamics of global supply and demand. In 2011 Jorn Skov Nielson, Greenland's deputy resources minister, predicted that full-scale mining operations could begin as early as 2012, and "five or six mature projects

for extracting iron, zinc, and rare earths” might be under way within five years.⁴⁸ In retrospect, such assumptions can only be called wildly ambitious.

In 2014, iron ore prices fell from roughly \$140 to \$74/ton, and then by early 2016 to \$50, with few analysts projecting a strong recovery in the near future. In large part this drop was caused by an oversupply in ore production and a build-up of stocks in China, as well as a move away from infrastructure investment towards consumption, reducing demand for steel.⁴⁹ Analysts at Wood Mackenzie also point to new environmental controls in China and the fear that these will negatively impact steel production.⁵⁰ This has resulted in iron and other mineral prices that are low enough to cancel or delay most of the major Arctic mining projects in both Canada and Greenland.

In Canada, Baffinland’s \$4 billion Mary River iron mine opened in September 2014 – though at only 20 per cent of its initially planned capacity. Elsewhere in Nunavut, the Izok Lake mine remains in limbo while West Melville Metals cancelled its Fraser Bay iron project in December 2014.⁵¹ Cliffs Natural Resources is also shutting down its Bloom Lake mine in northern Quebec (jointly owned with Chinese steelmaker Wuhan Iron and Steel) and its Wabush mine in Labrador. The closure of Bloom Lake, one of the larger operations in the region, has even called into question the viability of Plan Nord.⁵² In Greenland, development has been slow to materialize for the same reasons. The island’s flagship project, the Isua mine, is now stalled after its original owner, London Mining, entered bankruptcy protection and was forced by creditors to sell off its only producing asset in Sierra Leone.⁵³ In January 2015, the Isua project was taken over by the General Nice Group, a private Chinese trading company. The buy-out has been estimated at \$2 billion though the group has not yet released any detailed plans to develop the mine.⁵⁴

The reality is that none of these mines have moved forward because both Western and Chinese companies operate to make a profit. Without high mineral prices, developing the Arctic remains an unattractive proposition. Mining and shipping costs at Isua, for instance, are estimated at roughly \$80 per ton of concentrate.⁵⁵ Cliffs’ Bloom Lake mine faces similar costs.⁵⁶ While Arctic reserves are often world-class, extraction costs are now higher than the price of the resource. They are also uncompetitive when compared to rapidly expanding production from other mining jurisdictions – principally Brazil and Australia. Operating costs for BHP Billiton’s iron ore mines average

less than \$20, Rio Tinto produces at \$20.40, and Vale SA at \$24.71 per ton of concentrate.⁵⁷

In spite of these hurdles, it should be kept in mind that delays and cancellations in the wake of price fluctuations are common for resource projects in high-cost jurisdictions and developing the Arctic has always been a long-term enterprise. Over the long term, the advantage possessed by many of these deposits is their purity and size. Mineral concentrations at Mary River, Izok Lake, Isua, Kvanefeld, 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.

The quality of certain Arctic resources may even expedite development if China chooses to aggressively push new environmental reforms. In March 2014, Chinese Premier Li Keqiang “declare[d] war” on pollution, saying it was “nature’s red-light warning against the model of inefficient and blind development.”⁵⁸ China’s major industrial cities are choked by smog, often containing airborne particulate matter at high enough levels to cause serious health problems; Li cited particulate matter known as PM 2.5 and PM 10 as a special concern.⁵⁹ As part of this fight, steel plants (the country’s main producer of PM 2.5/10 emissions) were targeted and more stringent emission controls are being imposed. Mills in China’s key steel-making provinces of Hebei and Jiangsu are under particular pressure to lower emissions and, although this move has created concern for future iron ore demand, it has also increased the premium for high-quality feed for China’s smelters.⁶⁰ Sintering, the process of agglomerating low-quality iron ore fines to create a product that can be used in a blast furnace, is the most polluting process within a steel plant, responsible for 80–90 per cent of total dust and soot emissions and more than 60 per cent of total sulphur emissions from the industry.⁶¹ A newfound concern for air quality means that many plants will look to replace sintering with more expensive, higher quality, and environmentally friendly ore – like that found in the Arctic. Already, premiums for higher quality iron are rising – sometimes reaching \$40 per dry metric tonne⁶²

From the second quarter of 2013 to the second quarter of 2014, as iron ore fines prices fell 22 per cent, the higher quality pellets fell only eight per cent.⁶³ London Mining’s initial plans for the Isua mine involved production of 70 per cent iron content (FE) pellets, significantly better than the baseline high-grade 62 per cent FE currently favoured by Chinese buyers.⁶⁴ Mary River produces lump iron, another form of high grade product that can be used

without sintering. If pollution becomes a big enough problem, domestically mined Chinese ore (which averages only 21 per cent FE)⁶⁵ may be slowly phased out, thereby increasing demand for foreign supplies. It is far from certain that China will remove a significant amount of domestic, low-quality ore from the market, or that its environmental regulations will drive premiums for the Arctic's higher quality ores high enough to justify development. As air pollution worsens, however, it is conceivable that the political pressure to act will have an effect that will trickle down (or up) to the Arctic.

