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Customers can charge their phones at step-embedded sockets powered by rooftop photovoltaic panels.

Moreover, the concept of low material consumption is evident throughout the area. The tables and chairs are made from coffee grounds, apple peels, lemon peels, and tomato residues, while the floral boards are created from recycled cut flower remains.

"All the coffee tabletops, bar counter surfaces and coffee cups contain 30 percent coffee grounds," explained a staff member at Zero-Carbon Coffee. "We aim to bring the concept of environmental protection to the community residents."

### A green and natural style

As a carbon-neutral building, the hardware design of Chunxi prominently features a green and natural style. The main structure is composed of 93 percent wood and 7 percent steel, replacing traditional steel-reinforced concrete materials.

This design effectively avoids the significant carbon dioxide emissions associated with the production process, combining both environmental functionality and aesthetic appeal.

In the atrium, visitors are greeted by lush southern plants, such as monstera and coffee trees. High side glass windows allow bright sunlight to pour in, making the leaves appear even more verdant and the indoor lighting bright and cheerful. As well as natural lighting, other areas of the Chunxi market use efficient LED lights, reducing the building's lighting energy consumption by 49 percent.

The building also sets a national precedent by being the first to apply a PEDF (photovoltaics, energy storage, direct current and flexibility) system to a community commercial setting, a project included in the Ministry of Science and Technology's 14th Five-Year Plan (2021-25).

It is a crucial approach to developing low-carbon energy, which involves the installation of photovoltaic panels and storage devices. By utilizing DC (direct current) power,



The recent Little Forest Bread Festival at Chunxi market drew a steady stream of visitors.



An exhibition showcasing plant and garden knowledge has lately opened.

it aims to transform building power systems from rigid to flexible.

After installing rooftop photovoltaic panels, sunlight can be converted into DC power for distribution throughout the building. This setup allows customers to charge their phones using accessible sockets on the steps, thereby reducing energy consumption.

"Additionally, the electricity harvested and converted by photovoltaics can be stored and utilized during peak energy consumption periods," Wu explained.

Looking at the entire NEXUS project, it follows this intelligent low-carbon design logic. It is understood that 40 percent of the roof area in the community will be equipped with photovoltaic power generation equipment, making it one of the largest photovoltaic installed capacity projects in Shanghai's residential compound projects.

### An on-site wet waste processor

How many steps are needed to process wet waste? In NEXUS community, you simply need to put the wet waste into the processor, and then open the machine door to get fertilizer — a process that takes only eight hours.

In the basement of Chunxi market, there is an on-site wet waste processing machine. Using aerobic bacteria and appropriate temperature and humidity, it can convert all the kitchen waste from dining establishments into natural fertilizer, mimicking the natural decomposition process. The wet waste processor can handle 18 tons

of wet waste per day, achieving 100 percent localized processing without relying on garbage collection trucks for transportation.

The fertilizer derived from wet waste can supply fertilizer plants, support community green maintenance, or be distributed to residents for growing green plants.

Currently, the NEXUS project is applying to become the first new low-carbon and near zero-carbon community in the industry, with a design carbon reduction of 5,052 tons per year, equivalent to the carbon reduction contribution of 250,000 trees.

As Vanke's inaugural domestic project under the Future City Ideal Unit Exploration Plan, NEXUS spans nearly 580,000 square meters. It integrates production, living and ecology while seamlessly blending commercial, office and residential functions.

Soon, the art gallery, neighborhood center and sports venue of the project will be gradually opened, collectively creating a new mixed living mode for urban residents.