

# NEW PERSPECTIVES *in foreign policy*

A JOURNAL WRITTEN BY AND FOR THE ENRICHMENT OF YOUNG PROFESSIONALS  
WINTER 2012 VOLUME 1



*7 Billion Is Not the Problem:  
Why Malthusians Have It Wrong*

Tobias Peter

*The Future of Outsider  
States in the Arctic*

Natalja Jegorova

*Why Has China's Charm  
Offensive Stalled?*

Jeffrey D. Bean & Gregory B. Poling

*Shale Gas and Tight Oil:  
Domestic Resource, Global Impact*

Leigh E. Hendrix

*Winning Japan's Cyber War*

Will Colson

CSIS

CENTER FOR STRATEGIC &  
INTERNATIONAL STUDIES

## About New Perspectives in Foreign Policy

*New Perspectives in Foreign Policy* is published by the Center for Strategic and International Studies (CSIS) to provide a forum for young professionals to debate issues of importance in foreign policy. Though *New Perspectives* seeks to bring new voices into the dialogue, it does not endorse specific opinions or policy prescriptions. As such, the views expressed herein are solely those of the authors and contributors and do not necessarily reflect the views of the Editorial Board, CSIS, or the CSIS Board of Trustees.

**Submit articles to [newperspectives@csis.org](mailto:newperspectives@csis.org).**

## About CSIS

For 50 years, the Center for Strategic and International Studies (CSIS) has developed practical solutions to the world's greatest challenges. As we celebrate this milestone, CSIS scholars continue to provide strategic insights and bipartisan policy solutions to help decisionmakers chart a course toward a better world.

Since 1962, CSIS has been dedicated to finding ways to sustain American prominence and prosperity as a force for good in the world. After 50 years, CSIS has become one of the world's preeminent international policy institutions focused on defense and security; regional stability; and transnational challenges ranging from energy and climate to global development and economic integration.

Former U.S. senator Sam Nunn has chaired the CSIS Board of Trustees since 1999. John J. Hamre became the Center's president and chief executive officer in 2000. CSIS was founded by David M. Abshire and Admiral Arleigh Burke.

*New Perspectives* was designed by Alison Bours.

## Photo Credits

Front cover (left): MorgueFile photo ([www.morguefile.com](http://www.morguefile.com))

Front cover (right): Photo by Molly Walton

Back cover (left): MorgueFile photo ([www.morguefile.com](http://www.morguefile.com))

Back cover (right): U.S. Coast Guard photo by Petty Officer Prentice Danner ([http://www.flickr.com/photos/coast\\_guard/2898962173/](http://www.flickr.com/photos/coast_guard/2898962173/))

© 2012 by the Center for Strategic and International Studies.

All rights reserved.

Center for Strategic and International Studies

1800 K Street, NW, Washington, DC 20006

Tel: (202) 887-0200

Fax: (202) 775-3199

Web: [www.csis.org](http://www.csis.org)

## Letter from the President of CSIS

---

The rising generation of policy professionals continually impresses and inspires me. This talented group deserves more opportunities to publish their ideas and aspire to higher professional standards. It is in this spirit that we have created a new online journal at CSIS. I am proud to present the inaugural issue of *New Perspectives in Foreign Policy*, a journal written by and for the enrichment of young professionals.

This journal will provide a vehicle for young professionals at CSIS and elsewhere to publish their work on foreign policy. I hope that it will help infuse our policy debate here in Washington with youthful energy and creative thinking, just as the young people at CSIS do for our organization.

I want to thank the members of the Editorial Board who have done a wonderful job getting *New Perspectives*



off the ground. I am proud of their hard work formulating and designing this new endeavor. I am equally proud of our contributors for crafting articles that showcase the diversity of our work at CSIS and the repository of thoughtful staff we draw on every day.

I always enjoy hearing your impressions about our work, and I look forward to receiving your feedback about this new journal.

SINCERELY,

## *Letter from the Editorial Board*

---

We are pleased to announce the launch of a new journal aimed at fostering positive dialogue among young professionals engaged in international affairs. We believe such an endeavor is both timely and imperative given the present backdrop of limited resources and high unemployment clouding the professional outlook for many young people in Washington, D.C., the nation, and abroad.

With *New Perspectives in Foreign Policy*, we hope to sow a sense of optimism by channeling the curiosity and energy of young thinkers looking ahead to tomorrow's foreign policy issues. We hope this journal will become a forum for fresh ideas at a time when bold thinking is needed most.

We are pleased to offer five articles in this inaugural issue. In the following pages, our contributors challenge preconceived notions about demography; examine outsider states in the Arctic; investigate the ebb and flow of Chinese diplomacy; ponder the risks and rewards of unconventional energy resources; and draw important lessons from Japan's experience with cyber security.

In the interest of fostering a lively debate and providing welcome feedback to our young thinkers, we intend to publish selected Letters to the Editor, so please submit your responses, reactions, and rebuttals of 200 words or less to [newperspectives@csis.org](mailto:newperspectives@csis.org).

