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CAN CLIMATE CHANGE BE GOOD FOR GREENLAND?

AN ARCTIC ISLAND'S RESPONSE TO NEW DEVELOPMENT OPPORTUNITIES

by James Mitchell*

Worldwide, Greenland is viewed as an *indicator* of global climate change—like Earth's monitoring station. The world's largest island consists of eighty-one percent ice,¹ and its melting ice contributes to about twenty-eight percent of current global sea-level rise.² News coverage of Greenland centers upon the current melting rate of its ice sheets and scientists' predictions of how much global sea level would rise if all of the ice sheets were to melt. However, little is written about how climate change will affect those who live there.

Despite its location, Greenland shares some similarities with the global south. Many of its 60,000 inhabitants subsist at least in part on nature, and its governance status is akin to a colony of a European nation.³ The government has welcomed the opportunity to establish greater economic independence from Denmark by "developing" Greenland. However, given that black carbon, in the form of soot-laden snow, accounts for about a third of the warming in the Arctic regions,⁴ is heavy industry, most of which is foreign-owned, a viable development path?

Greenland has seen rising temperatures at a more accelerated pace than the global rate. From 1991 to 2003 average winter temperatures rose eleven degrees Fahrenheit.⁵ However, many in Greenland embrace rising temperatures, as it opens up new opportunities across the island. For now, tourism is receiving a boost due to "discoveries" of new islands, previously inaccessible because of the ice, and these islands are now becoming vacation sites for cruise liners.⁶ Because of the warming temperatures, farmers can now plant vegetables that a few decades ago would have never survived, and raise fatter livestock.⁷

The cod industry was once the greatest asset of Greenland, but in the 1960s it collapsed due to over-fishing and shifting sea currents. Now that the sea temperatures are the highest since the 1960s, the cod have returned, as evidenced by government inspectors, who in 2007 made a "biblical catch" of twenty-five tons of cod in one hour.⁸ Finally, the seasonal snowmelt continues to open up previously impassible areas.⁹

Of course, not all benefit from the rising temperatures. Climate change harms the Inuit peoples' way of life, particularly in the realm of hunting.¹⁰ The effects are devastating; "[r]etreat-

ing sea ice has exposed Inuit villages to the eroding forces of wind and waves, causing their homes to topple into the sea . . . Experienced hunters have fallen through ice that appeared safe,

resulting in injury and death. The [animals] upon which the Inuit depend . . . could go extinct before the end of this century."¹¹ Despite these negative impacts on Inuit culture, Greenland's Home Rule Government remains interested in attracting heavy industry to the region.

The sector most excited over Greenland's warming is also the one whose activities intensify climate change—

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heavy industry.*

heavy industry. British-based firm Angus & Ross ("Angus") used to operate the Black Angel Mine, a zinc and lead mine on Greenland's west coast. The mine had to be closed in 1990 due to declining global zinc prices and the difficulty of operating in an area often frozen over.¹² Now, with rising commodity prices and milder temperatures that have allowed for operators to work for eight months per year instead of only six,¹³ Angus is scheduled to re-open in late 2008, pending approval of its mining license from the Greenland government.¹⁴ Angus is not alone. By 2007, Greenland's Bureau of Minerals and Petroleum tripled the number of exploration licenses it had issued since 2002.¹⁵

U.S. firm Alcoa plans to create an aluminum smelting plant along the western coast, powered by a nearby hydroelectric power plant.¹⁶ Ironically, the hydroelectric power plant's "renewable," zero-greenhouse gas ("GHG") emissions source of energy is the melting ice and snow. The smelter's operations, however, would boost Greenland's GHG emissions by seventy-five percent from their current levels.¹⁷

Despite regional economic benefits from climate change, local inhabitants who live near these industries will have to pay the costs from the local pollution that results from heavy industry. A 1997 site assessment of the Black Angel mine revealed heavy metal contamination within a thirty-mile radius of the mine.¹⁸ There is no reason to expect better prospects once it is

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re-opened. Indeed, Alcoa has faced considerable controversy in Yarloop, Australia for seeking to double its aluminum smelting operations, despite allegations by locals that fumes are contributing to “nosebleeds . . . skin ulcers and rashes, nausea . . . impaired speech, blackouts and palpitations.”¹⁹

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The challenge is *how* to establish greater economic sovereignty, now that climate change has introduced more opportunities. Greenland stands at a crossroads. It can simply imitate the old model, or it can decide to be a model for other nations currently facing the moral dilemma of what to do when climate change actually presents *beneficial* development opportunities. Greenland should embrace the positive climate-induced changes of increased fish yields and better farming/grazing land, yet sustainably manage these resources. Otherwise, Greenland will yet again witness the effects of over-fishing its cod stocks, and the impacts of soil depletion and overgrazing. Instead of resorting to industry, there are excellent opportunities in further developing eco-tourism of Greenland; several tropical countries have seen the economic and ecologic value in preserving their biodiversity. Finally, Greenland should consult with its own inhabitants, and heed Rio Declaration’s Principle 22, which recognizes the value that indigenous peoples have in environmental management and development due to their unique knowledge.²⁰



