Asia Pacific Perspectives

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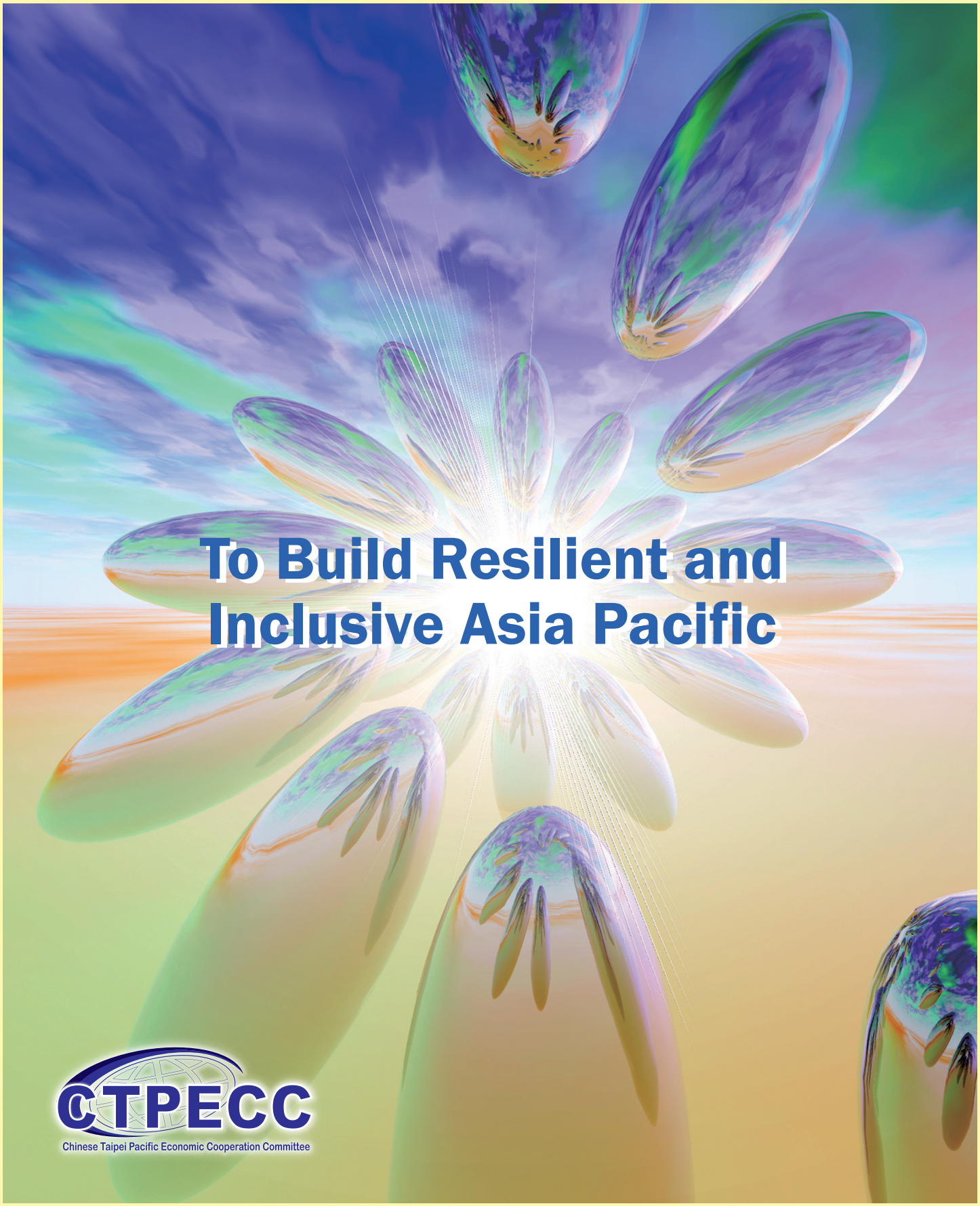

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About the CTPECC

CTPECC is a full member of Pacific Economic Cooperation Committee (PECC), which is an international organization for economic cooperation in the Asia-Pacific region and plays a key role in consultation and advice on APEC's major initiatives and plans. The participation of CTPECC is to assist the government in researching and analyzing economic cooperation plans, and to strive for greater opportunities to participate in cooperation mechanisms and dialogues.