SINCERELY,

*New Perspectives* Editorial Board

# 7 Billion Is Not the Problem: Why Malthusians Have It Wrong

*Tobias Peter*

**THE UNITED NATIONS** announced last October that the global population had passed the 7 billion mark, triggering renewed alarm that the world is headed for a Malthusian crisis, with growing resource scarcity, environmental degradation, and population-driven instability.<sup>1</sup> The alarm is largely misplaced. The global population growth rate has been decelerating for decades and, according to the latest UN projections, will fall to near zero by mid-century. The greatest demographic challenge facing the world today is no longer rapid population growth, but rapid population aging.<sup>2</sup>

It is well known that the developed world is aging, due to falling birthrates and rising life expectancy. What is sometimes overlooked is that most of the developing world will soon follow suit. It is now moving through the so-called demographic transition—the shift from high fertility and high mortality to low fertility and low mortality that accompanies development and modernization.

Since the late 1960s, China's fertility rate has dropped from 5.9 to 1.6, Iran's from 6.5 to 1.7, and Mexico's from 6.7 to 2.4. Today, nearly two-fifths of the developing world's population lives in countries with fertility below the 2.1 replacement rate.

To be sure, parts of the developing world, including most of sub-Saharan Africa and a number of poorer Muslim-majority countries, still have lofty fertility rates and extremely young and fast-growing populations. Here, demographic pressure may indeed result in humanitarian catastrophe. In the rest of the developing world, however, the emerging challenge is not too many babies, but too many old people. By the 2030s, Mexico and Iran will be nearly as old as the United States—and China will be older.

Coping with rapidly aging populations will be difficult enough in the developed world. Fiscally, governments will have to grapple with exploding social security and

health care expenditures. Economically, stagnant or contracting working-age populations will mean slower economic growth. Rates of savings, investment, and productivity may decline, while reliance on foreign capital may grow. Scarcer service-age youth will put a ceiling on the developed world's hard power, while its declining economic reach may erode its soft power. By the 2020s, the United States may be the only major developed country that will still have a growing workforce and population.<sup>3</sup>

The outlook in the developing world may be even more worrisome. From China to Russia, many countries face age waves as large as those in the developed world—but with only a fraction

**From China to Russia, many countries face age waves as large as those in the developed world—but with only a fraction of the income and wealth.**

of the income and wealth. Slowing economic growth could condemn these countries to permanent middle-income status. Weak social safety nets and fraying family support networks could leave a large share of the elderly at risk of

serious hardship. Since stability in emerging markets often hinges on economic development, some could even face regime crisis and turn to authoritarian repression to avoid chaotic collapse.

The good news is that the developing-world's age waves still loom over the horizon. At present, most of the developing world is experiencing a period of favorable demographics, known as the “demographic dividend,” during which youth bulges fade and the share of the population in the productive working years rises. This opens up a crucial window of opportunity for economic and social development that countries can seize to prepare for their aging challenge and avoid potential crisis.

To be successful, the developing countries must do two things. First, they must exploit their current favorable demographics to boost living standards before their age waves roll in. This will

require sound macroeconomic policies, flexible labor markets, functioning capital markets, and above all, massive investments in infrastructure and human capital. China and the East Asian “tigers” have been spectacularly successful at leveraging their demographic dividends, but the rest of the developing world still lags behind. Second, the developing markets must put in place socially adequate and economically sustainable retirement systems. Here they would do well to learn from the mistakes of today’s developed countries and avoid the fiscal burden of universal “pay-as-you-go” entitlements. Instead, they should consider combining a minimum floor of state-financed poverty protection with fully funded pensions that take the burden off future generations.

{3}

In short, the most pressing population question of the twenty-first century is not how to stem growth in the world’s population in order to avoid widespread Malthusian calamity. While it is true that the world’s population will continue to grow for several decades, that growth is largely the result of demographic momentum, which will eventually wind down. Rather the most pressing question is how to ensure that an aging world is a peaceful and prosperous world. Meeting that challenge will require developing countries to seize the unique growth opportunity offered by their demographic dividends. It will also require the United States and other developed countries to reign in the ballooning cost of their government old-age benefit systems—not just to maintain economic growth and opportunity at home, but also to make fiscal room for vital new investments in the long-term stability of the developing world. ■

*Tobias Peter is a research assistant with the CSIS Global Aging Initiative.*

---

<sup>1</sup> See, for example, United Nations, “As world passes 7 billion milestone, UN urges action to meet key challenges,” press release, October 31, 2011, <http://www.un.org/apps/news/story.asp?NewsID=40257>; and Haya El Nasser, “World population hits 7 billion,” *USA Today*, October 31, 2011, <http://www.usatoday.com/news/world/story/2011-10-30/world-population-hits-seven-billion/51007670/1>.

<sup>2</sup> All population data in this article, both historical and projected, are from the UN Population Division’s “World Population Prospects, the 2010 Revision,” <http://esa.un.org/unpd/wpp/index.htm>.

<sup>3</sup> Richard Jackson and Neil Howe, *The Graying of the Great Powers: Demography and Geopolitics in the 21st Century* (Washington, DC: CSIS, 2008).

# The Future of Outsider States in the Arctic

*Natalja Jegorova*

**THE ARCTIC IS FAST** becoming a region of critical importance to Arctic and non-Arctic states alike. This remote territory has the potential to become the twenty-first-century frontier for natural resource extraction and to open an express route interconnecting the Northern Hemisphere. The Arctic may be a contested region on the international stage with the interplay of two opposing concepts: sovereignty and common heritage.

