



# CANADA-ASIA AGENDA

## The Business of Arctic Development: East Asian Economic Interests in the Far North

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For generations, the Arctic has disappointed many of its greatest promoters. For every Klondike Gold Rush, Norwegian off shore oil development or Northwest Territories' diamond discovery there are dozens of false starts and over-hyped possibilities. The newest set of Arctic promoters come from Asia and their engagement in the region has revitalized interest in Arctic development as well as in the existing governance mechanisms. This piece argues that the current state of Arctic development is both exaggerated, particularly with regard to oil and gas development and Arctic navigation, and underestimated in terms of the long-term potential of the region.

### Policy Recommendations

- \* The Government of Canada should undertake and share broadly a full review of East Asian engagement in the Circumpolar region so that it fully understands the nature of Chinese, Japanese and South Korean business and scientific interests in the Arctic.
- \* The Government of Canada, the territories and Indigenous groups in the North should welcome East Asian participation in northern development as it brings investment capital, long-term markets and scientific and technological expertise. Canada can do so through:
  - \* Establishing a Canada-East Asia Business and Government Task Force focused on promoting Arctic resource development; and
  - \* Encouraging scientific and technological research partnerships between Canadian and East Asian universities and institutes that will focus on practical issues related to resource development.
- \* The Governments of Canada, the Yukon, Northwest Territories and Nunavut should create a Northern Aboriginal-East Asian task force, designed to educate key East Asian businesses and government agencies on the opportunities related to working with Inuit, First Nations and Métis governments and development corporations and to facilitate long-term mutual understanding. A relatively small investment at this point could generate considerable benefits in terms of overall East Asian investments and the development of constructive East Asian-Indigenous partnerships.
- \* An existing North- or Asian-focused institute should monitor and report on Circumpolar economic development activity, if only to ensure that the national debate about East Asia participation in the Arctic is framed by an understanding of actual developments.



East Asia is coming to the Arctic. In fact, three East Asian key countries – China, Japan and South Korea (hereafter Korea) - already have a significant presence in the region. Many East Asian businesses are aware of the Arctic's resource potential and are eager to lay the foundations for long-term engagement. However, the degree of East Asian interest in the Arctic should not be overstated, as it is currently only a small and marginal part of East Asian efforts to identify secure supplies of resources. Indeed, East Asian governments and businesses are focused primarily on the future possibilities that will come from scientific and technological innovation when, the prospects for Arctic navigation and development improve. Canada has been quite passive about East Asia's commercial interests in the Arctic, an approach that underestimates the constructive, long-term role that China, Japan and Korea can and likely will play in the Far North.

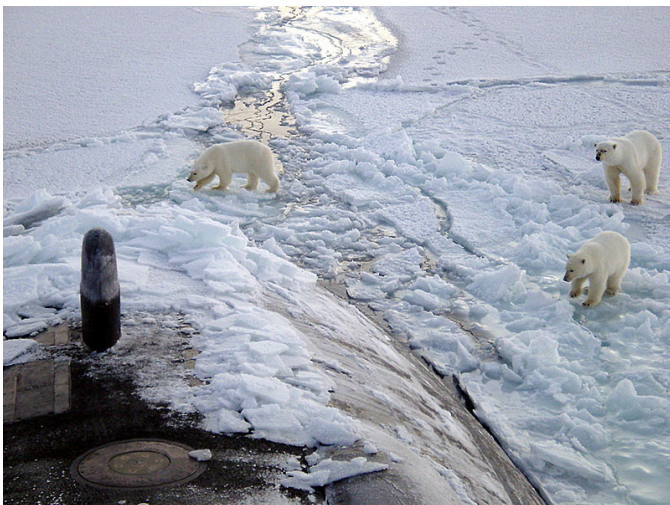


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Over the past decade, China, Japan and Korea have shown interest in the Arctic, including by applying for permanent observer status on the Arctic Council.<sup>1</sup> More recently, Iceland, recognizing that many non-Arctic nations feel frozen out of Arctic Council deliberations, announced the formation of an Arctic Circle Initiative designed to broaden global participation in the international discussion about the future of the Arctic regions.<sup>2</sup> The key East Asian nations have started discussions on joint research, shared visions for the future of the region and potential shipping routes

