

The background features a stylized illustration of traditional Chinese architecture. On the right, a large, ornate structure with a blue and gold facade and a curved roof is visible. On the left, a smaller building with a dark, tiled roof and traditional windows is shown. Numerous glowing orange lanterns are scattered across the upper left portion of the image, creating a warm, atmospheric effect.

NRDC

SUSTAINABLE WORKPLACE PRACTICES IN

BEIJING

TAIKANG FINANCIAL CENTER, SUITE 1706
NO. 38 DONGSANHUAN BEI ROAD, CHAOYANG DISTRICT
BEIJING, PR CHINA 100026



Cover photos by: Gregory Perez, *Flickr*; Dermot Roantree, *Flickr*, Jim Gourley, *Flickr*; Hervé BRY, *Flickr*; Kelly Hafferman, *Flickr*

Brochure Design By: Cooper Foszcz

CONTENT

OVERVIEW

3. HISTORY

4. MISSION

5. VISION

OFFICE DESIGN

6. SITE

7. MATERIALS

8. EFFICIENCY

9. MONITORING

10. BEAUTY & SPIRIT

11. HEALTH

12. WASTE MANAGEMENT

13. SUSTAINABILITY
HIGHLIGHTS

HISTORY

Beijing is one of the four ancient cities of China. It's considered the best preserved and most famous around the world. Beijing is also known as the cradle of humanity. As early as 700,000 years ago, Peking Man lived in the Zhoukoudian area of Beijing.

Beijing City was established over 3,000 years ago and was called Jin City in the Western Zhou Dynasty (11th Century BC - 771 BC). Ever since Emperor Qin united China in 221 BC, Beijing has played an important role in northern China. It was the capital city through several dynasties between 916 and 1911 AD. During those dynasties, 34 emperors lived and ruled in Beijing, and the world renowned Forbidden City was completed. At the end of the Qing Dynasty, World War I broke out. Beijing became the focus of invaders. The war disrupted the society. Many residences of royal families were robbed and burned down. After that, the whole country was reduced to the status of semi-colonial and semi-feudal society. It wasn't until October 1st, 1949 that the People's Republic of China was founded. Beijing is known as the capital city of the prosperous new country, which has flared into importance in Asia.

The NRDC office is located in the Taikang Financial Center just on the north edge of Beijing's Central Business District. The building was completed in 2008 and stands in a previously developed site.



MISSION

The Natural Resources Defense Council's purpose is to safeguard the Earth: its people, its plants and animals and the natural systems on which all life depends.

We work to restore the integrity of the elements that sustain life -- air, land and water -- and to defend endangered natural places.

We seek to establish sustainability and good stewardship of the Earth as central ethical imperatives of human society. NRDC affirms the integral place of human beings in the environment.

We strive to protect nature in ways that advance the long-term welfare of present and future generations.

We work to foster the fundamental right of all people to have a voice in decisions that affect their environment. We seek to break down the pattern of disproportionate environmental burdens borne by people of color and others who face social or economic inequities. Ultimately, NRDC strives to help create a new way of life for humankind, one that can be sustained indefinitely without fouling or depleting the resources that support all life on Earth.

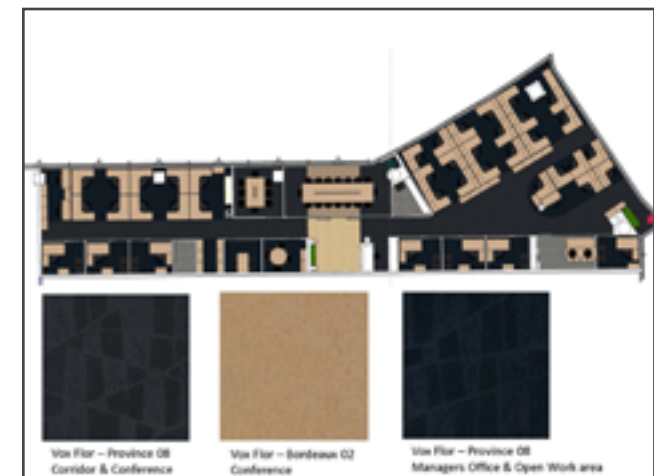
The Beijing office opened in 2006 and has been working with local partners to lead domestic efforts on energy efficiency and environmental protection. NRDC Beijing focuses on developing innovative solutions that curb climate change and create a cleaner, healthier environment. The staff of NRDC Beijing work to protect China's environment and support the efforts of NRDC offices around the world.