Supporters of sovereignty claim that the Arctic Ocean should be divided only between the five coastal states with access to it. Proponents of common heritage claim that the Arctic—as well as the Antarctic—should belong to all humankind. The world must now decide who has the right to use these territories and who does not.

The debate over Arctic ownership is not a new one. In the 1920s, Soviet Russia and Canada agreed on the sectoral division of the Arctic Ocean<sup>1</sup>—a simplified demarcation of state borders exercised by drawing

triangular “sectors” connecting each country’s easternmost and westernmost coastal points to the North Pole. This method puts the Arctic under the sovereign rule of states adjacent to the territory.

Under the current provisions of the 1982 UN Convention on the Law of the Sea (UNCLOS), which sets the rules and rights for all states regarding their use of the world’s oceans and resources, five Arctic littoral states have a possibility to expand their exclusive economic zone through extended continental shelf claims further north. The United States, Russia, Norway, Denmark (through Greenland), and Canada—known as the “Arctic Five”—can claim the land beneath the icy waters of the Arctic Ocean, which had been considered common heritage of the international community. Three states will submit claims under UNCLOS within the next two years, and Norway’s claim has already been approved.<sup>2</sup> This leaves the United States, which has

thus far not ratified the UNCLOS treaty, as the only Arctic actor with limited legal benefits in this critical region.

If the Arctic is to be divided according to the UNCLOS regulations, other countries and regional players that have already expressed their interest in this region could be left empty handed. The only territory that will retain international-waters status

**The only territory that will retain international-waters status and remain open to all countries for exploration and research are two relatively small areas in the very heart of the Arctic.**

and remain open to all countries for exploration and research are two relatively small areas in the very heart of the Arctic. These areas cannot be claimed by any of the coastal states.<sup>3</sup> This means that when the Arctic becomes ice free—the United Nations projects ice-free Arctic summers

in this century, with rough estimates ranging from 2040 to 2100<sup>4</sup>—China, the European Union, and other interested parties will be legally able to explore the international parts of the Arctic Sea floor.

While this may seem to be an issue for the distant future, the present role of outsider states in the Arctic region must not be underestimated. For instance, a Norwegian international research base in Ny-Ålesund hosts the research stations of nine non-Arctic states, with the oldest ones—German, Japanese, and British—established 20 years ago.<sup>5</sup>

On the technological front, China is investing in its second icebreaker<sup>6</sup> and plans a fifth expedition to the Arctic for summer 2012,<sup>7</sup> while the United States is on the verge of losing two of its three polar-class vessels within the next three years.<sup>8</sup> Non-Arctic state actors' experience and resources could provide necessary assistance to Arctic states under budgetary strain, paving the way for development and research activities that would benefit all parties.

Non-Arctic state actors' motivations for operating in the Arctic are generally attributed to a "realist" approach of securing geostrategic and economic advantages. The actual reasons are more nuanced and diverse. For instance, having a say in shaping climate-change policies related to the Arctic is literally a question of survival for states such as Micronesia and Oceania, as the melting polar ice cap could engulf these small island states. Similarly, Asian and European countries interested in scientific and climatic research have legitimate grounds to demand equal standing in decisionmaking as the accessibility of international parts of Arctic waters increases. Exclusion politics would upset outsider states that see the Arctic as a neutral or critically important territory and want to participate in its regulation.

As the Arctic ice continues to melt and human activity increases in the region, interest in the Arctic will also grow. The international waters in this region are projected to open up within this century, giving all interested states a clear stake in this region. All these actors can contribute much needed resources and scientific expertise to the future of the Arctic, but only by acting as involved partners. ■

{6}

*Natalja Jegorova is a research intern with the CSIS Europe Program.*

---

<sup>1</sup> Leonid Timtchenko, "The Russian Arctic Sectoral Concept: Past and Present," *Arctic* 50, no. 1 (March 1997): 29–35, <http://pubs.aina.ucalgary.ca/arctic/Arctic50-1-29.pdf>.

<sup>2</sup> Thomas Nilsen, "Limits of Norway's Arctic seabed agreed," *BarentsObserver*, April 16, 2009, <http://www.barentsobserver.com/limits-of-norways-arctic-seabed-agreed.4580729-16149.html>.

<sup>3</sup> Kathrin Keil, "The Arctic vs. Antarctic—The Two Poles (not) Compared," Arctic Institute, September 8, 2011, <http://www.thearcticinstitute.org/2011/09/two-poles-not-compared.html>.

<sup>4</sup> UN Environment Programme (UNEP), *Global Outlook for Ice and Snow* (Nairobi: UNEP, 2007), [http://www.unep.org/geo/geo\\_ice/PDF/full\\_report\\_LowRes.pdf](http://www.unep.org/geo/geo_ice/PDF/full_report_LowRes.pdf).

<sup>5</sup> Kings Bay AS, "Research stations in Ny-Ålesund," accessed December 22, 2011, [http://www.kingsbay.no/index.php?option=com\\_content&view=article&id=127&Itemid=118](http://www.kingsbay.no/index.php?option=com_content&view=article&id=127&Itemid=118).

<sup>6</sup> "China to construct own polar research vessel," Xinhuanet, October 12, 2011, [http://news.xinhuanet.com/english2010/china/2011-10/12/c\\_131187152.htm](http://news.xinhuanet.com/english2010/china/2011-10/12/c_131187152.htm).

