

PHL students develop concrete panel to cut home energy use

By Edg Adrian A. Eva

Reporter

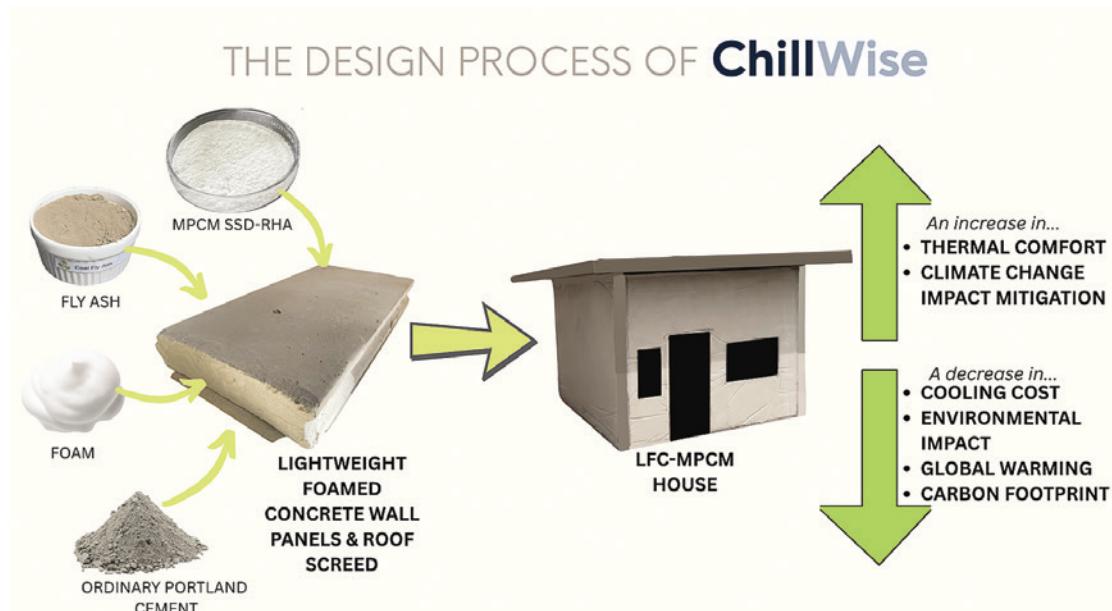
A GROUP of students from Mindanao State University has developed a concrete panel designed to reduce indoor heat and cut household energy use, offering a potential low-cost solution to rising electricity demand driven by hotter temperatures.

Called ChillWise, the concrete panel minimizes heat transfer in homes and could lessen dependence on air-conditioning, co-developer John Joseph P. Banticil told *BusinessWorld* in an interview in Filipino. "It's an innovative solution that addresses higher electricity consumption in every household, especially now that temperatures are rising."

ChillWise was named one of two national runners-up in the Philippine leg of the 2025 James Dyson Award, an annual global competition for student inventors.

The team will advance to the international round, where winners will be announced on Nov. 5 and can receive as much as P2.16 million in prize money.

The ChillWise panel is a lightweight foamed concrete that contains air bubbles that act as natural insulation by slowing heat transfer. It also integrates a microencapsulated phase change



A FUSION of microcapsules, cement and reclaimed waste engineered to cool.

material — a substance that absorbs and releases heat to stabilize indoor temperatures.

"Microencapsulated phase change material consists of tiny capsules that act like ice," Mr. Banticil said. "When exposed to heat, they absorb it and melt, trapping the heat inside the wall."

To enhance sustainability, the team incorporated rice hull ash and fly ash as fillers, which reduce costs, strengthen the panels and lower carbon emissions. In laboratory tests, ChillWise recorded up to 95% energy savings

compared with conventional concrete, the developers said.

The project aligns with regional energy concerns. The International Energy Agency estimates that electricity demand for space cooling across Southeast Asia including the Philippines could surge to 300 terawatt-hours (TWh) by 2040, from about 80 TWh in 2020.

The agency has urged countries to adopt measures that improve building insulation and reduce cooling loads.

Co-developer Jayvimir B. Sumagang said the group plans to

conduct market testing by using ChillWise panels in actual homes and buildings to assess user experience and durability.

"We would like to understand the needs, preferences and constraints of our target users," he said. "Essentially, we are trying to achieve product-market fit."