VISION

During the planning stages of the renovation of the Beijing office, there was an understanding amongst all team members that sustainability should be highlighted in design concepts without compromising functionality or aesthetics. In collaboration with NRDC, the space was designed, engineered and constructed by MMoser Associates. Closed Loop Advisors served as Living Building Challenge consultant, project manager and owner's representative and GIGABASE provided materials consulting. All team members helped the space meet aggressive environmental goals.

The simple design for the NRDC Beijing office was intentional with the purpose of using fewer construction materials than a traditional private office design. The mostly open floor plan, with some interior offices and narrow floor plate, contribute to a lower use of lighting, a decreased carbon footprint, and a reduction in utility costs. The design not only reduces resource use, but also allows for increased collaboration between employees in an aesthetically pleasing atmosphere. All materials were carefully selected with environmental stewardship in mind. NRDC's Beijing office aims to be the first project certified under the Living Building Challenge in China. The office has transcended the idea of a "green space" in commercial renovation sites to do something that should be modeled for future planners across the globe.



SITE

- The office embraces the site's positive environmental attributes and acknowledges NRDC's connection to the outside world.
- The mostly open floor plan helped to greatly reduce construction materials compared to conventional offices, while providing a more even distribution of light, natural views and ventilation.
- The layout facilitates staff wishes to have shades open or closed for an ideal amount of natural light. Ample views to the outside aid in optimal staff productivity.
- The Taikang Financial Tower has direct access to Hujialou Station of Subway line 10 and 6. The office faces the CCTV tower and is close enough that it's within walking distance. It's also surrounded by a number of office buildings, hotels and shopping malls.
- The building is only a quick ride from the subway to the airport.
- Bike racks are available near the building for those who choose to bike to work.
- Green-e Certified national Renewable Energy Certificates (RECs) are purchased to offset 100% of non-renewable sources of energy usage by purchasing power from wind, solar, biomass, geothermal or LIHI certified hydro sources.
- Verified Carbon Standard (VCS) carbon credits were purchased through Carbon Neutral to support a 49.5MW North Songshan wind project in China and offset the embodied carbon emitted during the construction process.
- Ongoing sustainability: Employees can bike to work or take advantage of the easily accessible public transportation instead of driving their own vehicles every day. This reduces emissions and lessens the Beijing office's carbon footprint.



MATERIALS

- The design and construction team focused on sourcing from local vendors, vetting materials against the Red List* and recycling materials at the end of their life.
- Culturally significant FSC-certified bamboo is used as flooring and to cover the reception desk. A special effort was made to find bamboo with a soy-based binder rather than a formaldehyde-containing glue, which would violate the Red List.
- Strawboard cabinetry is used rather than conventional cabinetry that contains Red Listed formaldehyde as a binding agent.
- Most furniture, as well as some lighting fixtures and sensors, were brought from the previous space to reduce waste. This is especially important given the short lease spans of commercial space in Beijing.
- Almost all products were locally sourced - within 600 miles - cutting carbon emissions, reducing transportation costs, and supporting the local economy.
- New systems furniture includes pieces that are Greenguard Indoor Air Quality Certified and ANSI/BIFMA certified to ensure low levels of indoor air pollutants.
- Low VOC carpet tiles line the floors.
- After use in this project, manufacturers of Plyboo bamboo, Gypsum wall board, Vox carpet and Clestra glass partitions applied for and received Declare labels, adding them to the Declare database where they are easily found for other projects.

Ongoing sustainability: When replacing materials, employees will consider the same aspects looked at during construction such as making sure materials are Red List-free as well as locally sourced.

WHAT IS THE RED LIST?

If materials are Red List-free, they are free of toxic chemicals. It might not be obvious, but many common building materials contain chemicals that can have deleterious human and environmental effects. Some of these include PVC, formaldehyde and halogenated flame retardants. LBC operates under the precautionary principle: if there is any possibility that there might be an adverse human health effect, we have to assume it does.

EFFICIENCY

- Making choices that could save energy and water was of extreme importance for the project.
- A low-flow faucet in the pantry sink keeps from wasting water.
- Over 90% of qualifying electronics in the office are Energy Star compliant, exceeding U.S. government energy efficiency standards.
- An advanced lighting and dimming system provides a 35% more efficient lighting density than the US-based ASHRAE code requires.
- The narrow floor plate allows the sun and natural light to reach more people in the office and reduces the need for electric lights. The office faces north to lessen sun exposure and heat gain, which reduces cooling and lighting needs.
- A power kill switch can turn off all electricity flow for specific energy-consuming equipment at night.

Ongoing sustainability: Employees can take advantage of the natural light and only turn on lights when they are needed. They can also make use of the power kill switch to prevent vampire loads and reduce electricity draw.