<sup>7</sup> "China to launch eight Antarctic, Arctic research expeditions in five years," Xinhuanet, September 25, 2011, [http://news.xinhuanet.com/english2010/china/2011-09/25/c\\_131158982.htm](http://news.xinhuanet.com/english2010/china/2011-09/25/c_131158982.htm).

<sup>8</sup> H.R. 2838 (Rep. No. 112-229), "To authorize appropriations for the Coast Guard for fiscal years 2012 through 2015, and for other purposes," 112th Cong., 1st Sess. (November 3, 2011), <http://www.gpo.gov/fdsys/pkg/BILLS-112hr2838rh/pdf/BILLS-112hr2838rh.pdf>.

# Why Has China's Charm Offensive Stalled?

*Jeffrey D. Bean and Gregory B. Poling*

**WITH THE 18TH** National Congress of the Chinese Communist Party approaching, one of the foremost challenges soon-to-be President Xi Jinping and the next generation of leaders should confront is the increasing disquiet with which China is viewed by its neighbors. As recently as 2009, some scholars, noting the spread of Chinese hard and soft power, prophesied that East Asian states would seek closer ties to China rather than try to balance against its rise.<sup>1</sup> Such certainty has been undermined in recent years. To understand why, we must understand the shaky foundation on which twenty-first-century goodwill toward China was built.

China's "charm offensive" emerged from the Asian financial crisis of 1997–1998. Amid perceived U.S. aloofness, IMF bullying, and Japanese inertia, China's modest assistance was welcomed by its neighbors with open arms. The warm response convinced Chinese leaders that such a policy could

be effective, leading to a decade of sustained diplomatic and economic engagement with their Asian neighbors.<sup>2</sup>

Despite success over the last decade, the charm offensive stalled in recent years as many Asian countries pushed back against China's assertive stance in the region in 2010 and 2011. This culminated in the "U.S. pivot to Asia" announced during President Barack Obama's recent tour through the region. The most apparent sign of the changed perceptions toward China was the country's marked isolation at last year's East Asia Summit in Bali, where Premier Wen Jiabao faced unprecedented criticism of China's maritime policies from 16 of the 18 participating Asia-Pacific nations.<sup>3</sup>

For Beijing, the first decade of the new millennium was not supposed to end this way. Where did China's foreign policy go wrong? Why has China's charm offensive stalled? Ultimately, the roots of Chinese

political and economic engagement have not proven evergreen, as China's increasingly aggressive behavior squandered much of its neighbors' goodwill.

Unease with China now permeates the region, due mostly to rising tensions over regional sovereignty and Beijing's attempts to leverage its power. In particular, China's increased assertiveness on territorial issues in the South China Sea; lack of constructive action following two North Korean provocations in 2010; highly publicized maritime showdowns with Japan over the Senkaku/Diaoyu Islands; and harassment of U.S. Navy vessels have all contributed to a severe Chinese image problem.

Worse, China's selective interpretation of the UN Convention on the Law of the Seas and its flagrant violation of the 2002 agreement signed with the Association of Southeast Asian Nations (ASEAN) to calm tensions over territorial disputes in the South China Sea have called into question Chinese fidelity. Southeast Asian states no longer look north and see a friend and counterweight to U.S. heavy-handedness. Instead, they

see a capricious rising power that they hope to calm, but against which they must take precautions by encouraging U.S. reengagement with the region.

**Even more troubling for the leadership in Beijing should be the rising discontent in the region and abroad with Chinese economic engagement.**

Even more troubling for the leadership in Beijing should be the rising discontent with Chinese economic engagement. Forgoing the conditionality and perceived heavy-

handedness of the United States, Beijing spent the last decade developing a track record of collaboration, underwriting huge investments by Chinese companies and providing significant loans to governments around the world in exchange for access to desperately needed resources and new markets.

With the “Washington consensus” of trade liberalization and unregulated free markets called into question by the Asian financial crisis, the region embraced China’s no-strings-attached economic engagement in the early 2000s.

But here, too, the sheen has worn away and been replaced by apprehension and growing frustration. Even in Southeast Asia, where Chinese investment has shifted from resource extraction to

incorporating local manufacturing into China’s supply chains, Beijing’s current mode of economic engagement provides limited utility to neighboring countries seeking to grow their own populations’ skills. Unlike their Japanese counterparts during Japan’s boom years, Chinese investors have shown little interest in technology transfer, training, localized employment, or broader investments and infrastructure construction.

The resulting frustration over Chinese investment practices has spread even to isolated Myanmar, where the environmental, political, and human costs of Chinese investment in the Myitsone mega-dam were deemed unacceptably high, given that 90 percent of its generated power would have been transmitted back to China. The project was cancelled last fall.<sup>4</sup> As Peking University’s Zhu Feng points out, this decision was just the latest in a series of high-profile setbacks for Chinese economic diplomacy.<sup>5</sup>

An assertive foreign policy paired with a mercantilist economic approach has undone many of China’s diplomatic gains over the past decade. In addition, anxiety over the country’s political and security interests abroad will not be assuaged without changes

An assertive foreign policy paired with a mercantilist economic approach has undone many of China’s diplomatic gains over the past decade.

in Chinese domestic governance. Its neighbors will never believe China will hold to the rule of law abroad, including in resolving disputes in the South China Sea, when it does not do so at home.