While the largest of China's overseas mining projects are base metals like iron ore, the resources that have garnered the most attention (and raised the most concern) are rare earth elements (REEs). This basket of metals consists of seventeen chemical elements in the periodic table, specifically the fifteen lanthanides plus scandium and yttrium, that are essential components in modern technology – in everything from solar panels and wind turbines to smartphones, hybrid cars, and smart weapons. Contrary to what their name implies, rare earths are not particularly rare, but they are seldom found in concentrations great enough to justify extraction. A common concern in the West has been that China enjoys a near monopoly on their production. After closing most of its REE mines in the 1990s because environmental regulations made their production cheaper in China, North American and European countries found themselves hostage to Beijing, which has occasionally used its monopoly as a political weapon.

In September 2012, for instance, China halted shipments of REEs to Japan during a heated dispute over Japan's detention of a Chinese fishing trawler that rammed two Japanese coast guard vessels near disputed islands.⁶⁶ In October 2010, China also halted some shipments of raw rare earths to the United States and Europe after the Obama administration opened an investigation into Chinese violations of international free trade rules, including China's restrictions on rare earth exports. These restrictions caused a dramatic spike in REE prices from mid-2010 to 2012.⁶⁷

Given the importance of rare earths to Western industry, many commentators have pointed to Greenland's major REE deposit at Kvanefjeld as a "diplomatic flashpoint."⁶⁸ In February 2013, Paula Briscoe, the national intelligence fellow at the Council on Foreign Relations in Washington, highlighted a European Union request to Greenland to restrict Chinese access to Greenlandic rare earths for strategic reasons. The premier of Greenland Kupik Kleist rejected this overture, proclaiming that "Greenland is open

for investments from the whole world.⁶⁹ In 2016 the state controlled mining company Shenghe Mining purchased a 12.5 per cent share of Greenland Minerals and Energy Limited, with the option to acquire up to 60 per cent of the Greenlandic company if it so desires in the future. Coupled with a 2014 strategic partnership, signed with China Non-Ferrous Metal Industry's Foreign Engineering and Construction Co. Ltd., it is certain that the island's rare earths will be at least partially Chinese-owned, and will be sent to China for processing.⁷⁰

While this arrangement will strengthen China's hold on global REE supplies, the economic and geopolitical situation has changed significantly from the monopoly scares of 2010–13. Ironically, the fear generated by Chinese export restrictions provided fertile ground for Western companies to finance new mines outside of China, which began coming online in 2012. The two largest, Mt. Weld in Australia and Mountain Pass in the US, together have a production capacity of roughly 41,000 tons/annum – which is almost the entire REE demand of the world outside of China.⁷¹ These mines have never operated at capacity, largely the result of the crash in REE prices following the addition of new supply. In 2014, China's share of REE fell to around 75 per cent and could easily fall further if prices rise again. In fact, any attempt by China to limit access to its domestic supply of REEs (or those it controls in Greenland) will simply erode its position by encouraging Western investors to fund new mines (some of which would be in the Canadian Arctic).⁷²

Longer-term issues – related to the defence and security of an independent Greenland, its alliance commitments, and the increased tempo of Chinese development activities on its territory or in its waters – are beyond the scope of this study. Given the geographical proximity of Greenland to Canada, and the relationship between Canadian and Greenlandic Inuit, the situation should at least be monitored. As Briscoe notes, “if Greenland manages the development properly and takes the time needed to ensure it can effectively oversee development, then the people of Greenland will be on the road to a prosperous future where many native Greenlanders are better educated, more skilled, and generally better off than they are now.” On the other hand, Chinese influence in Greenland “could help buy Beijing a proxy vote in Arctic matters ... If Greenland, lured by the promise of investments and earlier autonomy from Denmark, allows itself to be overwhelmed by foreign companies, then China could use its influence to Beijing's advantage.”⁷³

Chinese Activities in Iceland

China's relationship with Iceland is an oft-cited example in the Western media of Beijing's growing geopolitical interest in the circumpolar world. Icelandic officials recognize that should the central Arctic Ocean ever open to transpolar shipping, their small island holds a strategically significant location as a potential hub – and this position would clearly be of interest to major trading nations like China. President Ólafur Ragnar Grímsson noted in June 2011 that China had sent high-level delegations to the island during each of the previous six years – and not a single such delegation to the United States.⁷⁴ Likewise, reports in the Icelandic and Western news media circulated after 2012 that China's "super-embassy" in Reykjavik staffed 500 diplomats (while its embassy in the US was staffed by seventy).⁷⁵ Although less than ten full-time Chinese embassy staff actually occupy the massive building,⁷⁶ the persistence of this alleged example of China's incomparable interest in Iceland – a myth with no empirical grounding – is telling.