with at least some of the “Arctic Five”: the United States, Russia, Norway, Denmark via Greenland and Canada, all of which have Arctic Ocean coastlines. China, in particular, has long-term geopolitical interests in the Arctic and believes that decisions should not be made about the region without its input. Japan recently identified some important, but limited, business opportunities.<sup>3</sup> All three East Asian nations are also intrigued by the scientific and technological challenges and environmental learning made possible by a research presence in the area. Their governments are keen to be part of deliberations about regulatory environments and development processes, and to assist with the identification of scientific and technological solutions to the many climate-related, geographic and other challenges that limit current commercial possibilities.

As the Arctic ice melts, the prospect of improved access to previously inaccessible minerals, oil and gas has raised more possibilities for East Asian countries in their global search for long-term supplies of natural resources. But when East Asia's Arctic engagement is measured against their engagement in the sub-Arctic, Australia, Asia and Africa, the Far North is clearly not central to these countries' resource exploration and development strategies. At present, the costs of development and moving Arctic resources to market are generally not competitive with other markets; however climate change and commodity shortages may make the Arctic more attractive over time. Northern development is a 50-year project, not one that can be realized quickly.<sup>4</sup>

Within this context, each East Asian country has a specific Arctic strategy or approach that reflects a combination of national interests and perceived opportunities.

### Arctic Possibilities and East Asian Resource Needs

The Arctic region could contain up to 30% of the world's undiscovered natural gas and 13% of its undiscovered oil. The region also contains an abundance of coal, iron, uranium, nickel, copper, tungsten, lead, rare earths, zinc, gold, silver, diamonds and fish.<sup>5</sup> Untapped resources of this variety and their estimated volume cannot be ignored by nations lacking in domestic supplies of key energy and minerals.

Korea and Japan have few energy or mineral resources of their own: Japan is the world's largest importer of liquefied natural gas (LNG) and third-largest importer of oil; Korea is the second-largest importer of LNG and the sixth-largest importer of oil.<sup>6</sup> China has oil but the country's rapid and dramatic economic growth has left it thirsty for energy; although it is the world's fourth-largest producer of oil, China is also the second-largest importer. China's domestic oil consumption increased about 6% annually between 2007 and 2011, while its oil production remained stagnant.<sup>7</sup> China's energy demands will continue to grow for the foreseeable future due to increasing urbanization and a growing middle class.

Access to new sources of minerals is also significant. The potential existence of rare earth minerals, used to manufacture many electronic devices, would be vital for Japan, which currently relies on rare earths imports from China. (China currently produces 95% of the world's rare earth minerals). When Sino-Japanese tensions have risen in the past, China has restricted exports of the minerals, leaving Japanese companies in the lurch. Greenland, however, is believed to have sufficient deposits to satisfy 25% of global needs, making it a prime target for foreign investment.

### Open Waters: The Potential of Arctic Navigation

The East Asian countries are carefully considering the impact of the opening of navigable waters in the north caused by warming temperatures. The three possible international shipping routes are the North-East Passage above Russia; the Transpolar route; and the North-West Passage from the Atlantic Ocean, through the Arctic Ocean and along the northern coast of North America.<sup>8</sup> The North-East passage has already been used by commercial shipping and is open a few months each year. The North-West Passage through the Canadian Arctic archipelago is a difficult route that is opening up for a comparable length of time each year, but is still not suitable for regular large-scale shipping. (Some estimates are that the Arctic Ocean could be free of ice in the summer season before 2040.)<sup>9</sup>