In the meantime, Beijing can do much to right its economic diplomacy. Continued access to the Chinese market and Chinese capital is key to regional prosperity. A policy of pursuing investment and granting loans in a more equitable manner would be a development that all stakeholders, including the United States, would welcome. ■

*Jeffrey D. Bean is a research assistant with the CSIS Freeman Chair in China Studies. Gregory B. Poling is a research assistant with the CSIS Southeast Asia Program.*

{10}

---

<sup>1</sup> David C. Kang, “Why China’s Rise Will Be Peaceful: Hierarchy and Stability in the East Asian Region,” *Perspectives on Politics* 3, no. 3 (September 2005): 551; Bronson Percival, *The Dragon Looks South: China and Southeast Asia in the New Century* (Westport, CT: Praeger International Security, 2007), 1–2.

<sup>2</sup> Derek J. Mitchell and Brian Harding, “China and Southeast Asia,” *Chinese Soft Power and its Implications for the United States: Competition and Cooperation in the Developing World* (Washington, DC: CSIS 2009), [http://csis.org/files/media/csis/pubs/090305\\_mcgiffert\\_chinesesoftpower\\_web.pdf](http://csis.org/files/media/csis/pubs/090305_mcgiffert_chinesesoftpower_web.pdf), 78.

<sup>3</sup> Daniel Ten Kate, “China Proposes Maritime ‘Network’ Fund to Help Resolve Shipping Disputes,” *Bloomberg*, November 19, 2011, <http://www.bloomberg.com/news/2011-11-19/china-says-sea-navigation-not-a-factor-as-wen-talks-with-obama-in-bali.html>.

<sup>4</sup> “In rare U-turn, Myanmar shelves controversial megadam project,” *MSNBC*, September 30, 2011, [http://www.msnbc.msn.com/id/44727129/ns/world\\_news-asia\\_pacific/t/rare-u-turn-myanmar-shelves-controversial-megadam-project/#.TvSpTzVrNDs](http://www.msnbc.msn.com/id/44727129/ns/world_news-asia_pacific/t/rare-u-turn-myanmar-shelves-controversial-megadam-project/#.TvSpTzVrNDs).

<sup>5</sup> Zhu Feng, “China’s Trouble with the Neighbors,” *Project Syndicate*, October 31, 2011, <http://www.project-syndicate.org/commentary/fzhu3/English>.

# Shale Gas and Tight Oil: Domestic Resource, Global Impact

*Leigh E. Hendrix*

**THE DEVELOPMENT OF** new unconventional energy sources, like shale gas and tight oil, represent a potential game changer for both international energy markets and U.S. energy policy. In the United States, new discoveries, greater access, and technological advancements, such as horizontal drilling, have spurred the rapid increase in the production of shale gas, resulting in more than a dozen major shale gas plays.<sup>1</sup> The extraction of tight oil resources, defined as light oil found in low porosity and low permeability rock formations, has also increased extensively in recent years. These resources, in conjunction with the successful development of oil sands, deep water, lower tertiary, and sub-salt plays, have the potential to significantly expand North American oil production and reduce U.S. oil import dependence.<sup>2</sup>

As with all resource development, however, the risks and benefits must be weighed to determine the best course of action. Unconventional resources have the potential to change energy market dynamics, reshape

the geopolitical realities of energy trade and production, and impact environment and climate discussions. Therefore, U.S. policy must assess these potential impacts in order to understand how these resources will alter the domestic and international energy landscape in the coming years.

First, as these resources enter the market, energy markets will continue to be affected. Despite a precipitous drop in U.S. natural gas prices in the second half of 2008, and another smaller drop in 2010, unconventional gas production has continued to increase. This has put further pressure on natural gas prices and kept them low. U.S. production of unconventional gas has grown so much that it has negated the need for liquefied natural gas (LNG) imports, freeing up supply to go to the European Union and Asia.<sup>3</sup> In time, the United States may become a significant exporter of gas, though this is a more complex political issue. Similarly, increasing domestic tight oil production could reduce the level of U.S. oil imports and have a long-run impact on global production and oil prices.

Second, unconventional energy resources are shifting the geopolitics of energy, which are based on centers of energy supply and demand. For many years, U.S. energy production was believed to be in a state of irreversible decline—as predicted by the proponents of peak oil theory, which states that petroleum extraction will enter terminal decline after a maximum state of extraction has been reached.<sup>4</sup> Recent developments in unconventional resources could shift geopolitical power to new, or re-emerging, regions. How these new supply centers react to burgeoning demand in Asia and elsewhere has the potential to create both tensions and opportunities. Unconventional resource discoveries, gas in particular, are not

**U.S. gas production has grown so much that it has negated the need for liquefied natural gas (LNG) imports, freeing up supply to go to EU and Asia.**

unique to the United States.<sup>5</sup> This said, development of these resources abroad may follow a very different path due to variations in regulatory oversight, available technology, and the capabilities of domestic industries.<sup>6</sup> At the very least, the development of

unconventional fuels in the Western Hemisphere will give these nations added options and flexibility, and perhaps afford them more geopolitical leverage.