Nevertheless, China has been preparing the ground for a more strategically important Iceland since initiating bilateral free trade talks in 2006. The foreign affairs ministers of both countries discussed options for enhanced Arctic cooperation in 2012,⁷⁷ with China indicating its interest in establishing a second Arctic research base in Iceland.⁷⁸ The two states signed a free trade agreement the following April, and in March 2014 China's largest oil company (CNOOC) partnered with Iceland's Eykon Energy to explore for oil in a large block of Iceland's northeastern coast.⁷⁹ Meanwhile, Iceland's aluminum industry is receiving Chinese financing while Orka Energy of Iceland and China's Xianyang Municipal People's Government and Sinopec Star Petroleum have signed an agreement to develop the island's geothermal resources. Preliminary discussions are also ongoing between Icelandic and Chinese shipping companies about trans-Arctic partnerships.⁸⁰

These strengthening ties between China and Iceland have worried some Western officials. "Nobody knows what the devil they are up to," said Einar Benediktsson, Iceland's former ambassador to Washington and a critic of his country's expanding ties with Beijing. "All we know is that it is very important to China to get a foothold in the Arctic, and Iceland is an easy prey."⁸¹ From a Chinese perspective, this sort of involvement is seen as a cooperative way of allaying suspicion and cementing the nation's position in regional affairs by being a provider of resources or service.⁸²

Like Greenland, Iceland is a small country, with a population of only 323,000 (less than that of London, Ontario). Its economy was also disproportionately damaged by the financial crash of 2008, leaving it very receptive to foreign investment. In spite of this, the country maintains a robust and largely corruption free government (rated twelfth of 174 states by Transparency International) that will not be influenced as easily as others in the developing world.⁸³ Indeed, there are few signs that Chinese investment has led to the sort of strategic penetration feared by some commentators.⁸⁴ In September 2011 for instance, Chinese businessman Huang Nubo's plan to purchase Grímsstaðir á Fjöllum (comprising about 30,639 hectares in north-east Iceland) for 1 billion ISK (about \$200 billion USD) was rejected by the Icelandic government. Fears that this land might be used for a naval facility or a listening post, and that military personnel might pour in, disguised as hoteliers and golf caddies,⁸⁵ were almost certainly exaggerated. Still, despite the generally positive attitude towards China among Icelanders, the idea of selling land remains an uncomfortable one.⁸⁶ Icelandic policy is best described as a balancing act, whereby the small island seeks economic benefit from Chinese investment while being careful to avoid surrendering too much influence to a much larger country.⁸⁷

China and Arctic Energy: The Case of Russia

Over the past thirty years, China's consumption of oil has increased as quickly as its consumption of raw materials. As a result, its state-owned oil companies have spent billions buying up assets around the world, and one of the most promising new development regions is the Russian Arctic. The area's potential is huge. In 2008 a US Geological Survey estimate placed sixty per cent of the Arctic's undiscovered oil and gas reserves in Russian territory or its EEZ.⁸⁸ Unlike Canada, Greenland, and the US, Russian Arctic exploration is already well advanced. Moscow has spent billions developing the region, which it intends to use as its "foremost strategic base for natural resources" by 2020.⁸⁹ Russian state energy producer Gazprom, for instance, plans to start extracting offshore deposits in the Barents, Okhotsk, Kara, and Pechora seas before 2030, while Rosneft drilled its first exploratory well in the Kara Sea in September 2014.⁹⁰

Because Russian state law classifies these reserves as a strategic sector of its economy, foreign ownership is limited to minority status. Accordingly,



UNDISCOVERED OIL
(billion barrels)

- | | | |
|--------|---------|------------------------------------|
| ■ >10 | ■ 0.1-1 | ■ Area not quantitatively assessed |
| ■ 1-10 | ■ <0.1 | □ Area of low petroleum potential |

4.1 Undiscovered Oil in the Arctic Basin, US Geological Survey, *Circum Arctic Resource Appraisal*, 2008.

under the existing regulatory framework it is impossible for a Chinese company to operate independently in Russia. In a reversal of longstanding Russian policy, however, Chinese SOEs have recently been allowed to acquire large minority stakes in northern projects operated by Russian companies. This kind of foreign investment is essential to bringing Russian production online. The cost of working in the region is massive and Russia's national oil companies are in no condition to undertake these projects on their own. This fact was laid bare in September 2014 when Rosneft requested \$49 billion in

government aid to help it cope with its massive debt (which sanctions prevent it from refinancing in the West) and ongoing capital expenses.⁹¹

Russia's first choice for foreign investment was to partner with Western oil firms. In 2011, Rosneft signed a joint venture with BP to develop the Kara Sea. This deal fell apart but BP was soon replaced by Exxon. Meanwhile, French energy giant Total signed a deal with the Russian company Lukoil to explore shale reserves in northern Siberia, and with Novatek to develop the massive Yamal gas project, and the Italian company ENI also agreed to work with Rosneft in the central Barents. Western drilling and service companies, such as Halliburton, Weatherford, Schlumberger, and Baker Hughes have likewise played an increasingly large role in enabling the operations of the Russian majors and their partners.

This set of corporate alliances was fundamentally upset by the Russian invasion of Ukraine and the resulting Western sanctions targeting the country's oil sector. In the wake of these restrictions, Exxon was forced to pull out of its drilling operations while Shell suspended its work with Gazprom in the Khanty-Mansiysk region and slowed a project in western Siberia. Meanwhile, many other joint operations remain in limbo. The fear of Western finances and drilling technology disappearing is so great that, in October 2014, President Putin announced the creation of a state-owned oil exploration and drilling company to replace the Western services which may be withheld for years to come.⁹²