Investing in Gender Equality for Inclusive Growths

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Introduction

The Asia-Pacific region has been praised as "arguably the most dynamic region in the world, a global engine of growth driven by productivity, investment, technology, and innovation" by McKinsey Global Institute (MGI).[1] The prospect of change and growth in the region is undoubtedly promising. More concretely, in 2018, the MGI estimated the Asia-Pacific region could increase 4.5 trillion US Dollars, or a 12% increase in the region's collective GDP by 2025 through advancing gender equality.[2] At the close of 2023, how much of that 4.5 trillion US Dollars could be tangible for the region by 2025? In other word, how far has the region come in terms of advancing gender equality to harness those economic potentials by 2025? This article aims to find out.

The Economic Potential of Gender Equality in the Asia-Pacific Region

Women account for half of the population across the world and yet much of their economic potential remained untapped. According to the Women's Empowerment Index (WEI) developed by the UN, globally "women are empowered to achieve, on average, only 60.7% of their full potential," meaning 40% of their potential remains limited.[3] Arguably, women can and should achieve more.

In Asia-Pacific, the economic potential that can be unleashed by women is spectacular. In a series of study done by MGI, which illustrates the power of gender parity in economic terms, it is estimated that advancing gender equality can lead to an annual growth of 12 trillion US Dollar globally by 2025.[4] Building on the report, it is further predicted that the Asia-Pacific region could contribute 4.5 trillion US Dollars to the global growth by 2025 if the region were to narrow the gender gap.[5] It means that the Asia-Pacific could increase its collective annual GDP by 12%, which is "equivalent to adding an economy of the combined size of Germany and Austria."[6] It suggests that the Asia-Pacific region stands much, if not the most, to gain by pursuing gender equality.

Other studies also reported similar findings. For instance, the International Labour Organization (ILO) also reported based on various enterprise surveys that "promoting gender diversity among employees, management and boards can be a

business boost and a boost to economies."[7] In particular, over 57.4% of the enterprises surveyed globally responded positively that "gender diversity initiatives improve business outcomes" and "60.2% reported increased profits and productivity."[8] Enterprises in the Asia-Pacific also agree the most, at 68.5%, that "gender diversity had helped to enhance business outcomes."[9] Evidently, the economic benefits of gender parity are vast and the Asia-Pacific is poised to bring about economic growths by pursuing gender equality.

Challenges to Gender Equality in the Region

While there are sufficient and compelling reasons for promoting gender equality in the Asia-Pacific region, there are also significant roadblocks and challenges. According to the WEF, it would take the East Asia and the Pacific region 189 years to close the gender gap at the current pace, which is the longest across regions.[10] Arguably, to harness the economic potential of gender parity outlined above is no easy task.

The most significant roadblock to gender parity, especially in economic terms, is the problem of the unpaid care work performed mostly by women. In the APEC region (Asia-Pacific Economic Cooperation), women "shoulder a disproportionate share of unpaid care and domestic work, averaging around 4 hours and 20 minutes daily, almost three times the time spent by men, in line with the global average."[11] The heavy burden of care and domestic work significantly impact women's free time and availability for gainful work. This can be reflected in the persistently low female labor force participation rate over the past three decades. According to ILO's data, the global average of female labor force participation rate has remained just about over 50%, compared to men's almost 80%, over the past 30 years.[12] Globally, the time spend on unpaid care work could produce 11 trillion US Dollars, or around 9% of the global GDP, assuming these hours are paid by the minimum wage.[13] The majority of the would-be economic value, of course, comes from women's contribution. Thus, addressing the problem of unpaid care work should be of utmost importance if we want to unleash these women's economic potential.

Another challenge is the so-called "leaky pipeline". The ILO's enterprise surveys found that while women's representation in enterprises has improved, most of the women are "employed at the lower and middle levels of management" and the proportion of women falls "at higher levels, particularly at the top executive level."[14] In other words, "women are lost from the 'pipeline' that leads to more senior and executive management positions".[15] According to the WEF, using Linkedln data, of all the enterprises surveyed, women's overall representation stands at 41.9% but when it comes to "senior leadership positions", the rate falls to 32.2%."[16] As the seniority level increases, the proportion of women progressively decreases. This can be harmful to business outcomes and stall the progress of gender parity.