Both routes reduce the journey between North America, Asia and Europe. The North-East Passage "cuts the voyage from Shanghai to Hamburg by 6,400 km (4,000 miles) compared with the southern journey through the Strait of Malacca and the Suez Canal,"<sup>10</sup> while "sailing through

the Northwest Passage, rather than the Panama Canal, can save more than 4,000 nautical miles between German and Japanese ports."<sup>11</sup> Using the Northern routes – if they are safe and environmentally secure – can cut the cost of moving a large ship by 20% (from \$17.5 million to \$14 million). The cost savings are offset somewhat by uncertainties regarding Arctic navigation, but disruptions in other shipping lanes could make the Arctic routes even more attractive.<sup>12</sup>

According to interviews conducted with representatives of the users of the main Chinese shipping lines, however, none of these firms see Arctic shipping in their short or medium term (10 to 20 years) futures. Despite the potential advantages of the Arctic route, there are potentially serious concerns, including "slower speeds across these routes, higher insurance costs, the high probability of delays, and serious risks of damage to the cargo."<sup>13</sup>



Chinese Arctic Expedition

Photo Source: © Wikimedia Commons

In 2011, 34 ships used the North-East Passage, up from four the year prior, and 46 sailed the route in 2012, both a very long way from the 18,000 that use the Suez Canal<sup>14</sup> and the 600 a day that sail past Singapore. In August 2012, the first Chinese ship and the world's largest non-nuclear powered icebreaker, the Xue Long (Snow Dragon), crossed the Passage. While the Chinese government and Chinese shipping companies may not have clear policies for these northern routes, China worries about the vulnerability of the Malacca Straits, the narrow stretch of water between Malaysia and Indonesia. Eighty percent of Chinese oil imports currently pass through the Malacca Straits,<sup>15</sup> ensuring that China will be monitoring and paying close attention to the evolution of alternative routes like the Arctic.



Russian Icebreaker

Photo Source: © Wikimedia Commons

### Arctic Energy: Tapping the Last Frontier

Of all of the resource possibilities in the Arctic, energy has attracted the greatest level of interest. The China National Offshore Oil Corporation (CNOOC), which, through its local firm, Northern Cross, has been exploring Eagle Plain's natural gas basin in the northern Yukon. In December 2010, Korean Gas Corp (KOGAS) bought one-third of Canada's MGM Energy's 60% stake in the Umiak SDL 131 natural gas field in the Mackenzie Valley Delta.

This \$30 million deal for a 20% stake in the gas field is the first ever deal by a Korean company in the Arctic. (The deal stipulates that \$10 million of that is due only if there is a decision to construct the Mackenzie Valley pipeline or another project to commercialize production.) KOGAS representatives also visited Inuvik in January 2011 to look at the possibility of building a LNG terminal at Cape Bathurst. The Mackenzie Valley Pipeline is still under consideration - the environmental evaluation has been completed but market conditions turned against the project - so Koreans are considering converting the gas to LNG<sup>16</sup> and shipping it to Korea from an LNG terminal. A new type of icebreaker would be needed, but Korea's Samsung Heavy Industries has the expertise to construct these vessels, which require a 10 cm hull, twice as thick as Canada's current icebreakers.<sup>17</sup>

### Arctic Minerals and a New Northern Boom

East Asian countries have not ignored Arctic mineral supplies, but their investments have been more cautious than commentary about rapid Arctic development would suggest. An overview of recent interest by China, the leading East Asian nation in terms of Arctic mineral development, illustrates the nature of the engagement. Although, Chinese exploration and investment is increasing rapidly, the Chinese currently only own and operate one northern Canadian mine: the Wolverine zinc and silver mine in Yukon. Yunnan Chihong Zinc and Germanium signed a \$100 million joint venture with Selwyn Resources to develop a large zinc deposit in the eastern Yukon. According to Rob Huebert of the University of Calgary, "What we're seeing with the Chinese, in particularly (sic) with their purchases in the North, is that they tend to be long term, they tend to offer a premium....(and) they tend not to buy to own."<sup>18</sup>

