

Honed in on ESG & Carbon Reduction

HU PAO INDUSTRIES

Receives MVP Managers Award



Taiwanese Pioneer in "Net-Zero" Nuts



Hu Pao is an IATF16949-certified high-end manufacturer specializing in customized automotive nuts. They are also one of the first few fastener manufacturers in Taiwan to push forward ESG and carbon reduction measures. Vice president Bill Wang joined as a student in the founding year of Zero Carbon University in Taiwan. He also joined Zero Carbon Transition Alliance at Chang Jung Christian University in Taiwan, where he shares the tools and resources needed to achieve net zero and carbon inventory with managers and lecturers from various fields who see the same net zero goals.

In December 2022, the European Union announced the carbon border tax target will include fasteners, causing great concern to the fastener industry. Bill said many domestic business owners were still waiting and seeing, but never would they expect that EU would be that fast to reach this decision that will require Taiwanese fastener manufacturers who center on Europe to report carbon emissions. A survey shows there are still nearly 40% of small and medium-sized enterprises in Taiwan which have yet to do anything on net zero transformation, and now, the EU carbon reduction order is right at their doorsteps. "It doesn't matter if we start early or late, but if we don't take action, we won't be able to make it in time," said Bill. Hu Pao has set up a carbon reduction task force and he precedes other industry players by setting "net zero transformation" as his latest business development guideline, aiming to pass ISO14064 (Organization's Greenhouse Gas Inventory Standard) in the first half of 2023.



Investing In Carbon Reduction Resources for Sustainable Development

Hu Pao adopts an electrostatic oil and gas recycling system on site, using electrostatic plates to filter out oil and pollutants and purify the air. Bill is proud to be the first nut manufacturer in Taiwan to install a particulate matter (PM 2.5) monitoring system in his factory. When the air pollution level exceeds the warning value, the electrostatic plates are replaced immediately. "As an ESG advocate, we not only promote environment protection awareness, but also strive to create a pollution-free manufacturing environment that provides employees with a sense of safety and comfort," said Bill. To achieve the ultimate goal of ESG, they have invested NTD 15 million to motivate their 3-in-1 (ISO 50001 for energy management, ISO 14064 for greenhouse gas, ISO 14067 for product carbon footprint inventory) strategy and in-plant air purification.

Integrating "IoT-enabled Machines" And "Monitoring" System

The 19 machines in the plant are respectively connected to four IoT systems. Through the local servers installed in the plant and AWS (Amazon cloud computing service), the machines' electricity consumption and output data are captured using digitalized electric meters to monitor electricity usage and utilization rate on the fly. For one thing, it can reduce the manpower required to handwrite the data and go paper-free. For another, it can monitor machine status in real time and understand the energy consumption and efficiency of equipment through software-driven statistics. This will enable the management to make immediate and effective decisions and handle both energy conservation and efficiency, fully utilizing resources to avoid wasting.



▼ Paper-free data monitoring

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▼ Electrostatic oil & gas recycling system

Hu Pao's Net Zero Blueprint

Through a carbon inventory, Hu Pao found that land and sea transportation accounts for as much as 50% of their own carbon emissions, and electricity consumption accounts for 20%. Since the current high steel prices and logistics costs are beyond the control of ordinary enterprises, Bill believes what fastener companies can control is "product yield". "Suppose we purchase 1,000 tons of raw materials, if we can improve the yield rate and produce not only 800 tons but 850 tons of good products from these materials, we will successfully reduce carbon emission and production cost. This is something we can do on our own by optimizing our production line. He believes that if Hu Pao, a small company with only 43 employees, can achieve smart manufacturing, digitization and embark on a "net zero" journey, other fastener manufacturers have the potential to do the same, so don't give up so easily!

After starting carbon inventory, they have projected that they will peak at 20,000 tons of carbon emissions in 2026. They plan to reduce carbon by 60% in 2032, 80% in 2042, and achieve net zero in 2050. Bill plans to build a solar power plant for internal use in about 10 years and sell the generated electricity to Taipower to obtain a green power certificate. With experience, he understands small and medium-sized fastener business owners who want to achieve ESG and carbon reduction are in the bottleneck of having no one to ask and no place to start. Therefore, he suggests reading *Challenges and Changes: Pioneers of Net Zero*, a book gathering the talks of a group of experienced second-generation successors.

Bill, who led Hu Pao to successfully transform into an ESG-compliant company, was selected as one of the 100 most valuable managers (MVP) in Taiwan in 2022. We can't wait to see what achievement can his organizational innovation bring to Hu Pao. ■

by Dean Tseng, Fastener World