Moreover, there are also "glass-walls" that "result in gender-segregation in management functions".[17] Women in senior positions tend to be in "support management functions, such as human resources, and finance and administration," whereas men tend to dominate in more "strategic" roles that "can often be a springboard to CEO or board-level positions", such as "operations, research and development, and profit and loss."[18] In addition, there are gender imbalances in certain industries, such as science, technology, engineering and math (STEM) fields. The WEF and Linkedln data indicate that women only account for 29.2% of all workers in STEM, "an important set of jobs that are well remunerated and expected to grow in significance and scope in the future."[19]

Investing in Gender Equality Benefits All

So how can the Asia-Pacific region overcome the roadblocks to gender equality and unlock the untapped economic potential? While there is no one-size-fits-all solution and no quick fixes to close the gender gap, there are some actionable steps companies can take to accelerate the pace to gender parity. For instance, companies could adopt flexible work arrangements, which benefit all workers. According to the ILO surveys, 81.3% of enterprises in the Asia-Pacific "have experienced increased productivity" as a result of flexible work arrangements.[20] It could serve as evidence that flexible work arrangements can be as effective, if not more, than the current "anytime-anywhere" work culture that puts a strain on work-life balance and often conflicts with women's care responsibilities.[21]

Furthermore, fostering an inclusive organizational culture could not only help women experience equality at the workplace, but also reap the benefits of gender diversity.[22] Without an inclusive work culture, many existing gender diversity initiatives and advances may remain on paper or in theory. When a company is more inclusive, it could increase women's representation, which raises female labor force participation rates, and promote more women into senior positions, enhancing their productivity.

Lastly, there are existing regional organizations that help drive changes towards gender parity. For example, APEC has dedicated itself to advancing gender equality through its "The La Serena Roadmap for Women and Inclusive Growth", which aims to promote gender equality and achieve women's economic empowerment.[23] This could be helpful for sharing best practices and learning from one another's diverse experiences within Asia-Pacific.

To sum up, while the Asia-Pacific region possesses great economic potential, it can only be unleashed by advancing gender equality. The road to parity in the region may be bumpy, but it is worth pursuing.

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Resolving the Semiconductor Talent Shortage in the Asia-Pacific Region

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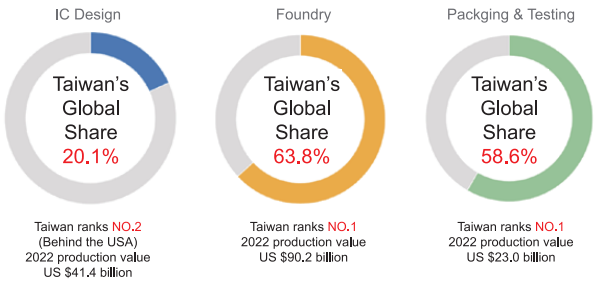
Background

Taiwan's semiconductor industry has witnessed remarkable growth, surpassing an impressive output value of over 4 trillion New Taiwan Dollars (NTD), ranking first by market share in both wafer manufacturing and packaging and testing and second by market share in IC design (see Figure 1). This achievement underscores Taiwan's enduring leadership in key aspects of the semiconductor supply chain, including professional wafer foundry manufacturing, packaging, and testing. These strengths are derived from Taiwan's unique advantages in semiconductor clustering, which have fostered the development of robust core competitiveness. Countries in the Asia-Pacific region are also increasingly emphasizing the semiconductor industry. This trend is primarily driven by factors such as the widespread application and growing demand for semiconductor technology, the need for diversification in the global supply chain, increased investments in research and development, proactive industrial policies, and national security considerations. It reflects the pivotal role of the semiconductor industry in modern economies and national security. Asia-Pacific countries are actively developing their domestic semiconductor industries to meet market demands, reduce supply chain risks, and enhance their global presence in the semiconductor market. These efforts are expected to continue to strengthen in the future.

Figure 1: Taiwan's global share in the semiconductor industry



Source: IEK Consulting, ITRI. Industrial Development Bureau (IDB), Ministry of Economic Affairs (MoEA), R.O.C. (Taiwan), July 2023.

One standout example of Taiwan's global prominence in the semiconductor landscape is Taiwan Semiconductor Manufacturing Co., Ltd. (TSMC). TSMC, the world's preeminent semiconductor manufacturing company in terms of market share, is poised to challenge its formidable competitors, such as Intel and Samsung Electronics, through its ambitious overseas expansion initiatives. As of August 2023, TSMC officially announced its plans to establish a cutting-edge semiconductor manufacturing facility in Dresden, Germany.