The patent process for ChillWise is under way, and the developers said they are exploring partnerships with government agencies and construction companies to bring the product to market.

IBM subsidiary urges Philippine manufacturers to boost digital investments for AI integration

By Beatriz Marie D. Cruz

Reporter

when there are supply chain disruptions or to make fast decisions without access to real-time data," she said.

The study found that about 67% of Asia-Pacific organizations still pursue AI adoption through isolated, department-level projects, while 73% lack mechanisms for cross-team knowledge sharing. This fragmented approach, IBM said, limits collaboration and slows innovation.

"The top challenge manufacturers face right now is really data," Ong Tun Kim, general manager at the IBM Corp. unit, said in a video interview. "They collect tons and tons of data either through their machines or operations relating to supply chain. But what truly happens is that over 90% of that data goes unused."

"It's not because they don't want to use it; it's because they lack the right tools and infrastructure to turn this data into insights," he added.

IBM's commissioned study showed that while Asia-Pacific organizations consider themselves "data-driven" or "AI-first," only 11% have reached higher levels of maturity in their digital transformation.

Ms. Ong said many manufacturers still operate in silos, preventing seamless data flow across departments.

"When you don't have visibility, it makes it tough for companies to respond quickly

to the right challenges," she said. "With the right support, Philippine manufacturers can definitely lead the wave of smart manufacturing," she said.

AI adoption in manufacturing could help improve operational efficiency, predictive maintenance, and supply chain management but the shift requires integrated data systems and employee reskilling.

The warning comes as the country's factory activity continues to show signs of strain. The S&P Global Philippines Manufacturing Purchasing Managers' Index (PMI) fell to 49.9 in September, marking a contraction in the sector amid weaker output and new orders.

A PMI reading below 50 signals a deterioration in operating conditions.

SEC seeks explanation from Villar Land appraiser over asset valuation



BW FILE PHOTO

THE Securities and Exchange Commission (SEC) has directed E-Value Phils. Inc., the appraiser of Villar Land Holdings Corp.'s properties, to explain its valuation of assets owned by the Villar Land group as part of an ongoing review of the accuracy of the developer's financial reporting.

In a show-cause order dated Sept. 29, the SEC Office of the General Accountant asked E-Value Phils. to explain why it should not be penalized for its valuation of properties owned by Villar Land group companies, including Althorp Land Holdings, Inc., Chalgrove Properties, Inc., and Los Valores Corp.

The order was issued after the commission conducted special onsite inspections to assess E-Value's compliance with SEC Memorandum Circular No. 2, Series of 2014, which sets guidelines on asset valuations and adopts international valuation standards for appraisal reports.

"The SEC will continue to investigate this matter thoroughly in the interest of upholding transparency and accountability in valuation practices and accuracy in financial reporting. The Commission will provide updates as necessary in the interest of the public, while upholding the required confidentiality of the proceedings," the SEC said in a press release on Tuesday.

On Sept. 30 last year, Villar Land acquired Althorp Land Holdings, Inc., Chalgrove Properties, Inc., and Los Valores Corp., which together own 366 hectares of land, for P5.2 billion.

The SEC said the delays in the submission of Villar Land's audited financial statements occurred because its external auditor, Punongbayan & Araullo (P&A), sought to review the fair value of the properties.

Villar Land initially hired SEC-accredited valuer E-Value Phils., which reported a P1.33-trillion increase in value.

P&A later engaged Crown Property Appraisal Corp. to conduct an independent review, which resulted in a much lower value increase of P8.63 billion.

In August, the SEC Markets and Securities Regulation Department (MSRD) imposed the maximum P1-million administrative fine on Villar Land and 11 of its officials, totaling P12 million, in lieu of suspending the company's registration statement and permit to offer and sell securities.

The latest show-cause order stems from the commission's continuing investigation into Villar Land Holdings' delayed submission of its audited financial statements, in violation of Republic Act No. 8799, or the Securities Regulation Code. — Alexandria Grace C. Magno

MacroAsia breaks ground on P2-B Iloilo water project

MACROASIA CORP. has broken ground on the P2-billion New Earth Iloilo Water Supply Project, which aims to address the rising water demand in Iloilo.

The project is being implemented by New Earth Water System, Inc. (NEWS), a wholly owned subsidiary of Boracay Tubi System, Inc. (BTSI), which is majority owned by MacroAsia.