Finally, there are many questions regarding the sustainability, environmental quality, and emissions content of unconventional fuels. Shale gas and tight oil, which use large amounts of water to fracture rock foundations, have raised concerns about water quality connected to these advanced drilling techniques. However, environmental risk is expected to decline as industry continues to develop stronger standards for well casings and waste water management, utilize closed loop systems, establish best practices for above-ground chemicals, pit management, and advanced aquifer protections, and move to more environmentally benign frack compounds.<sup>7</sup>

For proponents of a “clean” energy economy, the discovery of these resources is troubling. From an energy scarcity perspective,

unconventional energy sources may reduce the need to aggressively pursue clean energy technologies in the near term. And any price-dampening effect they have may serve to make more expensive technologies less competitive.

Unconventional fuels are not without their rewards, in the form of market stability, geopolitical balancing, and the provision of affordable, game-changing new energy sources. Nor are they without risks, most notably environmental and emissions risks. However, the environmental risks can be mitigated, and shale gas is a relatively low emission source of electricity when compared to coal or oil products. While environmental concerns cannot be dismissed, the fact remains that any transition to a lower-carbon economy will take decades. The discovery of these unconventional resources provides long-term flexibility and stability for U.S. energy policy, all while ensuring that global energy, economic, and environmental needs can be prudently met in the near to mid-term. ■

{13}

*Leigh E. Hendrix is a research associate with the CSIS Energy and National Security Program.*

---

<sup>1</sup> Onshore Gas Supply Subgroup, “Onshore Natural Gas,” paper #1-8, National Petroleum Council, September 15, 2011, [http://www.npc.org/Prudent\\_Development-Topic\\_Papers/1-8\\_Onshore\\_Natural\\_Gas\\_Paper.pdf](http://www.npc.org/Prudent_Development-Topic_Papers/1-8_Onshore_Natural_Gas_Paper.pdf).

<sup>2</sup> Unconventional Oil Subgroup, “Unconventional Oil,” paper #1-6, National Petroleum Council, September 15, 2011, [http://www.npc.org/Prudent\\_Development-Topic\\_Papers/1-6\\_Unconventional\\_Oil\\_Paper.pdf](http://www.npc.org/Prudent_Development-Topic_Papers/1-6_Unconventional_Oil_Paper.pdf). Estimates for the impact of unconventional oil production on import dependence vary greatly, but most show the potential for major improvements in North America.

<sup>3</sup> International Energy Agency (IEA), *World Energy Outlook 2011: Special Report: Are We Entering a Golden Age of Gas?* (Paris: IEA, 2011), 57, [http://www.iea.org/weo/docs/weo2011/WEO2011\\_GoldenAgeofGasReport.pdf](http://www.iea.org/weo/docs/weo2011/WEO2011_GoldenAgeofGasReport.pdf).

<sup>4</sup> Peter Orszag, “Fracking Boom Could Finally Cap Myth of Peak Oil,” *Bloomberg.com*, January 31, 2012, <http://www.bloomberg.com/news/2012-02-01/fracking-boom-could-finally-cap-myth-of-peak-oil-peter-orszag.html>. Peak oil theory has been falling out of vogue with oil market analysts for some time, as new discoveries have come to light, such as ultra-deep-water oil offshore and sub-salt oil in Brazil.

<sup>5</sup> U.S. Energy Information Administration (EIA), *World Shale Gas Resources: An Initial Assessment of 14 Regions Outside the United States* (Washington, DC: U.S. Department of Energy, April 2011), <http://www.eia.gov/analysis/studies/worldshalegas/pdf/fullreport.pdf>.

<sup>6</sup> Frank Verrastro and Conor Branch, *Developing America’s Unconventional Gas Resources: Benefits and Challenges* (Washington, DC: CSIS, December 2010), 13, [http://csis.org/files/publication/101209\\_Verrastro\\_UnconventionalGas\\_Web.pdf](http://csis.org/files/publication/101209_Verrastro_UnconventionalGas_Web.pdf).

<sup>7</sup> IEA, *World Energy Outlook 2011: Special Report: Are We Entering a Golden Age of Gas?*, 63. Many of these suggestions, undertaken both independently of and in conjunction with the U.S. government, were reflected in the Secretary of Energy Advisory Board reports. See, for example, Secretary of Energy Advisory Board, “Shale Gas Production Subcommittee 90-Day Report,” U.S. Department of Energy, August 18, 2011, [http://www.shalegas.energy.gov/resources/081811\\_90\\_day\\_report\\_final.pdf](http://www.shalegas.energy.gov/resources/081811_90_day_report_final.pdf).

# Winning Japan's Cyber War

*Will Colson*

**IN THE OPENING HOURS** of a cyber war, Japan may well be the first casualty. More than a decade ago, cyber-terrorism experts warned that Japan's lax cyber defenses could make it the "potential weak-link in global economic and security architecture."<sup>1</sup> Much has changed since then, as we have seen the nature of cyber attacks develop from the wanton destruction of the "ILOVEYOU" virus to the precision of the Stuxnet virus, which damaged centrifuges and set back Iranian nuclear enrichment immeasurably. The dialogue between cyber attack and cyber security has become a business, a political forum, and an instrument of national strategy. Yet, Japan continues to lag behind other developed nations in its approach to cyber security. Today the country stands at a crossroads, and it would do well to evaluate policies implemented by other nations as it seeks to shore up its cyber capacity.