This strategic move is just one part of TSMC's broader global footprint expansion. Shortly, TSMC intends to operate manufacturing facilities in multiple locations, spanning three continents. These locations include Taiwan, China, the United States, Japan, and now Germany. This extensive global reach not only solidifies TSMC's position as an industry leader but also signifies Taiwan's continued importance as a key player in the international semiconductor landscape. With a powerful combination of innovation, expertise, and strategic vision, Taiwan's semiconductor industry remains a formidable force in the global market, driving economic growth and technological advancement. The Taiwanese government has also proactively launched initiatives for six core industries, especially focusing on continuous research and development of advanced semiconductor process technology, semiconductor equipment, and materials in the information and digital sector. The goal is to enable the semiconductor industry to reach the 1 nanometer (nm) manufacturing process by 2030, securing our country's critical position in the global semiconductor industry chain and maintaining a leading role.

To fortify Taiwan's pivotal role within the global semiconductor industry chain, the Taiwanese government has meticulously crafted a multifaceted strategy with a focus on promotion priorities aimed at nurturing and sustaining a steady stream of semiconductor talent. This comprehensive approach is structured across three distinct levels, each playing a vital role in achieving the overarching objective:

(1)Industrial level: At the industry level, the emphasis is on expanding the competitiveness of wafer manufacturing while striving to maintain technological leadership. This requires a concerted effort to enhance the efficiency and innovation within wafer manufacturing processes, making them more competitive on a global scale. Taiwanese semiconductor companies are encouraged to continually invest in cutting-edge technologies and production methods to remain at the forefront of the industry. This level of focus is critical in ensuring that Taiwan's semiconductor manufacturers maintain their leadership position in the global market, fostering a stable environment for the talent pipeline.

(2)National level: On a national scale, the government aims to guarantee a consistent and robust supply of semiconductor talent while aligning with enterprises' specific quality and quantity requirements. This includes bolstering the capacity of educational institutions to produce skilled graduates capable of meeting the needs of the semiconductor sector. It involves collaborative efforts between the government, academia, and industry to develop relevant curricula, offer financial incentives for students pursuing semiconductor-related fields, and provide supportive policies to facilitate research and development in the sector. Creating an environment where young talents are encouraged to explore careers in semiconductors is pivotal to addressing the growing demand within the industry.

(3)Global level: The global level of Taiwan's semiconductor strategy centers around the mastery of strategic resources and critical technologies, ensuring the security and resilience of the semiconductor supply chain. This involves international collaborations and partnerships, sharing knowledge, and securing access to essential resources. Taiwan actively participates in global forums and consortia to shape the semiconductor industry's future, aiming to maintain its strategic position and influence on the world stage. Additionally, the government is committed to establishing safeguards to protect the semiconductor supply chain from potential disruptions, such as geopolitical tensions or natural disasters.

However, according to the latest "Semiconductor Industry Talent White Paper" published by 104 Job Bank in Taiwan, it is revealed that in the second quarter of 2023, on average, every job seeker aspiring to enter the semiconductor industry can choose from 2.3 job opportunities, which is higher than the overall employment market's average of 1.8 job opportunities (see Figure 2). This indicates that the semiconductor industry is experiencing a higher labor shortage pressure than the general job market. Nevertheless, domestic semiconductor institutions in Taiwan only produce around 700 talent per year, a pace of talent cultivation that falls significantly short of industry demand. 104 Job Bank has pointed out that TSMC is looking to recruit 6,000 new employees this year, and even this number surpasses the 700 talents currently being generated by domestic institutions. Consequently, the semiconductor industry has extended its recruitment efforts to technical colleges, private universities, and even vocational high schools, aiming to at least fill vacancies for on-site technicians, operators, and packagers. Despite facing headwinds, the semiconductor industry must still prepare for the future by nurturing talents required for AI, PC, and mobile terminal technologies.