While the outcome and duration of Russia's conflict with the West cannot be predicated with accuracy, it is rapidly propelling China from a supporting player to Russia's premier partner in the North. Since March 2014, Moscow has dramatically tightened its Arctic ties with China, which in turn has announced that it will never support sanctions against Russia.⁹³ The result has been a torrent of new oil and gas deals. In May 2014, the two countries unveiled a \$270 billion agreement to double China's oil imports from Rosneft to more than 620,000 barrels a day. The deal, one of the biggest ever in the history of the global oil industry, should bring cash-strapped Rosneft a \$60–70 billion upfront pre-payment from China.⁹⁴ The two states also signed an agreement that month worth \$456 billion to build a pipeline to ship Russian gas to China.⁹⁵ This deal stretches over thirty years, and involves Gazprom supplying China National Petroleum Corp. (CNPC) with 38 billion cubic meters of gas annually beginning in 2018. To complement this arrangement, the two countries signed a follow-on agreement in November 2014 for an

additional 30 billion cubic metres of gas (annually). As of 2016, however, there has been little effort to move forward on these deals – most of the expected Chinese loans and prepayments have not been forthcoming, while some talks on further Chinese buy-ins to Russian fields have stalled.⁹⁶ Whether this is an indication of cold feet on one or both partners' part, or simply the time required to implement such a large deal, remains to be seen.

Whatever the case, Russia is serious about opening its oil and gas industry to direct Chinese investment. In May 2014, CNPC partnered with Rosneft to explore three offshore fields in the Barents and Pechora Seas, the first such deal Russia has signed with an Asian company. CNPC also purchased a 20 per cent stake in the \$27 billion Yamal gas project (on the south coast of the Kara Sea). Once Yamal is operational, gas will be transported along the Northern Sea Route to China in icebreaking LNG tankers.⁹⁷ In September 2014, CNPC also paid \$1 billion for a 10 per cent stake in the Vankor oil field (currently producing 442,000 barrels per day) south of the Kara Sea.⁹⁸ This purchase was widely seen as favouring the Chinese, which paid roughly \$2,262 for each producing barrel (compared to the \$7,200/barrel that CNPC spent acquiring Nexen in 2013).⁹⁹ In November 2014, CNPC was also allowed to purchase a 10 per cent stake in an Eastern Siberian unit of Rosneft.¹⁰⁰

In the eastern Arctic, Chinese investment has likewise flown into building up Russia's offshore oil and gas. On Sakhalin Island, Sinopec and Rosneft are partners (25.1 per cent and 74.9 per cent) in the Sakhalin-III gas/oil fields. Further west, CNPC and Rosneft have established a joint venture (49 per cent and 51 per cent) to develop the Srednebotuobinskoye oil field – an area with estimated reserves of 134 million tons of oil and 155 bcm of gas.¹⁰¹ This partnership allows development to proceed without forcing Rosneft to take on much more debt, and with CNPC developing the resource potential of Eastern Siberia and guaranteeing supplies to the Tianjin oil refinery that the company plans to construct by 2020.

In light of Russia's oil and gas companies being cut off from western financial markets, Chinese money is also being used to finance some of Russia's Arctic projects. Total, for instance, has announced that it is looking to finance its share in the Yamal project not in dollars but in a combination euros, yuan, and rubles.¹⁰² Russian state gas giant PAO Gazprom has also secured a €2 billion (\$2.17 billion) loan from Bank of China Ltd., the largest single-bank credit in the Russian company's history and a sign of how Western sanctions are increasing Russia's economic reliance on China.¹⁰³

This growing partnership is a new phenomenon. Historically, Russia has preferred to keep China at arm's length in the Arctic. Moscow is already sensitive to China's growing economic and military clout, and the Arctic offers one of the few areas where Russia maintains a clear advantage and has not had to treat China as an equal (or even senior) partner.¹⁰⁴ The rapid expansion of China's role in the Russia Arctic was the product of necessity and will likely continue to expand if Western capital remains out of reach. Nevertheless, Russia remains unlikely to seek any sort of formal strategic Arctic relationship with China. While Chinese money will continue to be essential if Western capital cannot be accessed for development, it cannot provide the technological skill and assets that have been withdrawn by Western sanctions. While there is certainly an interest in China to collaborate with polar nations to develop this capability,¹⁰⁵ for the moment, Arctic offshore drilling and other advanced recovery techniques pioneered by Western firms cannot be duplicated by Chinese SOEs, thus limiting their utility to financing.¹⁰⁶ Given these limitations, and Russia's continued wariness of Chinese strength and intentions, the two nations will likely continue to manage projects and issues on a case by case basis, with Chinese influence in Arctic resource development remaining that of a financier.¹⁰⁷

China's "Wait-and-See" Energy Policy in the Canadian Arctic

For Canada, this massive Chinese investment in Russia may limit future Chinese investment in the oil sands, or in the Canadian Arctic if energy development proceeds there. It may also limit the potential Chinese market for liquid natural gas exports that companies are planning from fields in Alberta and British Columbia. As the ongoing crisis in Ukraine sours Russian-European relations, Moscow has moved to diversify its customer base. Negotiating from a position of strength, Chinese buyers have used this opportunity to negotiate a favourable long-term price. The \$400 billion deal between Gazprom and CNPC, for instance, is rumoured to price gas between \$10 and \$10.50 per million btu, almost 25 per cent cheaper than the spot price at the time of signing.¹⁰⁸ Estimates for Canadian export prices vary, but North American LNG would likely be from \$11–14/Mbtu.¹⁰⁹ In the long term, these deals may also enable Chinese oil companies to develop as competent Arctic operators. This process will take many years, but if China and

Russia can develop the expertise and technology to operate in the Arctic offshore region they will break the monopoly that Western firms currently hold in that area.