Between July and November of 2011, the Japanese government and

its contractors were the victims of no less than four major cyber attacks, targeting the upper and lower houses of parliament, the embassies of Japan abroad, and Japan's leading defense contractor, Mitsubishi Heavy Industries. By and large, these have been "spear phishing" attacks. Such attacks—typically e-mail solicitations—target specific individuals and exploit their misplaced trust to get them to load malware onto their computers or networks, allowing the attacker control over their systems. The Mitsubishi Heavy Industries hacking saw about 80 systems infected at its Tokyo headquarters, as well as its Kobe and Nagasaki shipyards and Nagoya guidance and propulsion lab.<sup>2</sup> It is already apparent from the hacking that sensitive data regarding nuclear power plants and warplanes may have been taken, though the hackers' end-goal remains obscure.<sup>3</sup>

Japan has stumbled in its inability to create an overarching

architecture through which the government can orchestrate its cyber defense. In the case of the House of Representatives' and House of Councilors' hackings, the lack of authority of the Cabinet Office over the legislature prevented the government's principal cyber-security outfit, the National Information Security Center (NISC), from intervening. Furthermore, the fact that almost every institution maintains an "in-house" security force, while there are more than three national cyber-security institutions, means that jurisdiction and authority are confused, at best. Facing the same challenge, the U.S. government has begun to address similar problems through cooperative information-sharing agreements like that signed between the Department of Homeland Security and the Department of Defense in 2010.<sup>4</sup>

Unlike the U.S. government, which has approached cyber security by reinforcing the security of its constituent bodies and agencies, Japan has approached cyber security from the bottom up, by focusing its efforts on reinforcing civic institutions and the private sector before the government. While the two approaches

**Japan has approached cyber security from the bottom up, by focusing its efforts on reinforcing civic institutions and the private sector before the government.**

have benefits and drawbacks, Japan's case has created notable lapses in security. For example, unlike the U.S. government, the Japanese government does not have encryption standards.<sup>5</sup> Deciding whether an encryption algorithm is safe is difficult, even for professional

cryptographers; it is not something to be left to laymen. Encryption standards are a vital component of any organized security infrastructure, as they provide a final bulwark against the use of extracted sensitive data.

In light of the severity of recent attacks, the administration of Prime Minister Yoshihiko Noda has created a new public-private partnership for cyber security. The agenda of this new organization has not yet been announced, and questions remain as to what this new public-private

partnership should accomplish. There are concrete changes that Japan can make to its cyber-security infrastructure to mitigate cyber threats.

The first goal should be incorporating the private sector in both dialogue and reform. The Noda administration has done well to make this a priority, yet it would be well served by including multinational companies, such as Symantec, who operate at the forefront of international cyber security. The Mitsubishi Heavy Industries hacking proves that the Japanese government has as big a stake in the security of its private contractors as it does in its constituent agencies. The United States could learn from Japan here. As the United States discovered in the 2011 hackings of RSA Security and Lockheed Martin, where a phishing attack against the former led to a direct attack against the latter, a compromised private sector can be as much a risk to national security as a vulnerable government. Considering the nature of technological exclusivity to the economic fortunes of Japan and the United States, it is essential that the private sector be included in any security dialogue.

A second goal should be a reassessment of Article 21 of the Japanese constitution. Article 21 guarantees the freedom of association and speech, while banning the use of censorship or the violation of secrecy in communication. This lattermost provision has been interpreted to allow the interception of communication to support judicial investigations but not to obtain intelligence. Due to this interpretation, attempts by the Japanese government to identify and thwart botnets—networks of hijacked computers used for malicious purposes—are often stymied by red tape and the inability to map Internet traffic.<sup>6</sup>

The final, and perhaps most important, goal should be the standardization of training and protocols across all government and participating private-sector entities. There should be a uniform minimum standard to which institutions are held. Following the attacks on the lower house, only 45 percent of lawmakers changed their passwords, despite being instructed to do so.<sup>7</sup> This is an

unacceptable risk. Even the most senior lawmakers must come to understand the fundamentals of information security.

The parliamentary hackings were all in some way a function of social engineering, a “con” much like the 2011 hacking of RSA Security, which tricked a handful of employees into compromising a professional security firm. As we realize the dual role of protecting public and private institutions, the need for a comprehensive approach becomes all the more salient. It was the inexperience of RSA’s human resources staff, not its security-savvy programmers, which proved the weak link that compromised its architecture.<sup>8</sup> Japan too can be the weak link that compromises the global security infrastructure if it is not held to high standards. As the United States, Japan, and other developed countries continue to shift resources onto the cyber frontier, it is essential to realize that the stakes are as high as the value of the information we entrust to computers. ■

{17}

*Will Colson is an intern with the CSIS Japan Chair.*

---

<sup>1</sup> Abraham D. Sofaer and Seymour E. Goodman, “Cyber Crime and Security: The Transnational Dimension,” in *The Transnational Dimension of Cyber Crime and Terrorism*, ed. Seymour E. Goodman and Abraham D. Sofaer (Stanford, CA: Hoover Institution Press, 2001), 17–18.