"This facility will not only close the immediate supply gap, but will also provide Iloilo with resilient and sustainable water infrastructure for the future," NEWS and BTSI Chairman Eduardo Luis T. Luy said in a statement on Tuesday.

The project's first phase involves the construction and development of a water treatment facility with an initial capacity of 37.5 million liters per day (MLD), expandable up to 50 MLD.

NEWS will also build transmission lines and a distribution network of pipelines to deliver treated water to off-take points of the supply system.

The project is expected to be completed within two years. Once finished, NEWS will hold the necessary water rights and permits in Iloilo, including a certificate of public

convenience that will allow it to supply, treat, and distribute water to Iloilo City and nearby municipalities such as Sta. Barbara, Pavia, Oton, Leganes, Cabatuan, Maasin, and San Miguel.

"Once operational, the facility is expected to help address the current water supply shortfall in Iloilo, which has affected households and businesses in underserved areas," it said.

MacroAsia said the project's tariff structure will remain competitive, balancing affordability and sustainability for consumers.

"The New Earth Iloilo Water Supply Project is expected to enhance public health and sanitation, support economic development, and strengthen the province's resilience against water scarcity," the company said.

MacroAsia's core businesses include aircraft maintenance, repair, and overhaul (MRO); airline and institutional catering; ground handling; property development and leasing; and water utility services.

At the stock exchange on Tuesday, shares in MacroAsia rose by four centavos or 0.95% to close at P4.25 each. — Ashley Erika O. Jose

Vivant to study other water sources amid Cebu supply gap

VIVANT WATER, a subsidiary of energy and water conglomerate Vivant Corp., plans to explore other potential sources of potable water aside from desalination to support Metro Cebu's growing water supply needs.

"Actually, that is one of our goals for next year, where we want to identify other sources of water that is not desalination for Metro Cebu," Vivant Water President and Chief Operating Officer Jess Anthony N. Garcia told *BusinessWorld* last week.

Mr. Garcia said the company will conduct further feasibility studies and engage engineering consultants to determine whether other sources, such as rivers, can be developed.

A desalination plant removes salt and other impurities from seawater to produce freshwater suitable for drinking and household use.

Mr. Garcia said the facility is expected to begin commercial operations by the fourth quarter this year, with potential expansion to up to 50 MLD.

He earlier said Metro Cebu faces a supply gap, with demand reaching about 500 to 600 million liters per day (MLD) while supply ranges from 100 to 250 MLD.

To help address the shortage, Vivant Water is developing a P2-billion desalination plant in Cordova, Cebu, designed to produce up to 20 MLD of potable water in its first phase — enough to meet the average daily consumption of around 20,000 households.

A desalination plant removes salt and other impurities from seawater to produce freshwater suitable for drinking and household use.

Mr. Garcia said the facility is expected to begin commercial operations by the fourth quarter this year, with potential expansion to up to 50 MLD.

Lorenzo Shipping seeks SEC nod for capital stock hike

LORENZO SHIPPING CORP. is seeking the approval of the Securities and Exchange Commission (SEC) to increase its authorized capital stock following the subscription of National Marine Corp. (NMC).

The transaction is in line with NMC's subscription to the company's capital increase, which remains subject to SEC approval.

In May, Lorenzo Shipping's board of directors approved the increase in authorized capital stock to P2 billion, divided into two billion common shares with a par value of P1 each, from P991.18 million, divided into 991.18 million common shares at the same par value.

The company said that P252.20 million, divided into 252.20 mil-



lion common shares at P1 each, has so far been subscribed. "Issuance of shares to NMC shall be made upon approval by the SEC of the increase of authorized capital stock... The application for increase in capital stock was filed with the SEC last 29 September 2025," it said.

The company said that the subscription amount paid by NMC will be used to settle existing liabilities and for other general corporate purposes, while

the balance will fund major vessel repairs, spare parts, shipyards, port operators, and trucking service providers.

For the second quarter, Lorenzo Shipping widened its net loss to P151.79 million from P77.57 million a year earlier on lower revenues.

Gross revenue for the April-to-June period fell by 42.1% to P381.81 million from P659.93 million previously.

Lorenzo Shipping is engaged in containerized cargo transport. It maintains a fleet of five container ships, while its sister company, National Marine Container Lines, Inc., owns four more vessels servicing 10 major ports nationwide. — Ashley Erika O. Jose