The most significant potential Chinese northern investment is the Izok Corridor proposal by MMG Ltd., a subsidiary of Chinese state-owned China Minmetals Corp. The Izok Corridor reaches through large sections of western Nunavut with the centre located at Izok Lake, about 260 km southeast of Kugluktuk.<sup>19</sup> The proposal calls for eight underground and open-pit mines producing lead, zinc and copper, a processing plant for 6,000 tons of ore a day. The project would have "Tank farms for 35 million litres of diesel, two permanent camps totaling 1,000 beds, airstrips and a 350 kilometre all-weather road with 70 bridges that would stretch from Izok Lake to Grays Bay on the central

Arctic coast.”<sup>20</sup> The company also plans to construct a port at Grays Bay to accommodate ships as large as 50,000 tons that would travel through the Northwest Passage. Although the mine offers many economic advantages (1,100 jobs during construction and 710 permanent jobs for the 12-year life of the mine), there are significant environmental concerns. The Government of Nunavut is considering ways to maximize the life and economic impact of the resource projects. In Greenland, a British firm funded by Chinese interests is proposing a major C\$2.24 billion iron ore mine. This project is designed to be staffed largely by Chinese workers, thus mirroring controversial hiring practices in Canada and elsewhere.<sup>21</sup>



Mining in the Arctic

Photo Source: © Wikimedia Commons

## Japan's Engagement

Among the three East Asian countries discussed here, Japan has the most limited engagement with the Arctic. It has been engaged in polar (Arctic and Antarctic) research for 50 years. While the potential availability of new shipping routes and natural resources in the Arctic are of significance to the Japanese, the primary aim of its Arctic work appears to be protecting and understanding the Arctic environment under the pressures of climate change. Japanese industry is monitoring the amount of ice melting with a view to future resource developments. Even here, however, the Japanese industries that have led the discussion on the extent of the opportunities in the Arctic

do not believe, based on current evidence, that there are significant opportunities even if the changes continue to occur. For them, there are too many uncertainties to generate the kind of financial benefits that would encourage them to make the substantial investments required to operate in the Arctic.<sup>22</sup>

The Japanese government has therefore not received much pressure from industry to prioritize Arctic issues. Japan still sees itself as definitely being involved with the Arctic over the long term and wants a strong and dependable relationship with all the Arctic states.<sup>23</sup> As one publication described it, “one can perhaps view the overarching ambition of Japan’s Arctic policy as planting a flag today, to be used tomorrow.”<sup>24</sup>

## Korea and the Arctic

Korea has also been heavily involved in polar research but is increasingly alert to other possibilities. Most of its focus was on the Antarctic, until the last decade when it began operating its Dasan Arctic research station on the Svalbard Islands (Norway) and launched the Araon, an advanced research icebreaker that has gone on summer Arctic expeditions. Korea’s research interests focus on climate change and marine species. Economically, the country is interested in potential resource availability, particularly LNG, and the ability to ship that gas to Korea. An additional unique interest in the Arctic region relates to Korea’s shipbuilding industry. Companies such as Daewoo Shipbuilding and Marine Engineering and Samsung Heavy Industries produce icebreakers and are “pioneers in ice-capable oil and LNG tankers and freighters designs.”<sup>25</sup> Clearly, Korea intends to pursue its ongoing commercial interest in Arctic navigation.

## China's Arctic Connections

Although a relative latecomer to the Arctic, China has now signaled a strong desire to be included in discussions surrounding the future of the region. China does not have an official Arctic strategy but has indicated its interest in all the major Arctic areas from scientific research on climate change and marine species to potential availability of natural resources, including energy, and the development of new shipping routes.<sup>26</sup> Unlike Japan and Korea, however, China also appears to be suggesting

that its position as a global power mandates that it should be a part of any decisions made about the Arctic and its future. China is also pushing quite aggressively for observer status on the Arctic Council, using connections with Greenland and some of the Scandinavian countries. China is approaching these discussions with caution and diplomacy but there appears to be little doubt as to its viewpoint.

