China: A world leader in the alternative energy race

A formidable China is combining size, strength, vision and ability in its run to become world leader in the alternative energies race.

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Guest Column

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A solar-powered hotel.

Last month, my husband and I traveled to China to visit a new solar city. Stepping off the shoddy plane and discovering the sleek, shiny space station called Beijing took my breath away. Ghostly towers emerged from the thick haze of pollution as our driver negotiated heavy traffic into the center of the city. Mile after mile of cranes and skeletons of new construction greeted us. Familiar corporate logos lit the sky.

Calligraphy in Beijing.

China has invested time, talent and lots of money in the research and development of alternative energy and green technology. The 2008 Olympics pressured Beijing to ramp up construction and respond to concerns about air quality, transportation and infrastructure. The state-controlled capitalism of the People's Republic of China wrapped much of the development of the Olympics in green. New government policies call for decreasing energy use on all new construction by 65 percent before 2020. Support is provided for 11 'Green City' development projects across the country and 140 new green buildings are under construction in Beijing and Shanghai. Our destination, the Himin Solar Corporation's solar city is one of those projects.

As our car turned off the main Beijing drag, squeezing into a one-lane side street, the big city disappeared. Small storefronts and private dooryards lined the alley. This hutong is one of many tight alley-bound communities weaving Beijing together. Our small courtyard hotel, with its brightly painted façade and lanterns, sat in this active neighborhood street scene.

Walking the hutong, we enjoyed another layer of life bustling in the shadow of the modern towers. We walked for hours past countless practical, everyday, functional stalls providing food, laundry, groceries, street side welding, and hardware. Old men and boys played Chinese chess in the corner, grandmothers pushed babies in strollers, overstuffed carts carried recycling away and street barbers worked out of bicycles.

The first day, we roamed the streets with an environmental policy researcher referred to us by a colleague. Wenjia's work is climate mitigation policy. As she showed us how to use the subway and negotiate the labyrinth of tourist attractions, we discussed the upside and the downside of China's green growth.

Her overview of environmental policy in China gave us an insider's look at the struggles of maneuvering this huge country toward a green future. Young Chinese men and women born under the one-child per family policy, end up supporting aging parents. The drive for financial reward combined with strong culture-based ambition shoots adrenalin into the work force. Out on the busy and crowded streets, people push and pull, subways burst at the seams, iron railings herd people through security checkpoints and everyone was moving, selling or talking on a cell phone. You can see it in the rapid changes taking place, the modern subway system, crowded buses, 4.5 million cars jamming the eight lanes of traffic on six concentric ring roads. Forty-story apartment complexes rise up 25 kilometers outside city center. There are high speed rail lines with advanced tickets only. Beijing is both vibrant and daunting.

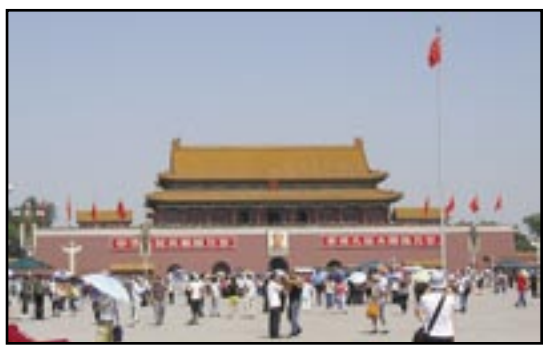
After the craziness of the streets, it was a relief to walk through one of the expansive parks where dancing and singing and playing games brought people together on a different level: tango, jitterbug, ribbon dancing, sidewalk calligraphy, choral singing, orchestras lined the sidewalks. The park scene combines traditional arts with 21st Century culture. It is festive, colorful and inspiring. I'm glad to have experienced this softer side of Beijing.

On our way out to walk on the Great Wall, we traversed the six ring roads, finding our way into the countryside where the old farming cooperatives and orchards, organic roadside markets, ecovillages and golf clubs combined with mechanized farming and more infrastructure development. People driving all manner of carts, bicycles and motorbikes outnumbered cars. In Beijing, one in five people own a car while in the rest of China the number is 1 in 20.

The invitation to visit China came from Huang Ming, the Chair of Himin Solar Corporation, which is the largest producer of solar hot water heaters in the world. Unity College gave Huang Ming one of the solar panels from the Jimmy Carter White House. The college acquired them after Reagan had them dismantled and removed. One panel now resides at the Smithsonian, one at the Jimmy Carter Museum in Atlanta and in early September one joined the collection of the Solar Science and Technology Museum built by Huang Ming in Dezhou, China.

Carter tried to move the U.S. toward renewable energy in the 1970s; hence, Carter is one of Huang Ming's heroes. Despite Carter's vision, the U.S. currently gets only 7 percent of its energy from renewable resources. Thermal and photovoltaic technology combined provides less than one-tenth of a percent. While China's share of global investment in alternative energy research and development is over 50 percent, the U.S. share is only 1.6 percent.

A packed bullet train shifted our focus from Beijing to China's Solar Valley, located in the Economic Development Zone of Dezhou, Shandong Province. What was just an empty building site in 2004 now dominates its surroundings. Huang Ming and the Himin Solar Corporation have created a solar-powered city with manufacturing plants, research and design laboratories and testing centers, a university for sustainable technologies, a recreation center and stadium and a conference center. Oz meets the Jetsons in this awesome 21st Century city. It is immense, covering an area of 43,000 square meters. An enormous entry gate of towering wind generators covered in photovoltaic panels welcomed us to the Texpo where the solar city congress met.



Every building in the city is caged in a steel structure that holds an extensive array of solar panels. The Sun-Moon Mansion, looking much like a solar bird's nest, is the largest single solar piece of architecture in the world, producing 88 percent of its own energy. The rainbow-shaped 'floating frames' above the roof hold more than 2,000 solar collectors. The 'mansion' itself houses an office building, a research and design center, an exhibition hall, where the Carter solar panel is displayed, a micro-emissions hotel, and a recreation/spa center with two pools. Integrated into the solar technologies are other energy conservation innovations, such as energy-saving glass, sun-shading panels, external wall insulation, roof gardens, rainwater collection and a grey-water treatment system. We had a room in this hotel, where we slept, showered, ate and attended a conference.

The ISCI conference assembled an international group of science and policy makers to share visions and practical knowledge for a zero-emissions future. The global audience included a majority of Chinese mixed mainly with representatives from Australia, Korea, Japan, Denmark, Sweden, Ireland, England and a few from the U.S. The conference room was bursting, with more than 5,000 participants.

Huang Ming is clearly a visionary and in great demand. He is one of many successful and ambitious alternative technology entrepreneurs in China. More than 4,000 people are employed in his company. His personal dream is to develop a zero emissions sustainable future through solar and wind technology. I believe that his heart, mind and spirit are in the right place.

Before going to China I knew very little of its sustainability agenda. Now, back in Maine, I realize our visit to this one small corner of industrial China has widened my scope of what is possible. China is in rapid economic transition. There are enormous opportunities opening in the field of green technologies for ambitious, educated and entrepreneurial young people. Research and development of sustainable technologies is the United States chance to increase employment, to dominate the global market and make a significant and worthy contribution to the world by creating a sustainable future. China and all of its complexity seems to have a great head start.

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