Figure 2: Ratio of openings to applicants in the semiconductor industry in Taiwan (2019-2023)

Note: The BLUE line is the ratio of the semiconductor industry; the orange line is the ratio of the average.
Source: 104 Job Bank.
Retrieved from: https://hunter.104.com.tw/zh-w/articles/124284

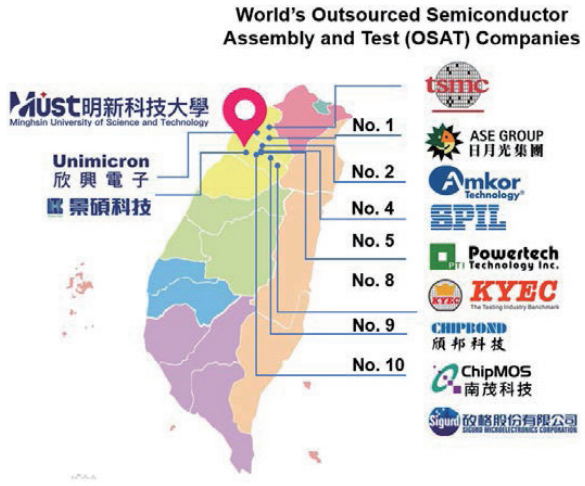
A Technological University's Response

Taiwan's domestic technical universities have been impacted by the declining birthrate, resulting in a gradual shortage of students. In recent years, they have transformed by aligning with the national industrial development trends. They have also been guided by the Ministry of Education (MOE)'s New Southbound Policy, which focuses on recruiting international students from Southeast Asian countries. This strategy serves a dual purpose: addressing the student shortage while also assisting these countries in nurturing technical and vocational talents. In some cases, these international students may choose to remain in Taiwan after graduation, enhancing the nation's industrial capacity.

Minghsin University of Science and Technology (MUST) is strategically located in the heart of Taiwan's high technology hub, Hsinchu, adjacent to the Hsinchu Science Park and near the Hsinchu Industrial Park. This prime location places the university near many semiconductor companies, fostering valuable industry-academia partnerships and

collaborations (see Figure 3). These collaborations are aimed at bolstering the competitiveness of Taiwan's semiconductor industry and preserving its position as a global supply chain leader.

Figure 3: The locations of MUST and the important OSAT companies



Source: Minghsin University of Science and Technology

Commencing in the 2021 academic year, the MOE of Taiwan introduced a groundbreaking initiative known as the "Establishment of Regional Industry Talent and Technology Cultivation Base Plan." This visionary plan emphasizes six pivotal strategic industries and endeavors to create practical learning environments mirroring real-world industry operations. The overarching goal is to nurture a skilled workforce in alignment with the evolving needs of these industries. The MOE identified the inaugural cohort of educational institutions to participate in this project, with MUST being accorded a substantial grant of NT$90 million, further complemented by an additional NT$30 million investment from the university. This cumulative funding, totaling NT$120 million, was allocated to establish a cutting-edge "Semiconductor Industry Talent Cultivation Base" directly on campus. This facility's primary mission is to develop and hone practical talents essential to the semiconductor sector, encompassing expertise in semiconductor equipment development, maintenance, packaging, testing, quality management, and factory engineering.

The Semiconductor Talent Cultivation Base was officially unveiled at the close of 2023. The base spans four floors, each dedicated to distinct facets of semiconductor education and hands-on experience. The first floor is equipped with a modern production line for IC Packaging and Factory Service, including a test room with donated machinery. The second floor is dedicated to IC Manufacturing, featuring a class 1000 clean room with advanced equipment. The third floor has inspection and analysis labs, including a training lab for vacuum chamber assembly and leakage measurement. The fourth floor hosts a production line for Testing and Reliability, along with a dedicated semiconductor testing engineer examination lab. It is worth noting that the base is set to issue the first certification for semiconductor testing engineers and vacuum equipment engineers in the forthcoming year, marking a significant milestone in preparing students for careers in the semiconductor industry.

In addition, to further enhance its competitiveness in providing industry-specific talent, MUST introduced the "Semiconductor Technology Doctoral Program" in 2023 and commenced student recruitment. This doctoral program strongly emphasizes cultivating advanced talents who can address industry challenges, practical skills, and innovative thinking. Graduation requirements encompass not only thesis completion but also diverse criteria such as patent applications or grants, professional certifications, participation in industry-academia collaboration projects, authoring or presenting technical reports, product presentations, technology exhibitions, and technology transfer initiatives.

Cross-nation Collaborating in International Talent Training

MUST has implemented a comprehensive strategy for international student recruitment to attract and retain talent. This strategy spans nurturing, maintaining, and attracting students worldwide. Over the academic years from 2008 to 2022, the university held the top position in Taiwan for the number of foreign degree-seeking students. Furthermore, MUST actively supports the government's New Southbound Policy by offering international student internship programs and recruiting students from Southeast Asia. This commitment has resulted in around 1,500 international students enrolling at the university. Among them, more than 1,300 are from the countries in the Asia-Pacific region.