MONITORING

- Noveda Smart Monitoring allows for real time water and energy usage observation. The information is collected and stored in an online database, providing in-depth reports of energy and water use over extended periods of time.
- Continuous monitoring will help the Beijing office minimize energy and water consumption and avoid wasting resources. Employees can be informed by the consumption patterns displayed by the energy monitoring system and create plans of action for reducing energy consumption. Data produced by Noveda has proven to help clients reduce their energy and water consumption by up to 15%.
- The Noveda system was originally designed with a neoprene gasket, which was a problem for the Living Building Challenge because neoprene is on the Red List. Upon NRDC's request, Noveda eliminated the gasket to make it Red List-free, complying with LBC requirements while providing a safer, healthier work place.

Ongoing sustainability: Based on data transparency, employees can work toward reducing the office's energy and water footprints.



BEAUTY & SPIRIT

- The scene on the pantry glass wall not only helps create privacy in the room, but depicts some of the work the NRDC China program does for the promotion of cleaner energy in the region and the sustainable development of urban environments.
- Educational signs are located around the office to educate employees and visitors about the materials used and efforts made to make the office as sustainable and efficient as possible.
- Large expansive windows offer views of Beijing, connecting occupants to the city.

Ongoing sustainability: The beauty and spirit of the office can be shared with others. Visitors and occupants can be educated either through the guided tours or signs around the office that provide information for self-touring.



HEALTH

- Accessible and operable windows allow occupants to ventilate and monitor fresh air levels on days that the outdoor air quality is at healthy levels.
- IQ Air machines help to purify air within the office to remove toxics that could have short and long-term health effects for employees.
- To prevent the accumulation of contaminants caused by construction activities, measures were taken such as pathway interruption, heating, ventilation and air conditioning protection, regular cleaning during construction, and proper planning of the construction schedule.

Ongoing sustainability: Employees can use the operable windows and replace the filters in the IQ Air machines to make sure they are working properly.



WASTE MANAGEMENT

- A filtered drinking water machine was installed to reduce the need for plastic water bottles, which often end up in landfills.
- Construction waste management measures were taken to avoid sending any waste unnecessarily to the landfill.
- Receptacles are provided for landfill and organic waste.
- Paper, corrugated cardboard, glass, plastic and metal receptacles are available for recycling.
- Batteries are collected to be appropriately disposed of.

Ongoing sustainability: Employees will make an effort to properly sort their waste and utilize the drinking water machine.



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纸张



BATTERY
DISPOSAL

废弃电池

SUSTAINABILITY

HIGHLIGHTS

Accessible and operable windows allow occupants to ventilate on days that the outdoor air quality is at healthy levels.

IQ Air machines help to purify air within the office to remove toxins.

Waste is sorted into compost, landfill and recycling for paper, corrugated cardboard, glass, plastic, metal and battery disposal.

Workstations, office desks, bookcases and conference room tables, along with lighting fixtures and sensors, were brought from the previous space to reduce waste.

Advanced lighting and dimming system provides a 35% more efficient lighting density than code requires.

Over 90% of qualifying electronics in the office are Energy Star compliant.

Narrow floor plate allows the sun and natural light to reach more people in the office.