Endnotes:

- 1 CIA website, The World Factbook – Greenland, <https://www.cia.gov/library/publications/the-world-factbook/geos/gl.html> (last visited Apr. 22, 2008).
- 2 Science Daily, *Glaciers and Ice Caps to Dominate Sea Level Rise This Century, Says New Study* (July 20, 2007), available at <http://www.sciencedaily.com/releases/2007/07/070719143502.htm> (last visited Apr. 22, 2008).
- 3 Denmark handles Greenland’s foreign relations (e.g., Greenland’s greenhouse gas (“GHG”) emissions are part of Denmark under the Kyoto Protocol). Nonetheless, Denmark must consult with Greenland’s Home Rule Government, which handles domestic affairs. While most of Greenland supports either full independence or greater autonomy from Denmark, a full fifty percent of Greenland’s revenue are subsidies from Denmark. CIA website, *supra* note 1.
- 4 Mark G. Flanner, Charles S. Zender, James T. Randerson & Philip J. Rasch, *Present-day Climate Forcing and Response from Black Carbon in Snow*, 112 J. GEOPHYS. RES., D11202 (2007), available at <http://www.agu.org/pubs/crossref/2007/2006JD008003.shtml> (last visited Feb. 25, 2008).
- 5 Doug Struck, *Icy Island Warms to Climate Change*, WASH. POST, June 7, 2007, at A01.
- 6 Wojciech Moskwa, *Global Warming may be good for Greenland*, REUTERS UK, June 5, 2007, available at <http://uk.reuters.com/article/environmentNews/idUKMOS54562420070605> (last visited Feb. 25, 2008).
- 7 Struck, *supra* note 5.
- 8 Struck, *supra* note 5.
- 9 Moskwa, *supra* note 6.
- 10 Greenland’s Minister of Culture has written that: “The Inuit culture is the most pure hunting culture in existence,” given its “adapt[ation] to the extreme living conditions in the High Arctic . . . for at least four thousand years.” Henriette Rasmussen, Minister of Culture, Education, Science and Church of the Government of Greenland. *Sustainable Greenland and Indigenous Ideals, in TOWARD A SUSTAINABLE WORLD: THE EARTH CHARTER IN ACTION 106* (Royal Tropical Institute 2005), available at http://www.earthcharterinaction.org/eci_book.html (last visited Feb. 25, 2008).
- 11 Press Release, Center for International Environmental Law, Inuit File Petition with Inter-American Commission on Human Rights, Claiming Global Warming Caused by United States Is Destroying Their Culture and Livelihoods (Dec. 7, 2005), available at www.ciel.org/Climate/ICC_Petition_7Dec05.html.
- 12 Lisa Yuriko Thomas, *Greenland’s Melting Glaciers Spur Mining – Warmer Climate Boosts Accessibility For Firms Seeking Ore*, WALL ST. J., July 17, 2007.
- 13 Thomas, *id.*
- 14 See Angus & Ross, PLC website, <http://www.angusandross.com> (last visited Apr. 22, 2008).
- 15 Thomas, *supra* note 12.
- 16 Alcoa website, Alcoa in Greenland, <http://www.alcoa.com/greenland/en/frames.asp> (last visited Apr. 22, 2008).
- 17 Moskwa, *supra* note 6.
- 18 UNITED NATIONS ENVIRONMENT PROGRAMME, *Marine and Coastal Areas, in GLOBAL ENVIRONMENT OUTLOOK (2000)*, available at <http://www.unep.org/GEO2000/english/0123.htm> (last visited Apr. 22, 2008).
- 19 Quentin McDermott, *Something in the Air*, ABC AUSTRALIA, Mar. 10, 2005, available at <http://www.abc.net.au/4corners/content/2005/s1471209.htm> (last visited Apr. 22, 2008). Alcoa denies causation and liability, and now owns and rents out most of the real estate near the refinery, where tenants are “gagged from complaining about . . . pollution by a clause in their lease agreements.” John Flint, *Alcoa Expands Despite Toxins*, PERTH NOW, Sept. 11, 2006, available at <http://www.news.com.au/perthnow/story/0,21598,20391434-2761,00.html> (last visited Feb. 25, 2008).
- 20 Rio Declaration on Environment and Development, June 13, 1992, available at <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=78&ArticleID=1163> (last visited Feb. 25, 2008).