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[SDGs 17] Partnership for the Goals 全球夥伴

[17.3.13] Please indicate if your university publishes progress against SDG13?

National Chin-Yi University of Technology (NCUT) is committed to addressing climate change by aligning its operations, education, and community activities with the goals of Sustainable Development Goal 13 (SDG 13): Climate Action. Through targeted actions, NCUT promotes **carbon reduction, resource efficiency, awareness campaigns, and sustainable infrastructure development**, contributing to the mitigation of climate-related risks.

NCUT co-organized the Forum on Climate Change and University Social Responsibility, and 11 universities in Central Taiwan initiated cooperation on "Climate Change and Education"

The "Central Taiwan University System" (M6) and the "Central District University Social Responsibility Program Inter-university Alliance" organized the "Climate Change and University Social Responsibility Forum" at the Shui-Nan Campus of China Medical University on April 25. They invited the Taichung City Government's Sustainable Development and Low-Carbon City Promotion Office, along with experts and scholars from 11 universities. The aim was to discuss how universities can facilitate positive changes in the environment and society through education, innovation, and community participation amidst the severe challenge of global warming. Additionally, they launched cooperation initiatives related to "Climate Change and Education."

In his opening remarks at the forum, Ming-Chi Hong, President of China Medical University, emphasized the leadership role of educational institutions in addressing the climate crisis. Following this, Huang, Ching-Shiao, CEO of the **Taichung City Government's Sustainable Development and Low-Carbon City Promotion Office**, elucidated the blueprint for Taichung City's future transformation into a zero-carbon city.

Among the participants at the forum were Vice President Yung - Chuan Ho of National Sun Yat-sen University, Vice President Shu, Hung-Yee of Hungkuang University, Vice President Wu, Trong-Neng of Asia University, Vice President Chen-Kang Chang of National Taiwan University of Sport, Dr. Cheng-Chun Lee, President of the University of China Medical University, as well as representatives from Tung-Hai University and Nan-Kai University of Technology. Additionally, supervisors and field experts from National Chin-Yi University of Technology, Feng Chia University, National Chi Nan International



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University, and Providence University shared their experiences and relevant research findings with one another.

During the first session of the forum, titled "Climate Change Program in the Practice of Just Transformation," Vice President Shu, Hong-Yi of Hungkuang University discussed the school's initiatives on climate change and energy management. Assistant Professor Lin, Jun-Rong of **NCUT presented on the pivotal role of information technology in energy conservation and carbon reduction**. Asia University's Director Jiang, Yu-Cheng elaborated on the critical connection between food safety and achieving net-zero carbon emissions. Additionally, Associate Professor Yang, Chih-Chi from National Chi Nan University provided insights into the sustainable value and talent cultivation plan of Green Shui Sha Lian.

During the second session, titled "Climate Change First," Assistant Professor Yu Jiens from Providence University shared practical experiences in biodiversity protection. Hui-Chen Lin, R&D Director of Tunghai University, introduced the outcomes of cross-school cooperation aimed at safeguarding the water environment. Additionally, Assistant Professors Lu and Yu-Tsang from the University of Traditional Chinese Medicine discussed the significance of establishing a climate-resilient medical system. Vice President Chen-Kang Chang of the National Taiwan Sports University addressed the impact of climate change on physical activity and health. Lastly, Liu, Guan-Yu, Research and Development Director of Nan-Kai University of Technology, provided insights into the effects of climate change on the mental health of senior citizens.

Sustainability Chief Cheng-Chun Lee of China Medical University chaired the summary discussion of the forum, which focused on integrating higher education resources to promote climate change education and response strategies. Hsu, Assistant to the Office of Social Responsibility and Sustainability at National Chin-Yi University of Technology, reported on the evolution of environmental education since the 1970s and underscored the importance of high-quality climate change education. Through this forum, participating schools showcased their commitment and achievements in climate action.

School management, scholars, and experts who participated in the discussion reached a consensus that higher education institutions should further strengthen interdisciplinary cooperation and collaborate with local governments, enterprises, and communities. They emphasized the importance of working closely together to drive impactful climate action.

All schools participating in this meeting have reached a consensus to initiate a series of collaborations on "Climate Change and Education." This marks a significant blueprint for the actions and responsibilities of Taiwan's higher education sector in addressing the global climate crisis. Furthermore, there is a commitment to promoting educational innovation and social engagement. This commitment ensures that we can effectively combat future climate challenges and work towards creating a more sustainable and just world for future generations.



NCUT and Taiwan Energy and Environmental Development Association organize Arbor Day "Earth Restoration Action"

Donating saplings to the campus in central Taiwan to educate and promote the concept of afforestation, environmental sustainability and cooling the earth.

On Arbor Day, National Chin-Yi University of Technology's Energy and Environmental Information Development Technology Service Center, in collaboration with the Taiwan Energy and Environmental Development Association, organized the "Earth Restoration Action" at various locations, including Taipei Chongyi Kindergarten, Du-Xing Elementary School, Dong-Ying Non-profit Kindergarten, Wuri Dong-Yuan Elementary School, and Lixing Elementary School in Nantou County. The event aimed to promote the environmentally friendly concept of tree planting for carbon emission reduction in response to extreme climate conditions and global warming.

