

# Winds of change

---

## Recommended Citation

David Armstrong, "Winds of change", Nautilus in the News, February 28, 1999,  
<https://nautilus.org/nautilus-in-the-news/winds-of-change/>

---

## Winds of change

David Armstrong  
OF THE EXAMINER STAFF Feb. 28, 1999

### **Berkeley group gets rare glimpse of doing business with North Korea**

The Russian-made aircraft bound for Pyongyang, North Korea did a crazy shimmy down the runway when it took off from Beijing, courtesy of its unstable rear-mounted engines.

In Pyongyang, the airport still used vintage telegraphs and phones. The sole crane for unloading ships in a major harbor two hours from Pyongyang, the capital city, was broken. And the electrical frequency - supposedly set to international standards - experienced wild oscillations.

Such was the technological state of remote, hermetic, communist North Korea, when five Berkeley energy experts alighted last October on their way to a farming hamlet to build a small wind-powered electrical generating system for the village medical clinic, kindergarten and 20 family homes.

The Americans, from the nonprofit Nautilus Institute for Security and Sustainable Development, got the system up and humming during a five-week stay. In the process, they joined the handful of Americans ever to have worked inside North Korea.

The humanitarian project is designed to help farmers who can't get electrical water pumps to work and doctors who can't refrigerate medicines because their country's infrastructure is a wreck, says the Nautilus team. And it's designed to lessen tensions on the volatile Korean peninsula, divided into a communist north and capitalist south following the end of World War II.

The two countries have nearly gone back to war many times since the Korean War of the early 1950s. In the early 1990s, North Korea, Western analysts believe, revved up a covert nuclear weapons program.

In the civilian sector, North Korea - greatly weakened since the disintegration of its patron, the Soviet Union - has experienced widely reported food shortages and seen its infrastructure crumble

for lack of energy and parts.

Largely isolated from the world community, North Korea's acceptance of the Berkeley team is a rare departure from its usual policies of self-sufficiency and mistrust of the non-communist world.

"We were on the ground building trust and increased transparency," said Nautilus Institute executive director Peter Hayes, who earned a Ph.D. from UC-Berkeley's interdisciplinary Energy and Resources Group, and who has visited North Korea six times.

The project, Hayes said, was finally OK'd after two years of negotiations with Pyongyang and Washington bureaucrats, and installed after the Commerce Department issued a special export license. The license certifies that the project had no military uses; otherwise it would have violated U.S. sanctions, which ban strictly commercial activity with the North under the Trading with the Enemy Act.

The United States has had no formal diplomatic relations with the north since the Korean War ended in 1953.

"The project had to be small enough and innocuous and non-threatening and symbolically important" to be exempt from U.S. sanctions, said Dr. Jim Williams, a Nautilus Institute senior associate who helped install the wind power system in Inhari, a village of 2,300 people on North Korea's west coast. It is, he said, "the first non-governmental project beyond food aid in which Americans and North Koreans worked shoulder-to-shoulder."

On-again, off-again contact is part of the delicate, complex dance between North Korea, South Korea and the United States - with China, Japan and Russia as interested parties - according to Young-Ky Yoo, assistant North Korea affairs editor for the Seoul daily newspaper Jong-Ang Ilbo.

Yoo, on a recent visit to San Francisco under the auspices of the nonprofit International Diplomacy Council, said small projects such as the Nautilus turbines were in keeping with the 1994 Geneva Agreed Framework aimed at ending North Korea's nuclear weapons program. In return, North Korea was promised fuel oil, two light-water nuclear reactors for peaceful purposes, plus cultural exchanges and tourism and energy projects from the U.S. and South Korea.

Hayes estimates the North Korean power grid is working at 50 percent capacity. At Inhari, the Nautilus project was designed to patch into the existing system.

## **Simple technology**

Technologically, the Inhari project, which the Nautilus engineers hope to expand later this year, is simple by U.S. standards.

But North Korea, according to Christopher Greacen, a UC-Berkeley Ph.D. candidate who supervised a Korean work crew in the village, is "like the U.S. in the 1950s. Their infrastructure is baling wire and snot."

Inhari, located in the rice bowl of North Korea, on the 39th parallel, is prosperous by North Korean standards, said Nautilus team members.

"We didn't see evidence among villagers or technical people of dispiritedness," said Williams, nor outward signs of famine. However, signs of totalitarianism were abundant. "Each house has a picture of the Dear Leader (Kim Jong Il)," Williams said. "And each house has a loudspeaker."