While China has invested aggressively in Russian oil and gas, it has refrained from taking a similar stake in the North American Arctic. While underexplored and less developed than the Eurasian North, the potential rewards for drilling in Canada's Arctic may still be substantial. The Mackenzie region is estimated to hold upwards of 2.8 billion barrels of crude oil reserves and more than 60 trillion cubic feet of natural gas.¹¹⁰ Further east, the Geological Survey of Canada estimates that the Sverdrup basin contains 4.3 billion barrels of oil and 79.8 trillion cubic feet of gas. The region is also one of the least explored in the world, thus offering the possibility of significant new discoveries. During the 1970s and 1980s, exploration in the Beaufort Sea found 1.5 billion barrels of oil.¹¹¹ Industry analysts agree that further exploration will certainly yield more.

In spite of promising reserves, drilling in the Canadian Arctic has been inhibited by heavy regulation, protests from environmental groups, and caution in the wake of the catastrophic Deepwater Horizon oil spill. Costs of operating in the harsh Arctic climate are also high, and made worse by Canada's dearth of shipping, pipeline, resupply, and support infrastructure. Operating costs therefore limit activity to the largest multinationals with the resources to undertake expensive long-term projects. These companies would likely be too large for even China's SOEs to acquire, although that has not been Beijing's strategy in the Russian Arctic. Rather, Chinese companies have sought partnership agreements to share risk and minimize political exposure. Evidence of this may be the fact that the one small Chinese investment in northern Canadian gas was a \$20 million buy-in by CNOOC to Northern Cross Ltd., a Canadian company developing the Eagle Plain basin of northern Yukon.¹¹²

In Canada, Chinese investment in oil and gas has been controversial. This investment has been necessary for Canada, but it has also provoked popular concern over the growing influence of the Chinese state in an important sector of the Canadian economy. Such fears peaked in 2013 during the \$15-billion takeover of Nexen Energy by China's National Offshore Oil Company.¹¹³ Despite China's clear interest in Canada's energy resources, however, popular fears of a Chinese resource grab in the Arctic are unfounded, particularly in the short to medium term. China cannot simply move into the Arctic and

begin exploiting Canadian resources. The only known, commercially viable, Arctic hydrocarbon resources are either onshore or in waters well within national jurisdiction. Chinese participation will thus occur under Canadian law and at the pleasure of the Canadian government. China will also have to partner with Western companies. China bought its stake in the oil sands by acquiring North American companies or purchasing minority shares in projects. This strategy is driven by China's inability to develop unconventional oil reserves on its own. The same holds true in the Arctic, where its SOEs lack cold-water drilling experience and the special skills and equipment that the West's multinationals have been developing since the 1970s.¹¹⁴ As one Chinese scholar admitted, "there is a rather large gap between Chinese and advanced foreign deep-sea oil extracting technology."¹¹⁵

Such partnerships can be envisaged over the next decade. Arctic operations are extremely expensive and Western oil companies currently operating in the region may welcome a Chinese partner to share the costs and risks. Still, Canadian Arctic reserves have not been proven economically viable, and bringing them into production will take at least a decade. They may also fall prey to the sort of regulatory hurdles that plagued the Mackenzie Valley Pipeline or that Shell has experienced working in Alaska.¹¹⁶ Although China will likely continue to monitor developments in the North American Arctic over the next decade, all indications are that Chinese SOEs will continue to concentrate on parts of the world where reserves are more defined and closer to production.¹¹⁷

Arctic Oil at \$50?

During the second half of 2014 the world's oil industry suffered a dramatic shock as Brent crude prices fell from over \$100 to under \$50 in only a few months. A combination of oversupply driven by the surge in American shale production and a refusal by Saudi Arabia (or other OPEC nations) to reduce production has upended industry projections and the economic viability of many oil fields – including those in the Arctic. Facing prices below the lifting costs of many fields, oil companies soon cut more than \$150 billion in future projects in an effort to reduce costs and protect their balance sheets.¹¹⁸ The projects being cut are those with high exploration and production costs – and there is nowhere in the world with higher costs than the Arctic offshore.

In the Canadian Arctic, Chevron has closed its Arctic operations while, in Greenland, the government has chosen to extend its two remaining licenses in an effort to keep companies interested in its offshore region.¹¹⁹ Dong, a Danish firm with a share of a ConocoPhillips licence in the northern part of Baffin Bay, will retain its licence to explore off the eastern coast while Statoil and GDF Suez are pulling out of a partnership with Cairn Energy, which itself shuttered its Greenlandic office in 2014.¹²⁰ In the Chukchi Sea, Shell has also closed down its drilling program which, up to 2016, was the most advanced Arctic exploration program in North America.