This year's tree planting event marks the fourth consecutive year of activities in the greater Taichung area, with the addition of five campuses participating in the initiative. A total of 255 seedlings were donated, including gardenia, jade leaf golden flower, envoy, poinciana, azaleas, and other varieties, each possessing unique characteristics. The event received widespread support and participation from teachers, students, officials, and parents, who recognized the significance of greening the environment to mitigate the effects of climate change. Participants not only had the opportunity to plant trees firsthand but also gained a deeper understanding of the importance of environmental sustainability in cooling the earth.

Principal Tang, Cheng-Mao of Dong-Yuan Elementary School emphasized the growing severity of global warming and its resulting drastic climate changes worldwide. He highlighted the dual benefits of afforestation, not only in creating urban forests but also in regulating temperatures and optimizing ecosystems. Principal Tang expressed his hope that through such profound and



meaningful activities, practical actions could be taken to enhance the ecological environment and inspire the public to care for the earth collectively.

Liu, Han-Qing, director of the Taiwan Energy and Environmental Development Association and provider of saplings for the event, expressed delight in participating in these intentional activities. He emphasized the collaborative efforts of participating kindergartens, schools, and community members in planting saplings for the betterment of our planet. Liu, Han-Qing hopes that this event will raise awareness about the importance of tree planting and encourage more actions beneficial to environmental protection and carbon reduction.

During the event, the NCUT Energy and Environmental Technology Center showcased the "TEAX Total External Air Natural Energy Conversion System" at Dong Yuan Elementary School. The system, invented by Professor Weng, Guo-Liang, director of the NCUT Energy and Environmental Information Development Technology Service Center, was demonstrated as a solution during the severe COVID-19 epidemic in 2019.

Professor Weng explained that the system was developed with the support of the former Ministry of Science and Technology's Price Innovation Program. It was swiftly implemented at Changhua Xiuchuan Hospital to establish negative pressure isolation wards and micro-negative pressure quarantine stations. Subsequently, the system equipment was donated to hospitals including Taoyuan Min-Sheng Hospital, Cathay Hospital, and Pingtung An-Tai Hospital to set up positive/negative pressure epidemic prevention kiosks. The project received commendations and certificates of appreciation from various hospitals and local governments.

The "TEAX Total External Air Natural Energy Conversion System" utilizes the pressure difference of water vapor molecules to absorb heat energy and wash the air, cooling both indoor and outdoor air without emitting heat. It effectively reduces carbon dioxide, purifies the air, and maintains constant humidity and temperature. With over 100 patents obtained in multiple countries, this system stands apart from other air circulation, filtration, and conditioning equipment available on the market. Professor Weng emphasized that natural energy conversion systems will play a crucial role in achieving the COP28 global cooling action commitment of "reducing carbon emissions by 68% before 2050."

According to research, every additional tree on Earth can reduce 12 kilograms of carbon dioxide annually. If each of Taiwan's 23 million people plants a tree, it is expected to reduce 270 million kilograms of carbon dioxide per year. Additionally, the "Total External Air Natural Energy Conversion System" can save up to 4,746.72 kilograms of carbon annually, which is equivalent to the carbon reduction achieved by planting 400 trees! The Taiwan Energy and Environmental Development Association, as a legal entity, aims to raise public awareness of environmental issues and encourage active participation in environmental protection actions through this event. They expressed their

commitment to organizing more activities in the future to promote environmental protection and sustainable development in Taiwan.



The Green Energy Technology --Tree Planting Innovation Award on Gaia Day

NCUT, the Taiwan Energy and Environmental Development Association and the Central Office of the Executive Yuan jointly held the Green Energy Technology Tree Planting Innovation Award on Gaia Day

The Taiwan Energy and Environmental Development Association selected the "The Second Global Technology Tree Planting Innovation Product" award on April 18, and the results were released.

This year's selection of global scientific and technological tree planting innovative products, through the Earth Restoration Action, widely recruited technological tree planting innovative products. On the 53rd anniversary of the 3rd United Nations World Earth Day-"Gaia Day", it was held in Ping-Lin Forest Park, Taiping District, Taichung City Exhibition Square awarded the winning units.

According to Dr. Weng, Guo-liang, chair professor of **National Chin Yi University of Technology**, at the industry-university forum of the Taiwan Energy and Environmental Development Association, the association is responding to the 13th "climate action" goal of the United Nations "**Let the Earth and Humans Sustainable Development SDGs**", therefore, since 2022, the association has initiated the selection of innovative products for global technology tree planting, encouraging domestic small and medium-sized enterprises and schools to cultivate new start-up companies through scientific research, and actively investing in comprehensive industrial innovation and value creation plans under the development and transformation of energy and environmental industry technology.

