

Left: Bill Wang
Middle: JrJung Lyu
Right: William Liao

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Orientation of “Smart Manufacturing and Carbon Reduction Guidance Program for the Metal Industry”

Article by Dean Tseng, Fastener World
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With the upcoming implementation of carbon reduction regulations in Europe and the U.S., the Taiwanese fastener industry is increasingly concerned about the latest development on issues pertaining to carbon inventory. As soon as CBAM came out on the media, Fastener World inquired mainstream Taiwanese fastener owners about their views and response strategies. We have published a series of articles tracking the progress of carbon tax regulations in EU and Taiwan.

Given the trial run of CBAM coming up in October, attention to carbon reduction has reached new heights for Taiwanese fasteners and related industries. Fastener World held the "Orientation of Smart Manufacturing and Carbon Reduction Guidance Program for the Metal Industry" on August 23rd, 2023, where William Liao (General Manager of Fastener World) made an opening remark, and invited Mr. JrJung Lyu (Director of Research Center for Quality and Innovation of National Cheng Kung University), as well as Bill Wang (General manager of Hu Pao Industries) to share their experiences and knowledge of carbon inventory and carbon reduction.

Bill Wang, General Manager of Hu Pao Industries: Establish Cross-Department Carbon Emission Teams to Work on Structure, Process and System

The orientation started with Bill Wang sharing how Hu Pao Industries pushed for net-zero transformation and carbon inventory. His company began carbon inventory last February, and became the first among 1,800 Taiwanese fastener companies to pass the latest ISO 14064-1 carbon inventory certification. Bill reminded that net-zero transformation cannot just count on top managers of an enterprise, but rather, it will involve the entire corporate structure, and can only be implemented with the cooperation of all employees. There are three motives for companies to take on net-zero transformation. **The first being the regulatory requirements (e.g. CBAM); the second being the need to meet customer requirements; the third being an active action to support ESG initiatives.** Hu Pao Industries is driven by the third motive. Bill picked up the trend in development before the regulations were formally put on the table, and he laid out the net-zero transformation in advance. Recently, some Taiwanese suppliers have received requests for carbon inventories from overseas

clients. He suggested making "support for ESG initiatives" the primary motivation towards net-zero transformation, not just to meet regulations or clients' requirements. It will make things much smoother for business owners and employees alike.

As an owner with past experiences, he explained that **if a company's monthly electricity bill exceeds NTD\$1 million, it is recommended to prioritize the introduction of ISO 50001 certification (energy management) to obtain a company's "maximum coefficient of electricity consumption," which is used to target the most energy-consuming equipment (electricity consumption rate up to 60% to 80%) and reduce electricity consumption. This is followed by ISO 14064-1 certification to conduct greenhouse gas emissions inventory for the whole organization, much of the data for which are available from ISO 50001. Finally, an ISO 14067 (product-specific) carbon footprint inventory can be performed, and the data can be used on an ongoing basis.**

The challenges brought to enterprises by the net-zero challenge are: increased labor costs, increased burden of inventory operations, lack of ESG professionals (most of them need to learn by doing), lack of digital tools (paperwork is still done in Word/Excel; invoices generated by companies such as car refueling invoices need to be verified with auditors; calculating carbon emissions from employees' travel distance to work; calculating emissions from septic tanks, outsourced transportation and processing, etc.). He also reminded that auditors may not include ERP data as part of the audit due to the possibility of fake data, so all the paperwork has to be scanned and documented for verification. External challenges include: government agencies offering a wide range of carbon reduction options without the ability to identify applicability and therefore requiring personnel to acquire knowledge; unclear customer requirements which leave an organization less motivated to work for.





Hu Pao Industries has responded by **establishing a cross-department net zero team and cultivating trainees to learn the certifications and regulatory**

requirements, implementing carbon inventory through establishing inventory procedures, collecting activity data, and managing data quality. Bill also shared that Hu Pao Industries will continue to push for ESG and net-zero sustainability development by building a smart power grid, purchasing green electricity, selecting low-carbon raw materials, and promoting green purchase and resource reuse.

Director JrJung Lyu of National Cheng Kung University: Carbon Reduction Always Precedes Carbon Inventory

JrJung made it straight that **time has come for a shift from ESG (a soft requirement) to CBAM (a compulsory requirement based on the bill passed by EU).** Don't wait until your customers demand it. The source is not your customers. It's from EU.

"Carbon-reducing capability will precede cost reduction by 2030!" said JrJung. Not to mention the fact that EU has taken the first shot, and the U.S., China, and many other countries around the world will also introduce carbon taxes. He continued: "Don't be mistaken to think that you will not be affected because you are only engaged in domestic sales. The impact will extend from the export industry to the domestic sales industry, so the Taiwanese government has invested NTD 11 billion this year to cope with this." He pointed out that ISO 14064 comes with a standardized calculation equation, and that EU will designate specific auditors to do the verification. Bear in mind that carbon reduction always precedes carbon inventory.

CBAM is Coming up and Time is Ripe for Carbon Reduction

Bill and JrJung shared a lot of tips and details in the orientation which cannot be summarized fully in this article. However, from the audience's active response, it is clear that carbon reduction and carbon tax is a major issue that Taiwan fastener industry is taking on. CBAM is impacting Taiwan's fastener business opportunity which is worth NTD 200 billion, and if the Taiwanese companies don't act now, the big loophole for mass expenditure will be their own carbon emissions! ■



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