Notably, in 2021, MUST took a significant step forward by establishing Taiwan's first semiconductor school. This pioneering initiative garnered substantial government funding, and industry manufacturers generously donated machinery to create the first semiconductor packaging and testing production line on campus. Students now have the opportunity to acquire the exact skills required by the semiconductor industry and apply them immediately upon graduation. This reduces the industry's costs for training new personnel and serves as a valuable source of skilled workers for Taiwan's semiconductor enterprises, addressing labor shortages.

For six consecutive years, MUST has held the prestigious ranking of number one in Taiwan for foreign degree students, making it a benchmark for vocational-oriented universities seeking to attract international talent. This remarkable combination of location, industry collaboration, and innovative educational programs solidifies MUST's position as a prominent institution in Taiwan's technology landscape. Except for the United States, MUST will collaborate with partner universities in Japan, Malaysia, Australia, and Vietnam to cultivate future semiconductor talents.

Conclusions

From Education to Industry

In Taiwan, technological universities are proactively realigning their education programs to meet the dynamic demands of the semiconductor industry. Recognizing the industry's pivotal role, these institutions foster strong connections with semiconductor companies through industry-academia partnerships. They offer students real-world experiences and ensure curricula remain current. Furthermore, they promote research, innovation, and entrepreneurship, preparing graduates to excel in semiconductors. This not only equips students with theoretical knowledge but also instills problem-solving skills. This transformation benefits students and the semiconductor industry, reinforcing Taiwan's global leadership in semiconductor manufacturing.

From USR to UGR

The semiconductor industry serves as a crucial engine for global technological advancement, playing a pivotal role in the present and future digital society. Universities should embrace a global perspective and actively engage in cultivating talents with international outlooks and expertise in the semiconductor field to meet the demands of the worldwide semiconductor market. This not only assists students in standing out in international competition but also supports the sustainable development of the global semiconductor industry. Therefore, universities should transition from "University Social Responsibility" (USR) to "University Global Responsibility" (UGR) in this regard. UGR underscores that universities should actively participate in global challenges and provide essential knowledge and talent for societal and economic development. This is particularly significant in the semiconductor domain as it pertains to technological innovation, global economic vitality, and international competitiveness.

Occupational Safety and Health Issues in Green Economy: Taiwan's Good Practices

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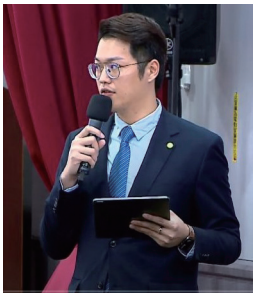

Introduction

Faced with the rapid growth of green jobs, the 21 economies in APEC (Asia-Pacific Economic Cooperation) have urged governments, employers and worker representatives to build safer and healthier working environments and promote occupational safety and health together to ensure the sustainable and inclusive economic growth in the Asia-Pacific region. This paper illustrates Taiwan's good practices which promote occupational safety and health for the workforce in the green economy. The ultimate purpose is to draw all APEC economies' attention to collectively strengthen the management of the workplace safety and workers' wellbeing. It will demonstrate that Taiwan can contribute to one of the collective actions written in the "Aotearoa Plan of Action"[1] to "strengthen economic and technical cooperation to intensify capacity building in inclusive human resource development", as well as achieve the policy goal written in the "APEC Putrajaya Vision 2040"[2] which states that "we will intensify inclusive human resource development as well as economic and technical cooperation to better equip our people with the skills and knowledge for the future."

The Occupational Safety and Health risks in the Green Economy

Although the implementation on "Bangkok Goals on Bio-Circular-Green (BCG) Economy" and the net-zero transition may create more economic development and more job opportunities, many economies' developments in the green economy industry such as offshore wind power industry are still in the early stage. Thus, the enterprises and workers are probably not familiar with the workplace occupational safety and health (OSH) issues and equipped with professional skills. On the other hand, the working condition and the environment may not be safe for workers. In addition, as the workforce demand increases rapidly, the employers may ignore or forget to implement the formal OSH training program and ensure the workplace safety for the employees, which may cause serious occupational accidents.

Taiwan's Good Practices

There are two main stages in the occupational safety and health area: occupational accident prevention and occupational rehabilitation. Taiwan fully commits to these two areas with a series of related policies. This paper showcases two good practices in each stage.