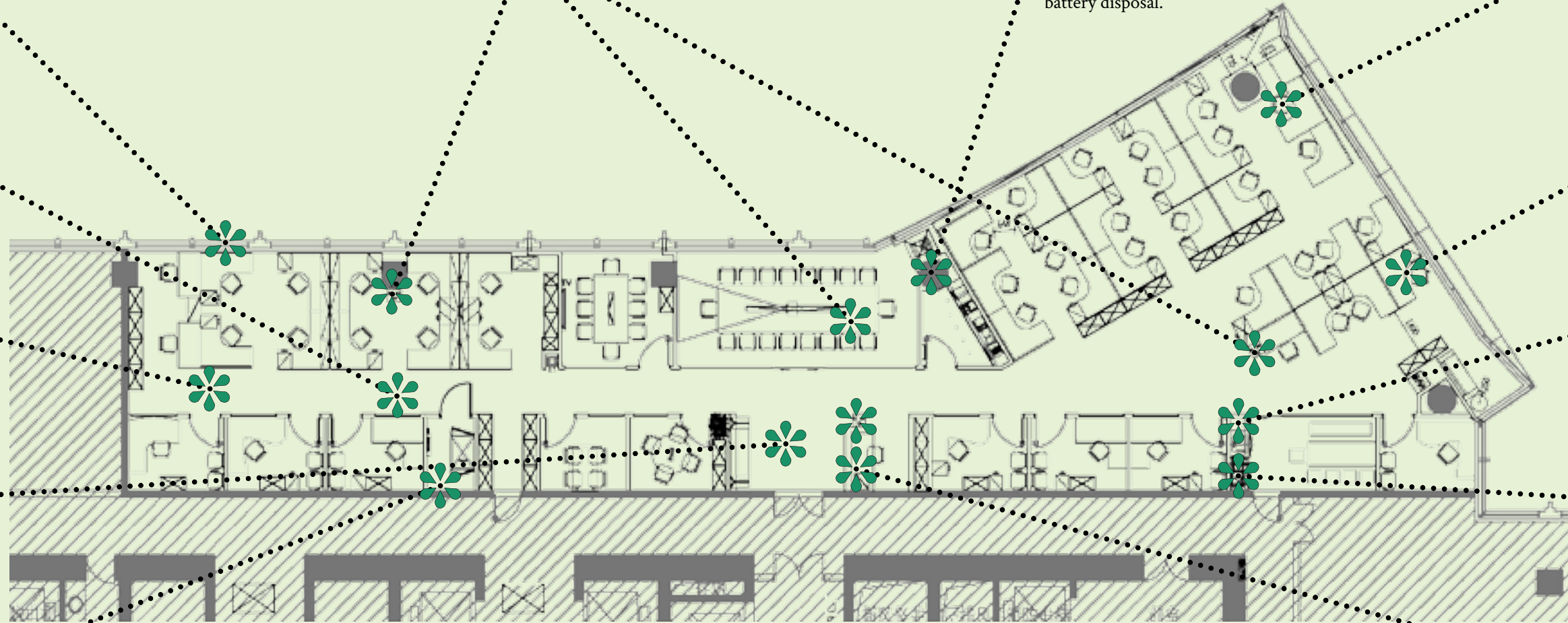
Low-flow faucet in the sink helps keep from wasting water.

Bamboo flooring is FSC-certified and made with Red List-free soy binding.

Drinking water machine reduces the need for plastic water bottles.

Noveda Smart Monitoring provides real-time energy and water use data.

Power kill switch allows the ability to turn off electricity flow for specific energy consuming equipment.



SUSTAINABILITY

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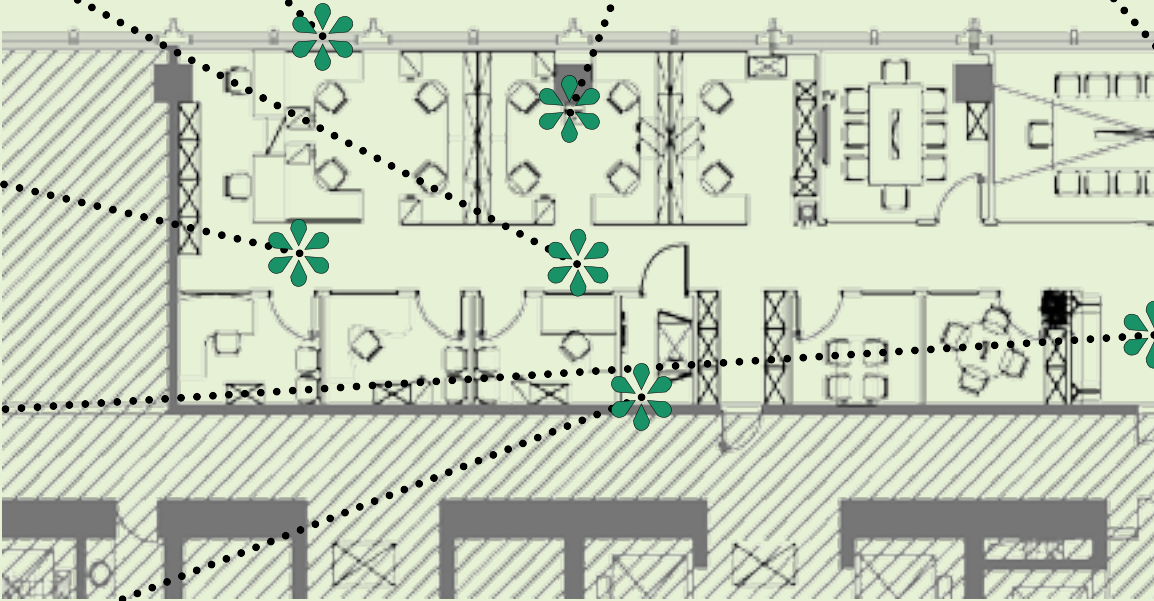
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