### Welcoming East Asia into the Arctic

Canada's Arctic research efforts would be stimulated by Asian scientific activity is more closely tied to practical applications and commercial developments than is generally the case in Canada. The impressive ability to commercialize scientific and technological innovations, particularly in Japan and Korea, could have significant benefits for Canada and Canadian firms.



Photo Source: © Wikimedia Commons

On the business development front, the prospects for truly impressive partnerships exist. East Asia offers what Canada lacks, particularly investment capital and large and growing markets for natural resources. Indeed, the fact that neither Japan nor Korea has much in the way of natural resource wealth, and that China's growing need for resources is central to the country's economic ambitions, means that East Asia is among the most promising markets in the world for Arctic resources. Canada's resource sector focuses largely on producing for foreign buyers and is facing increasing competition from other northern areas (Russia, Scandinavia, Greenland and Alaska), Africa and South America. Canada also has

much to offer major international investors, starting with abundant and increasingly feasible resource prospects, as well as stable and reliable institutions, the rule of law and security of contracts, a strong regulatory environment, and excellent national technical capabilities related to Arctic extraction. Put simply, East Asia and Canada need each other and can benefit from collaboration in the Arctic.

### East Asian Engagement with Arctic Aboriginal Peoples

To date, there have been only sporadic signs of East Asian engagement with the Indigenous peoples (Inuit, First Nations and Metis) of northern Canada. Most of these have been in the form of cultural and artistic exchanges. Given dramatic changes in Canadian law and practice, deeper and more sustained East Asian engagement with Indigenous people in the North will be essential. Almost all of northern Canada is covered by comprehensive land claims agreements (with the remaining areas under negotiation), which provide for extensive Indigenous participation in regulatory, approval and monitoring processes. In addition, the Supreme Court decisions in the Taku Tlingit and Haida Nation cases established formal "duty to consult and accommodate" requirements for governments and corporations. While these rights stop well short of giving Indigenous governments a veto over resource projects, most firms have realized that full and good faith engagement with Inuit, First Nations and Metis communities is essential if major projects are to proceed.

In the North, more than anywhere else in the country, understanding Indigenous politics and cultures is essential to effective resource development. The revenue sharing arrangements that are included in the modern treaties provide substantial returns to the Indigenous peoples, typically through financial transfers to Aboriginally-controlled development corporations. Indigenous peoples, therefore, have a vested interest in Arctic resource activities, provided that appropriate protections for northerners and northern eco-systems are incorporated into the plans. If long-term East Asian participation in Arctic mining and oil and gas is going to proceed in a mutually beneficial and environmentally sound manner, deliberate efforts have to be taken to produce mutual understanding and sustainable partnerships with Indigenous peoples.



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### Connecting East Asia to the Arctic

Although the Arctic states have a firm belief in their territoriality and an agreement to proceed legally and scientifically through the United Nations Convention of the Law of the Sea to resolve outstanding border issues, other countries view the Arctic (and not just the international sea portions of the Arctic Ocean) as a zone of global economic interest. Further, there is growing realization of the need for a regulatory regime, likely constructed through the Arctic Council, to manage and oversee resource use, tourism and navigation in the Arctic.

East Asian countries clearly want to know that they have the same access to Arctic resources as do companies based in other countries. In countries like Canada, which have a very open approach to foreign investment and the export of resources, there are comparatively few issues beyond a generally unspoken unease about large-scale Asian ownership of natural resources, and particularly any purchases by state-owned or state-connected enterprises. Greenland, which historically has not attracted much resource investment, is eager for foreign investment and has welcomed Chinese commitment to local resource projects. Given the high cost and uncertainty of Arctic resource development – there are as many failed Arctic resource projects as successful ones – global interest and investment is essential if the region's resource potential is to be tapped in a responsible manner.