Promoting Occupational Safety and Health Culture--National Occupational Safety and Health Award

In order to reduce occupational accidents, ensure workplace safety and health, and set good paradigm, Taiwan has been hosting the National Occupational Safety and Health Award since 2014. The Award aims to encourage enterprises and individuals to actively promote occupational safety and health measures and further consolidate overall occupational safety and health culture in society. There are 5 different types of awards under the National Occupational Safety and Health Award structure: Enterprise Benchmarking Award, Small and Medium Enterprises (SMEs) Special Award, Traditional Industry Investment Special Award, Labor Health Special Award, and Individual Contribution Award. 12 enterprises and an individual are expected to earn an award each year. Two major incentives and rewards will be given to the winners. The first one is the reduction of industry accident fee rate for the insurance which is one of the enrollment requirements under the "Labor Occupational Accident Insurance and Protection Act."[3] The second one is the labor inspection agency will not enforce regular labor inspection to the winning enterprises in three years.

Take the 2021 Small and Medium Enterprises (SMEs) Special Award of National Occupational Safety and Health Award winner, Taiwan Cogeneration Corporation (TCC) for example (OSHA, 2021). [4] TCC was founded in 1992 to provide cogeneration technology to enhance energy efficiency and increase power supply in Taiwan. Following the government's renewable energy policies and the sustainable development trend in the international society, TCC starts to invest in renewable energy development such as wind energy, solar energy and geothermal energy.

There are many boilers in the factories of cogeneration industry. In order to maintain the boilers, the workers need to operate very dangerous work such as elevated work, welding work and electrical work. In order to reduce the OSH accidents risk, TCC requires every worker to follow the OSH regulations. Besides, TCC also builds the "Occupational Accident-Free Incentive Mechanism" to encourage employees collectively promote workplace safety. If there isn't any occupational accident occurs in 150 thousand hours, TCC will give every employee gifts such as blood pressure monitor and sneaker which is also benefit to workers' health. TCC keeps the record of 800 thousand accident-free hours to this day.

Another example is the 2019 Enterprise Benchmarking Award of National Occupational Safety and Health Award winner-Sun Ba Power Cop (SBPC). SBPC is a natural gas combined cycle power plant which was founded in 2000 to provide high quality, clean, stable energy supply to the energy system in Taiwan. SBPC's combined cycle power plant uses both a gas and a steam turbine together to produce up to 50% more electricity from the same fuel than a traditional simple-cycle plant. By doing so, it is expected to lower greenhouse gas emission and reduce the pollution to the environment.

SBPC sets the zero occupational injury and accident goal to show its determination to ensure workplace safety. Since 2004, SBPC has kept the record of zero occupational accidents. Promoting OSH culture in the workplace is SBPC's first priority; thus, SBPC continually provides the workers with adequate OSH training. In addition, SBPC tends to consolidate the OSH awareness and catalyze the OSH culture in

the supply chain. By building the "Safety and Health Family", SBPC expects to promote discussion on OSH issues and strengthen the OSH management with contractors and business partners to avoid the occupational accidents.

Implementing the requirements higher than the OSH related regulations is another OSH measure in SBPC. For example, in order to ensure workers' safety and health on the workplace at height, SBPC increases the heights of guardrail to 130 centimeters, higher than the requirement from the government (90 centimeters). Workers in the power plant are often working at height and using vertical ladders to monitor the devices' status. Thus, for preventing the workers from falling, SBPC expands investment in "A-shaped" ladders to build a safer and more comfortable working environment.

Providing Professional Information and Guidance—Heat-related Hazards Prevention Guidance and Real-time Information Online Platform

Due to the global extreme weather, the temperature is continually rising in summer in Taiwan. Workers who operate in high temperature working environment without sufficient protective measure may get heatstroke or even heat exhaustion. In order to assist enterprises to implement preventive measure on heat-related hazards, Taiwan issued "Guidelines for Prevention of Heat Stress Hazards for Workers Conducting Outdoor Jobs under High Temperatures" for reference to implement preventive measures. Meanwhile, a real-time mobile warning network, "Prevention of Heat Stress Hazards for Conducting Outdoor Jobs under High Temperatures Website,"[5] was offered to provide heat-related hazards information. The employers and employees are able to use GPS function in their mobile phones to access real-time located heat-related hazards information to adjust planned workload to better arrangement.