In this low-price environment there are serious doubts that development in the region will occur.¹²¹ While many Chinese commentators continue to view the North as a region of enormous future potential, the costs involved will slow that development considerably.¹²² If the behaviour of Chinese SOEs in the mining sector is any indication, its oil and gas companies are unlikely to chase a resource whose production cost exceeds its market value. In Canada, Greenland, and the United States this decline means that Arctic oil and gas development will likely be put hold for the foreseeable future as companies conserve or redirect capital to lower-cost assets. In Russia, state-owned energy companies have less room to manoeuvre. Many of Russia's traditional reserves are in decline and the state has few options other than to develop its Arctic. Given Moscow's reliance on oil and gas, maintaining production is an existential necessity. Even after the sharp drop in prices, Gazprom Neft's managing director, Alexander Dyukov, reaffirmed the view of the Arctic as "a strategic priority" for the company.¹²³ Ultimately, the ability of Russia and its SOEs to fund these operations may hinge on its relationship with China and the interest Chinese SOEs show (or can be persuaded to show) in long-term risk.

Arctic Fisheries

At present, there is little certainty regarding governance issues in the central Arctic Ocean beyond national jurisdiction, consisting both of high seas and the international seabed (the common heritage of mankind) – a space that will emerge once the coastal states have determined the outer limits of their continental shelves in the region. Climate change is altering the distribution of fish stocks within both the national and international waters of the region and may soon make new areas attractive to commercial fishing concerns.

Still, reliable information on these trends is virtually non-existent, and scientists of every nationality have been left to their best guesses.¹²⁴

This situation is part of a global crisis in which attempts to exploit increasingly scarce resources may further destabilize ecosystems and undermine a major part of the global food supply. Scientists have expressed concern about this possibility given the absence of any overarching management and conservation regime.¹²⁵ Although fishing is partly regulated through the North Atlantic Fisheries Organization, illegal and unreported harvesting still takes place in Canadian waters and there are indications that these pressures may increase in the near future.¹²⁶

Future Arctic fisheries, straddling Canadian and neighbouring waters, must be managed for both ecological and economic reasons.¹²⁷ Canada has already joined with the United States and Denmark in placing a moratorium on commercial fishing in the High Arctic while studies are undertaken to improve our comprehension of the region's potential and vulnerabilities.¹²⁸ Meanwhile, Northern Canadians have expressed interest in building their own commercial fishery, a move the federal government has tentatively supported with an \$8 million investment in a new commercial harbour at Pangnirtung.¹²⁹ Asia is already the primary market for the growing Pangnirtung turbot fishery, bringing about \$400,000 to the local economy, with most products going directly to China.¹³⁰

China, which is one of the world's leading fisheries nations, has not expressed any immediate interest in fishing Arctic waters – but it has conducted research on marine sea life in the region and views scientific research as part of its effort to develop a greater understanding of the potential viability of a commercial fishery. In this context, Chinese scholars reiterate their concerns about being excluded from discussions on fisheries management issues. While the Chinese are quick to point to the tragedy of other unregulated high seas fisheries areas, they are wary of efforts to have fisheries management regimes forced on their industry in the absence of transparent information sharing and consultation.¹³¹ As evidence of this, China (and Russia) blocked the creation of an Antarctic wildlife reserve in 2014 over fears that it might limit access to fish stocks in the south polar region.¹³²

Securing International Recognition for the Full Extent of Canada's Extended Continental Shelf

Article 76 of the UN Law of the Sea Convention (LOSC) defines the rights and responsibilities of states in using the oceans and lays out a process for states to claim continental shelves beyond the 200 nautical mile EEZ. Each of the five Arctic Ocean basin states (including the United States, which is not a party to the LOSC) have indicated that they will claim an area of shelf over which they have exclusive sovereign rights regarding the resources of the shelf. To that end, the coastal states have been undertaking scientific work to determine the full extent of their shelf areas and both Denmark and Russia have already filed submissions.

For its part, Canada has made significant investments to ensure that it “secures international recognition for the full extent of its continental shelf” in the Arctic.¹³³ It ratified the LOSC in November 2003 and began submitting evidence for its extended continental shelf to the Commission on the Limits of the Continental Shelf (a body of scientists established by the LOSC to examine the information presented by coastal states) in December 2013. While Canada's claim will likely overlap with those of the Danes and Russians, the countries involved have emphasized that the division of the shelf will be peaceful.¹³⁴ The Arctic coastal states made this pledge at Illulissat, Greenland in 2008 and, in April 2010, Russia and Norway resolved a forty-year disagreement over the division of the Barents Sea.¹³⁵ Cajoling Canada to take note of this landmark resolution, Sergei Lavorv and Jonas Gahr Støre (the Russian and Norwegian foreign ministers respectively) noted that “the Law of the Sea provided a framework that allowed us to overcome the zero-sum logic of competition and replace it with a process focused on finding a win-win solution.”¹³⁶

While the Arctic coastal states appear to have the matter well in hand, fears have been expressed that China (and other non-Arctic states) might object to the Arctic powers dividing up so much territory among themselves. Yang Xiao of Beijing International Studies University dubbed the exclusion of non-Arctic powers the “Monroe Doctrine of the Arctic Council.”¹³⁷ In writing about Chinese ambitions to break that monopoly or power, commentators often cite statements made in March 2010 by Vice-Admiral Yin Zhou – a member of the Chinese People's Political Consultative Conference – that “the Arctic belongs to all the people around the world as no nation has sovereignty over it,” and that “China must play an indispensable role in Arctic exploration

as we have one-fifth of the world's population."¹³⁸ Gordon Chang, writing in the influential foreign affairs magazine *Foreign Policy*, argued that "Yin's comments on the Arctic are at the very least an indication of the direction of Chinese thinking on the subject, and a reflection of a hardened attitude in Beijing."¹³⁹ Furthermore, Chang claimed that the comments rendered obsolete a more balanced assessment of China's Arctic strategy released the week prior by the Stockholm International Peace Research Institute (SIPRI).¹⁴⁰