What is unique about the North is that the area is still comparatively little known, necessitating a great deal

of scientific research and commercial exploration to identify and define its resource potential. Moreover, the shortage of economic infrastructure, combined with the high costs and technical challenges of developing resources there, requires substantial, multi-national engagement, likely involving national governments and large businesses. There are other areas of potential economic engagement, particularly Arctic fishing and, more modestly, Arctic tourism, both of which have left only a small footprint to date.

The economic challenge for East Asia as for the rest of the world is to be careful not to over-estimate the extent of Arctic resource wealth or under-estimate the costs and challenges of bringing the resources to market. East Asia's economic interests in the Arctic appear to be long-term and speculative, designed to ensure that China, Japan and Korea can participate in regional development activity if and when it becomes economically, environmentally and politically viable.

### Canadian Policy Options Relating to East Asia in the Arctic

To date, the reaction within the Canadian policy community to East Asian interest has been marked by a preoccupation with the Arctic Council, particularly the special status of Indigenous peoples, and by limited understanding of East Asian aspirations in the Far North.

As Canada takes the chair of the Arctic Council, it has an important opportunity to shape future direction of the Arctic, with the Government of Canada placing particular priority on economic development and improving the quality of life for northerners. Done properly, Canada could use the Arctic Council to facilitate East Asian participation in a way that will maximize benefit to Canada and strengthen its ties with China, Korea and Japan.

East Asian countries are ready to be partners in development, and they bring investment capital, long-term markets and scientific and technological expertise to the table. Their participation in northern development should be welcomed. At present, Canada's approach to Arctic development is passive, relying largely on East Asian businesses to initiate activities. East Asian



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countries connect commercial activity and research much more effectively than does Canada. Canada, therefore, should find ways to actively encourage Canadian-East Asian scientific and technological collaboration. In addition, Canada needs to pay close attention to East Asian investment and business development in other (non-Canadian) Arctic and sub-Arctic regions. Understanding the competitive landscape is essential if Canada is to capitalize on the commercial potential of having East Asia in the Arctic. More specifically,

- The Government of Canada should undertake and share broadly a full review of East Asian engagement in the Circumpolar region so that it fully understands the nature of Chinese, Japanese and Korean business and scientific interests in the Arctic.
- The Government of Canada, the territories and Indigenous groups in the North should welcome East Asian participation in northern development as it brings investment capital, long-term markets and scientific and technological expertise. Canada can do so through:
  - Establishing a Canada-East Asia Business and Government Task Force focused on promoting Arctic resource development; and

- Encouraging scientific and technological research partnerships between Canadian and East Asian universities and institutes that will focus on practical issues related to resource development.
- The Governments of Canada, the Yukon, Northwest Territories and Nunavut should create a Northern Aboriginal-East Asian task force, designed to educate key East Asian businesses and government agencies on the opportunities related to working with Inuit, First Nations and Métis governments and development corporations and to facilitate long-term mutual understanding. A relatively small investment at this point could generate considerable benefits in terms of overall East Asian investments and the development of constructive East Asian-Indigenous partnerships.
- An existing North- or Asian-focused institute should monitor and report on Circumpolar economic development activity, if only to ensure that the national debate about East Asia participation in the Arctic is framed by an understanding of actual developments.

On many fronts and over many years, Canadian governments and businesses have failed to fully capitalize on opportunities in East Asia. Despite our repeated claims to being a Pacific nation, Canada has left unexplored and underdeveloped a whole range of economic, social and political opportunities to connect with the influential countries of China, Japan and Korea. The Arctic provides Canada with a unique opportunity to build new partnerships and new models of collaboration. The conjunction of commercial, scientific and political interests holds great potential for Canada, including the possibility of developing strong, long-term ties between East Asia, Canada, northern Indigenous peoples and Canadian businesses. In this regard, Canada's chairpersonship of the Arctic Council and the Government of Canada's emphasis on northern economic development are very timely, creating an opportunity for engagement with East Asia in a manner that could bring benefits to all participants.



### About The Author



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For more information please visit [www.asiapacific.ca](http://www.asiapacific.ca).