To sum up, enhancing employers' and employees' recognition and awareness of heat-related hazards is the most important work. Thus, Taiwan set up a designated area on the Occupational Safety and Health Administration's website to provide guidelines, awareness raising videos, posters and leaflets for reference, especially in multiple languages for foreign or migrant workers to promote OSH and inclusion.

Protecting Workers Through Legislation and Regulations--Labor Occupational Accident Insurance and Protection Act

The "Labor Occupational Accident Insurance and Protection Act" (LOAIPA) came into effect on May 1, 2022. By promulgating the LOAIPA, Taiwan aims to provide workers with effective and decent measures for preventing and rehabilitating from occupational accidents and injuries. Following the enforcement of LOAIPA, Taiwan has expanded the coverage of Occupational Accident Insurance with more favorable benefits.

Specifically, every worker is eligible to be covered by the Occupational Accident Insurance, including wage workers, workers without regular employment, self-employed, employees other than wage workers, and persons as well as employers who actually perform work. Besides, it is compulsory that every wage worker must register for the Occupational Accident Insurance through their employers. As for craft union members who are self-employed, craft unions are obliged to register for the Occupational Accident Insurance for them. Employers who actually participate in the work can register for the Occupational Accident Insurance on a voluntary basis. For workers employed by natural persons or actually perform work, they can complete registration for the Occupational Accident Insurance online or at a convenience store, or simply through craft unions. As green jobs' definition coverage is wide, green jobs almost exist in every industry. Through

the enforcement of LOAIPA, every worker working in green job is covered by the Occupational Accident Insurance.

In addition, in order to improve healthcare measures and rehabilitation assistance for workers who have suffered occupational accidents (including disease), the LOAIPA was designed to enable hospitals or rehabilitation institutions to apply to become "Specialized Hospitals for the Diagnosis and Treatment of Occupational Injuries and Diseases" (SHDTOIDs) and "Professional Occupational Rehabilitation Institutions for Workers Suffering from Occupational Accidents" (PORIWSOAs) after being accredited through a legally stipulated process.[6] In other words, workers are able to find local specialized hospitals more easily and in a more effective way than before, especially for the workers who work in remote or rural areas such as an offshore wind farm. To sum up, the LOAIPA aims to build a comprehensive system of protection against occupational accidents including pre-accident prevention, accident compensation, and post-accident rehabilitation.

Assisting Work-Related Injured Workers Return to Work-Center for Occupational Accident Prevention and Rehabilitation (COAPRE)

Taiwan established the "Occupational Accident Prevention and Rehabilitation Center" (COAPRE) in accordance with the LOAIPA which provides stable funding to effectively combine the activities of occupational accident prevention and rehabilitation and enhance the capability for services of workers suffering from occupational accidents. In addition to provide both employers and workers with assistance in preventing occupational accidents and injuries, COAPRE also provides comprehensive services from medical recovery to occupational rehabilitation. To sum up, COAPRE takes charge of preventing workplace accidents, protecting workers' health, and assisting enterprises to upgrade their safety and health culture. COAPRE also coordinates systems of workers' health services, occupational disease and injury diagnosis and treatment, and occupational rehabilitation.

Conclusion

Working in a safe and healthy workplace is every worker's fundamental right and also governments' long-term priority. Some economies in the Asia-Pacific region are facing the challenges of ageing population and suffering from the workforce shortage in the labor market caused by the COVID-19 pandemic. Thus, establishing safe and comfortable working environment for workers, and ensuring workers' health both in physical and psychological aspects are the most urgent task for us at the moment. Workers' safety and health are the foundation of the whole family, enterprise and society.

Despite the influence of the COVID-19 pandemic, Taiwan still managed to improve the rate of occupational accidents per thousand workers in industry, which fell to 2.269 as a whole in 2022. In order to enable workers to thrive in the recovering economy in a safe, reassuring, and stable working environment, Taiwan will continually commit to promoting occupational safety and health in APEC. In conclusion, I hope this paper on Taiwan's good practices can draw other economies' attention to OSH issues and connect with like-minded economies for further cooperation so as to mutually achieve the ambitious APEC goals.

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5.https://hiosha.osha.gov.tw/content/info/heat1.aspx

6.There are 43 SHDTOIDs and PORIWSOAs cover each area in Taiwan.

Source: Department of Information Services, Executive Yuan,https://english.ey.gov.tw/News3/9E5540D592A5FECD/61846309-bdf5-451f-9664-8a74c5e8f3d7

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