Yin, however, was speaking in the context of China's broader maritime strategy and referring to the area in the central Arctic Ocean that is beyond national jurisdiction.¹⁴¹ Dr. Gao Zhiguo, a Chinese representative on the International Tribunal for the Law of the Sea, is more judicious in his explanation of the situation. After reviewing the maritime boundaries and potential continental shelf claims beyond 200 nautical miles of the littoral states, he notes that there will be a limited area subject to the international management under the United Nations Convention of the Law of the Sea. Accordingly, China – together with other members of the international community – is increasingly interested in exploring options for international governance that balance national sovereignty with the rights of the international community to the Arctic and its resources.¹⁴² Chinese commentators expect that there will be (or should be) an area of seafloor in the Arctic Ocean basin that is beyond the limits of national jurisdiction of any adjacent state when all the shelf claims have been resolved. The mineral resources of this area will be subject to the "common heritage of mankind" and the authority of the International Seabed Authority, as per the LOSC.

With this in mind, various Chinese commentators have expressed concern about potentially excessive shelf claims by the Arctic coastal states that could impinge upon their perceived rights and those of the global community.¹⁴³ International lawyer Aldo Chircop of Dalhousie University notes that:

China has spoken for the global commons in ways that no other major state has done in recent times. Clearly there is self-interest in reminding Arctic states that extended continental shelf claims, while permitted to coastal states under UNCLOS, should not trench on the international seabed area. In doing so, however, it is also playing the role of advocate for the common heritage

of mankind and interests of developing countries, which no other Arctic state is doing. It has given itself a voice for developing countries. Considering its substantial official development assistance in all developing regions, this is a role which many developing countries are likely to endorse.¹⁴⁴

Indeed, this narrative is consistent with China's foreign policy tradition outlined in chapter two; it sees itself as a developing country with ever greater global interests. China's concerns in the Arctic relate to the possibility that coastal states' claims to extended continental shelves may erode the size of the area that remains beyond coastal state jurisdiction, but in which China has taken an active interest as an extension of its interests in the Area worldwide.

Chapter four suggests that China is unlikely to challenge Canada's position on the Northwest Passage. But what if China does not agree with an extended continental shelf claim submitted by Canada or another Arctic littoral state to the Commission on the Limits of the Continental Shelf? The CLCS will make recommendations that are "final and binding" on the basis of Law of the Sea criteria and the data submitted by the coastal state related to its extended continental shelf. Accordingly, it is unclear how the recommendations can be "final and binding" if another state objects to the Commission's recommendation.¹⁴⁵ Indeed, there is ample precedent of this. Various states – including Canada, Denmark, Norway, and Japan – protested Russia's first submission to the CLCS. There is also a precedent for third party states, that do not share the border concerned, to file protests. Indonesia availed itself of this option against China when Beijing submitted its infamous U-line map in protest to a Vietnamese-Malaysian submission to the CLCS.¹⁴⁶ China could file protests of excessive claims, but there is no legal mechanism within the CLCS process to address outside intervention. In practice, such claims are frozen until the parties involved can negotiate an acceptable solution. Furthermore, and perhaps most importantly, China has no claim to the Arctic shelf (despite vague comments by one Chinese expert that it could make one).¹⁴⁷ On balance therefore, China could interfere with Canada's submission to the CLCS, though the benefits of doing so remain unclear.

Conclusions

This chapter has outlined several challenges that have arisen from the world's growing interest in Arctic resources and, on balance, has made the case for heightened awareness rather than panic about China's intentions on the part of Arctic states. Chinese interest in these resources is based on its continuing need for oil, gas, and minerals. Despite a slowing economy and decreasing emphasis on heavy industry, China will remain the world's largest importer of raw materials for the foreseeable future. Even though it has earned a reputation as a voracious consumer with an unquenchable appetite for resources, the country's overseas investments have become increasingly strategic and market-driven. Chinese SOEs have demonstrated a willingness to forego or delay projects if the economics are not enticing, and to concentrate resources where they are. As such, there appears to be no Chinese rush into the Arctic.

China's North American Arctic projects are moderate in scale or still in the formative stages. In Greenland and Iceland, its SOEs are building their positions from the ground up by financing small local (or Western) companies with promising projects. Only in Russia has China jumped into the Arctic with both feet. Western sanctions on the Russian oil industry fundamentally altered Moscow's approach to development and China seems poised to replace Western companies as Russia's partners of choice. China has seized on the opportunity to secure long-term access to some of the world's last untapped hydrocarbon resources. It has also leveraged its position as financier and consumer to secure these resources at an excellent price.

Chinese interest in North American Arctic oil, however, is minimal. In part this is because Chinese oil companies have investment opportunities in other, more readily available, oil reserves. Alberta's oil sands are still open to foreign investment, even after the Canadian government placed restrictions on foreign ownership in the wake of CNOOC's purchase of Nexen.¹⁴⁸ In recent years, however, Chinese companies have been reconsidering their strategy in North America. After paying high prices for resources and facing repeated delays in moving some projects to production, some SOEs are regretting their headlong rush into the area.¹⁴⁹ Moving forward with large oil sands projects (like Sinopec's Northern Lights or CNOP's Dover) has proven more costly and difficult than expected. CNOOC is even having difficulty integrating Nexen into its corporate structure, with its new acquisition's return on equity trailing the company average by a considerable margin.¹⁵⁰ In

light of these frustrations, it is unsurprising that appetite is lacking for North American Arctic resources – where costs and timescales are greater and regulations even more stringent and uncertain.