<sup>1</sup> Fourteen other Asian and European countries including India, Singapore and Italy, have also applied for Arctic Council observer status.

<sup>2</sup> "China, India, Singapore could join new Arctic Forum, *The Economic Times*, 16 April 2013, [http://articles.economictimes.indiatimes.com/2013-04-16/news/38586654\\_1\\_arctic-council-arctic-sea-ice-arctic-circle](http://articles.economictimes.indiatimes.com/2013-04-16/news/38586654_1_arctic-council-arctic-sea-ice-arctic-circle).

<sup>3</sup> The Japan Institute of International Affairs recently released a report (in Japanese) arising from a series of workshops with Japanese experts on matters related to the Arctic. "Aki Tonami, "Arctic Governance and Japan's Foreign Strategy." Email circular, 27 April 2013.

<sup>4</sup> The role of China in the global expansion is described in Dambisa Moyo, *Winner Take All: China's Race for Resources and What It Means for the Rest of the World* (New York: Harper Collins, 2012).

<sup>5</sup> "Snow Dragons," *The Economist*, September 1, 2012; Gang Chen, "China's Emerging Arctic Strategy," *The Polar Journal* 2 (2), p. 362.

<sup>6</sup> See U.S. Energy Information Association, <http://www.eia.gov/countries/index.cfm?topL=imp>.

<sup>7</sup> Mamdouh Salameh, "China Eyes Arctic Access & Resources," *USAEE/IAEE Working Paper Series*, Research Centre for Energy Management, 2012.

<sup>8</sup> Nong Hong, "The melting Arctic and its impact on China's maritime transport," *Research in Transportation Economics* 35 (2012), p.50.

<sup>9</sup> Gang Chen, "China's Emerging Arctic Strategy," *The Polar Journal*, October 30, 2012.

<sup>10</sup> "Snow dragons," *The Economist*, September 1, 2012.

<sup>11</sup> Scott Borgerson, "Arctic Meltdown: The Economic and Security Implications of Global Warming," *Foreign Affairs*, March/April 2008. Borgerson's work is also used in Nong Hong, "The melting Arctic and its impact on China's maritime transport," *Research in Transportation Economics* 35 (2012), p.50.

<sup>12</sup> Ibid.

<sup>13</sup> Frederic Lasserre, "China and the Arctic: Threat or Cooperation Potential for Canada?" *Canadian International Council China Papers*, No. 11, June 2010, p.7.

<sup>14</sup> "Snow dragons," *The Economist*, September 1, 2012.

<sup>15</sup> Ibid.

<sup>16</sup> LNG is gas that is cooled to -162 degrees, which reduces the volume and allows it to be transported.

<sup>17</sup> Nathan Vanderlippe, "South Koreans eye Arctic LNG shipments," *The Globe and Mail*, August 23, 2012.

<sup>18</sup> James Munson, "China North: Canada's resources and China's Arctic long game," *iPolitics*, February 2, 2013.

<sup>19</sup> Bob Weber, "Harper's cabinet mulls massive Chinese resource project in Arctic," *The Globe and Mail*, December 27, 2012.

<sup>20</sup> Ibid.

<sup>21</sup> Christopher Seidler, "China Dips Toes in Arctic Waters," *Spiegel Online*, January 25, 2013.

<sup>22</sup> Aki Tonami and Stewart Watters, "Japan's Arctic Policy: The Sum of Many Parts," *Arctic Yearbook 2012*, p.98.

<sup>23</sup> Fujio Ohnishi, "The Emerging Arctic Strategy of Japan: Will the Sun Rise Again in the Arctic?" presentation at the Arctic Frontiers 2013 conference in Tromso (Norway), January 2013.

<sup>24</sup> Tonami and Watters, p.100.

<sup>25</sup> "Interests and Roles of Non-Arctic States in the Arctic," Seminar presented by the National Capital Branch of the Canadian International Council and the Munk-Gordon Arctic Security Program, Ottawa, October 5, 2011.

<sup>26</sup> Ibid.

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