<sup>2</sup> Reuters, “Mitsubishi Heavy Industries Hacked: Japan Defense Industry’s First Cyberattack,” *Huffington Post*, September 19, 2011, [http://www.huffingtonpost.com/2011/09/19/mitsubishi-heavy-industries-hack\\_n\\_969427.html](http://www.huffingtonpost.com/2011/09/19/mitsubishi-heavy-industries-hack_n_969427.html).

<sup>3</sup> Kedar Pavgi, “Japanese military contractor hacked,” *Foreign Policy*, October 24, 2011, [http://blog.foreignpolicy.com/posts/2011/10/24/japanese\\_military\\_contractor\\_hacking\\_confirmed](http://blog.foreignpolicy.com/posts/2011/10/24/japanese_military_contractor_hacking_confirmed).

<sup>4</sup> U.S. Department of Homeland Security and U.S. Department of Defense, “Memorandum of Agreement between the Department of Home Security and the Department of Defense regarding Cybersecurity,” Public Intelligence, October 13, 2010, <http://publicintelligence.net/dhs-dod-memorandum-of-agreement-on-cybersecurity-october-2010/>.

<sup>5</sup> See Yasuhide Yamada, Atsuhiko Yamagishi, and Ben T. Katsumi, “A Comparative Study of the Information Security Policies of Japan and the United States,” *Journal of National Security Law & Policy* 4, no. 1 (September 2010), <http://www.jnslp.com/2010/09/29/a-comparative-study-of-the-information-security-policies-of-japan-and-the-united-states/>.

<sup>6</sup> Ibid.

<sup>7</sup> “Only 45% of lawmakers changed passwords after cyber-attack,” *Asahi Shimbun*, November 18, 2011, [http://ajw.asahi.com/article/behind\\_news/social\\_affairs/AJ201111180049](http://ajw.asahi.com/article/behind_news/social_affairs/AJ201111180049).

<sup>8</sup> Riva Richmond, “The RSA Hack: How They Did It,” *New York Times*, April 2, 2011, <http://bits.blogs.nytimes.com/2011/04/02/the-rsa-hack-how-they-did-it/>.



## *The Editorial Board*

---

**TERRY TOLAND** is a research associate with the CSIS Europe Program, where he focuses on European political, security, and economic issues. Previously, he has worked at the German Marshall Fund, the British House of Commons, and Yale University Press. He holds a BA from Clark University and an MA from the School of Advanced International Studies at Johns Hopkins University.

**HIJAB SHAH** is a program coordinator with the Abshire-Inamori Leadership Academy (AILA). She works on crafting leadership-development and skill-building initiatives for internal CSIS staff and external partners. Hailing from Peshawar, Pakistan, she graduated from Georgetown University with a BS from the School of Foreign Service.

**MOLLY A. WALTON** is a program coordinator and research associate with the CSIS Energy and National Security Program, where she focuses on the intersection of water and energy, environmental impacts of energy development, and unconventional fuels. She received her MA in international relations and environmental policy from Boston University and her BA in international relations and communications from Wheaton College in Illinois.

**JOSIANE GABEL** is executive officer to the president of CSIS. She assists in the daily and long-term operations of the Center, as well as its research and programmatic agenda. Previously, she was an associate at the global business consulting firm The Cohen Group. She received her BA and MA in international relations from Stanford University and Yale University respectively.

**DON C. MORTON** is a staff writer in the CSIS Office of External Relations, where he promotes the CSIS brand through multimedia content, web writing, and social media. He holds an MA in international trade law and finance from the School of Advanced International Studies at Johns Hopkins University and a BA in economics from Dickinson College.



## *Contributors*

---

**GREGORY B. POLING** is a research assistant with the CSIS Southeast Asia Program, where he focuses on U.S. foreign policy in ASEAN countries. He holds a BA in history and philosophy from St. Mary's College of Maryland and will earn his MA in international affairs from American University in 2012.

**JEFFREY D. BEAN** is a research assistant with the CSIS Freeman Chair in China Studies, where his current work centers on Asian states' responses to nontraditional security threats in the context of China's rise. He holds a BA from James Madison University, with majors in international affairs and political science.

**NATALJA JEGOROVA** is a research intern with the CSIS Europe Program. She is a master's degree candidate at Tallinn University in Estonia, majoring in international relations, and holds a bachelor's degree in Danish and Japanese philology from the University of Tartu in Estonia.

**WILL COLSON** is an intern with the CSIS Japan Chair. He recently graduated from Georgetown University's School of Foreign Service and is looking to pursue a career in East Asian and cyber-security policy.

**LEIGH E. HENDRIX** is a research associate with the CSIS Energy and National Security Program, providing analysis on a range of domestic and international energy issues, including traditional fuels, energy markets, strategic minerals, and technology innovation policy. She received her MA from the School of Advanced International Studies at Johns Hopkins University and her BA from Wittenberg University.

**TOBIAS PETER** is a research assistant with the CSIS Global Aging Initiative, where he conducts research on a wide range of long-term economic, social, and geopolitical challenges arising from the aging of the population. A German native, he holds a BA in history and applied economics from the College of St. Scholastica in Minnesota.



**CSIS** | CENTER FOR STRATEGIC &  
INTERNATIONAL STUDIES

1800 K STREET, NW WASHINGTON, DC 20006  
202.887.0200 | WWW.CSIS.ORG

CONNECT WITH CSIS