Chinese political influence, which often follows its economic investments in the developing world, is unlikely to present a serious problem in Arctic countries. Even if Chinese investment is scaled up considerably and major projects, such as Izok Lake, do go forward, it is difficult to conceive of a scenario by which this investment translates into the political influence feared by some Western commentators.¹⁵¹ Corruption in western Arctic countries is simply too uncommon, and the rule of law too strong. It is also illustrative to highlight that China's \$34 billion investment in Canadian resources over the past decade did not stop Prime Minister Harper from highlighting China's poor human rights record.¹⁵² Accordingly, there is little chance that the negative side effects of Chinese resource investment found in African and other developing countries, including job loss due to labour disruption and associated social unrest due to growing resentment, will occur in the Canadian Arctic.

The one possible exception to this general outlook is Greenland, which, if it achieves full independence from Denmark, may lack the regulatory oversight of a developed state. With weak institutions in place, a "resource curse" could make the island ripe for Chinese exploitation.¹⁵³ An over-reliance on a narrow band of resource development activities would make a nascent Greenlandic state vulnerable to price volatility, which has led some Greenlanders to express concern about implications for political autonomy.¹⁵⁴ "Instead of relying on the Danish state, which is highly regulated, we may end up relying on oil companies over which we have no influence," warns Birger Poppel, a professor at the University of Greenland, the former chief statistician for the Greenland Home Rule Government, and the project chief for the Arctic Council's Survey of Living Conditions in the Arctic (SLiCA) initiative.¹⁵⁵ Greenland's continuing experiment with developing a resource economy has caused considerable political turmoil, brought down governments, and remains an uncertain proposition. The economics and politics of resource development on the island remain highly uncertain, however, and any fear of Chinese influence is premature.

Resource development in Greenland will continue to attract significant transnational attention – particularly from Inuit who will compare developments there with their experiences in Nunavut and other settlement regions. Inuit assert that "sovereignty begins at home," which has a unique

meaning to a transnational people.¹⁵⁶ Along these lines, international Inuit leaders signed the Circumpolar Inuit Declaration on Resource Development Principles in Inuit Nunaat in Nuuk in May 2011, which lays out conditions for sustainable development. Invoking the United Nations Declaration on the Rights of Indigenous Peoples as well as the Circumpolar Inuit Declaration on Sovereignty in the Arctic, the statement emphasizes that “Inuit must be active and equal partners in policy-making and decision-making affecting Inuit Nunaat.” Mary Simon, president of Inuit Tapiriit Kanatami, put “the world ... on notice that while Inuit look forward to new forms and levels of economic development, the use of resources in the Arctic must be conducted in a sustainable and environmentally responsible way, and must deliver direct and substantial benefits to Inuit.”¹⁵⁷

The Declaration on Resource Development Principles recognizes the importance of resource development, but it stresses that it must happen “at a rate sufficient to provide durable and diversified economic growth, but constrained enough to forestall environmental degradation and an overwhelming influx of outside labor.” This may have an impact on the form and pace of development in Canada, given the shortage of skilled labour in the northern territories to fill the positions required by large-scale mining or oil and gas projects. Furthermore, the Inuit declaration states that “all resource development must contribute actively and significantly to improving Inuit living standards and social conditions, and non-renewable resource development, in particular, must promote economic diversification through contributions to education and other forms of social development, physical infrastructure, and non-extractive industries.”¹⁵⁸

Inuit perceive these principles to be transnational; thus investment in an independent Greenland would likely enforce them as well. Any Chinese attempt to act inconsistently with these principles would send a warning to Inuit in Canada and Alaska about the nature of Chinese SOE behaviour in the Arctic. In any event, Greenland has been working with Canada’s National Energy Board to strengthen its own regulatory processes ahead of anticipated resource development. There are regulatory challenges, such as insuring local employment when partnering with companies that prefer to import labour, but these can be addressed.

The statement by Vice Foreign Minister Zhang Ming at the China Country Session of the Third Arctic Circle Assembly, suggests that China is in agreement with these responsibilities and requirements. There, Ming

stated that: “China supports proper and orderly development of the Arctic. At the same time, relevant activities should be pursued in accordance with international rules and domestic laws of Arctic countries, with due respect to the rights and concerns of the indigenous population, and in an eco-friendly and sustainable manner ... With respect to the indigenous community in the Arctic region, China respects their traditions and culture and take seriously their concerns and needs.”¹⁵⁹ On balance, therefore, there is little reason, based on the evidence presented here, to get caught up in much of the hyperbole that has surrounded the public debate about Chinese resource interests in the Arctic. Chinese interest in Arctic resources will continue and may even present new regulatory or geopolitical challenges in the future. Thus far, however, China’s development activities have proceeded in full compliance with local laws and regulations and have yet to present the kinds of subversive or disruptive political threats that some speculators have foreseen.