This event highlights the product categories and application characteristics value to expand publicity, to encourage domestic and international companies to purchase these earth-environment sustainable products, so as to experience the application of innovative technologies, drive new

opportunities for the development of innovative businesses, and then gain benefit to a sustainable and healthy.

The theme of this year's event is different from that of previous years. The 2nd theme focuses on the five major industries of global technological tree planting: health biotechnology, information and communication technology, optoelectronic technology, epidemic prevention medical technology, green technology, etc. A number of unique product manufacturers with energy-saving and environmental protection, friendly environment, and school scientific research to cultivate start-up companies were selected through rigorous evaluation, and 8 items of three types were selected.

In the "422 Gaia Day" activities, through media exposure, promotion, procurement, public welfare donations, etc., it is beneficial to participate in the benefits of competing products and corporate image.



In alignment with the country's comprehensive greenhouse **gas reduction strategy** and the pursuit of sustainable development goals focused on energy conservation and carbon reduction, the Ministry of Education has undertaken the "Sustainable Campus Promotion Plan." This initiative seeks to integrate cutting-edge technologies for energy efficiency, environmental sustainability, and creating a healthy campus environment. It lays the groundwork for future sustainable campus standards across the nation.

Furthermore, in accordance with the core objectives outlined in the "Campus Safety and Health Improvement Mid-term Plan," measures have been taken to install digital electricity meters. These meters serve as guides for campuses to establish robust energy audit and management mechanisms.



By implementing various energy-saving measures, campuses reduce energy consumption, subsequently lowering greenhouse gas emissions. This multifaceted approach not only contributes to the reduction of greenhouse gases but also enhances the educational environment, particularly in the realm of environmental education. It effectively aligns with the overarching goal of reducing greenhouse gas emissions within campus settings.

Since 1996, the Ministry of Education has been at the forefront of promoting campus greenhouse gas inventory and verification operations. These efforts have resulted in the creation of a comprehensive database encompassing greenhouse gas emissions from various campuses. Additionally, a series of reduction plans have been formulated, laying the foundation for campuses to subsequently implement greenhouse gas emission management mechanisms. These initiatives serve as the cornerstone of the nation's commitment to reducing greenhouse gas emissions from educational institutions and advancing sustainability in the education sector.

Campus Greenhouse Gas Reduction Commitment

NCUT recognizes the ongoing degradation of the Earth's climate and environment, primarily due to the influence of greenhouse gases. As responsible global citizens, and in alignment with the school's environmental responsibilities, NCUT is actively engaged in greenhouse gas inventory operations. These efforts are aimed at accurately assessing greenhouse gas emissions. In the future, the results of these inventories will serve as a foundation for NCUT's voluntary greenhouse gas reduction plans, fostering sustainable and effective management of greenhouse gas emissions. The university has set a target to annually reduce greenhouse gases by 1%.

Greenhouse Gas Inventory Report

In support of Taiwan's overarching greenhouse gas reduction strategy and the sustainable development goal of energy conservation and carbon reduction, the Ministry of Education has laid the groundwork for campus standardization. Furthermore, in line with the objectives outlined in the "Campus Safety and Health Improvement Mid-Range Project," NCUT has introduced digital electric meters to guide the establishment of an energy audit and management mechanism on campus. Various energy-saving measures have been implemented to reduce energy consumption, consequently lowering greenhouse gas emissions. These initiatives not only enhance environmental education within the educational domain but also contribute to the overall goal of reducing greenhouse gas emissions on campus.

Since 2017, the Ministry of Education has actively promoted campus greenhouse gas inventory and verification operations, culminating in the development of a comprehensive campus greenhouse gas database. Additionally, various reduction plans have been devised in response to preliminary efforts



towards greenhouse gas reduction legislation. NCUT remains committed to advancing the foundation of its greenhouse gas emission management mechanism.

National Chin-Yi University of Technology aims to establish a comprehensive campus greenhouse gas inventory reduction management mechanism, integrating expertise from a proficient counseling team with extensive knowledge of greenhouse gas inventory reduction technology, campus energy conservation practices, environmental education, lectures, and communication, as well as information system management and analysis capabilities. Simultaneously, the university endeavors to instill a culture of greenhouse gas reduction within campus environmental education and extend this ethos into broader society. By doing so, NCUT contributes significantly to greenhouse gas reduction efforts across campuses in Taiwan.

NCUT's Campus Greenhouse Gas Reduction Policy

1. NCUT has formed an Energy Management Committee responsible for reviewing and promoting energy conservation initiatives throughout the institution.
2. The university has established energy-saving management measures that monitor the primary air-conditioning systems in large conference rooms. When the school's electricity consumption reaches 95% of the contract capacity, the system will systematically reduce the load on the air-conditioning systems in each building. This approach minimizes the risk of fines from Taipower for exceeding contracted energy consumption levels.
3. NCUT's Energy Conservation Management Measures mandate periodic inspections by the competent authority of each unit within the school to assess energy conservation efforts. Violations are reported in relevant meetings, and all departments are required to take corrective action promptly.