The Berkeleyites say they never felt threatened by North Korean security forces or civilians, though there were restrictions on what they could photograph. Government escorts stayed close. The Americans slept in a hotel 45 minutes from Inhari and were driven to the site.

At first, Williams said, "The villagers were leery, maybe a little afraid. Americans are sort of cast as princes of evil there. It must have been very jarring to see representatives of this society bringing light."

The Nautilus project consists of 100-foot-tall metal pipes topped with whirling blades and secured to the ground by cables. The pipes were made in South Korea and shipped across the Pacific to Oakland, then back across the Pacific to North Korea, to avoid direct shipment from the south to the north. Northern workers painted over the name of their southern adversary and discarded American newspapers used for packing as politically "not suitable."

But then, distrust between North Korea and South Korea and its American ally has long been endemic, flaring whenever there is a military crisis - which there was Aug. 31, when North Korea test-fired a missile over Japan. "We seriously thought about canceling the mission," Hayes said, grimacing.

Editor Yoo says South Korean dissident-turned-president Kim Dae-jung favors engagement with the communist north. Moreover, he says, South Korean corporations such as Hyundai and Samsung are keen to establish manufacturing plants in the north, drawn by its high-quality, low-cost labor.

However, notes Yoo - who has visited North Korea four times - the Asian fiscal crisis has ensured that "for the short term, South Korean corporations don't have enough money to invest in North Korea. From a long-term perspective, there are opportunities, especially for sunset industries."

Meanwhile, South Korea is the recipient of a \$58 billion International Monetary Fund bailout, tied to increased transparency and reform of chaebol conglomerates.

Even tentative progress with Pyongyang could end in the face of opposition by North Korean militarists or South Korean and American conservatives, Yoo observes.

Nautilus Institute execs aver they are non-partisan when it comes to American politics. Hayes said the [institute's website](#) includes writings by both critics and supporters of engagement with North Korea.

## **Conflict resolution**

The Nautilus Institute has a staff of 12 in a compact building in the Berkeley flatlands. A 20-year-old think-tank that focuses on energy, the environment and peaceful resolution of conflict, it has an annual budget of \$1.4 million, according to Hayes. Nautilus is funded by foundations such as the Rockefeller Foundation, the Ford Foundation and the Winston Foundation for World Peace.

Hayes pegs the Inhari pilot project's budget at \$400,000. The cost was underwritten by the W. Alton Jones Foundation, based in Charlottesville, Vir.

"This foundation is very interested both in promoting renewable energy development around the world, and in trying to prevent nuclear weapons proliferation around the world," said George Perkovich, the W. Alton Jones Foundation's deputy director for programs.

"Those two objectives coalesced around this proposal," said Perkovich of the idea, which originated with Nautilus, and grew out of Peter Hayes' reviews of North Korean energy systems on his previous

visits. "And it helps to ease North Korea out of its isolation, which may be a factor in (its) building nuclear arms."

Nautilus, Hayes added, hopes to return to Inhari this spring and perhaps construct an expanded demonstration site for renewable wind and solar energy. Meanwhile, he said, "We adhere scrupulously to the letter of the law," which limits the size and nature of U.S. ventures in North Korea. "We will need a new license for the on-going work," Hayes said.

Although he conceded there are unknowns, Hayes said that American companies and the U.S. government can do business with North Korea. In any case, he argues, it's worth a try, especially considering the alternatives.

"The cost is tiny compared to the cost of war, or even preparing for war," Hayes said. The U.S., which has 37,000 troops in South Korea, spends from \$30 billion to \$50 billion a year to contain North Korea, by Hayes' reckoning.

"You could buy North Korea for that," he declared.

"You could give everybody a McDonald's franchise for that," Williams interjected.

"North Korea is not a popular place to be working," Hayes allowed. Referring to a notorious 1968 incident, he says "Americans are remembering (the captured U.S. spy ship) Pueblo, and how the crew was tortured, and they're right to remember those things."

Ugly confrontations notwithstanding, Hayes said, American aid workers, diplomats and other foreigners who venture into North Korea "are really putting themselves on the line to ensure there's not a devastating war. Korea is a tiny, tiny country - and one that could involve four great powers (in war) in a matter of hours. It's the most dangerous place on the planet at the moment."

[©1999 San Francisco Examiner](#)

---

View this online at: <https://nautilus.org/nautilus-in-the-news/winds-of-change/>

Nautilus Institute

2342 Shattuck Ave. #300, Berkeley, CA 94704 | Phone: (510) 423-0372 | Email:

[nautilus@nautilus.org](mailto:nautilus@nautilus.org)