



University : National Chin-Yi University of Technology
Country : Taiwan
Web Address : www.ncut.edu.tw

[SDGs 7] Affordable and Clean Energy 可負擔能源

[7.2.3] Does your university as a body have a process for carbon management and reducing carbon dioxide emissions?

To champion energy efficiency and carbon reduction, NCUT have formulated an energy policy grounded in the principles of **Environmental Protection**, **Energy Efficiency**, and **Low Carbon guidelines**. Beyond strict compliance with central energy regulations, NCUT continuously enhance energy efficiency through thoughtful design, the procurement of energy-efficient products, reduction of overall energy consumption, robust energy management practices, and active efforts to curtail greenhouse gas emissions. NCUT's commitment extends to promoting awareness and education, encouraging widespread participation, and maintaining a continuous improvement mindset, all aimed at achieving our energy efficiency objectives and establishing a campus committed to low carbon practices.

National Chin-Yi University of Technology (NCUT) was chosen as one of the initial 13 green university model schools from over 100 participating institutions. Subsequently, a greenhouse gas emission inventory was conducted on NCUT to evaluate its electricity consumption and greenhouse gas emissions. The primary objectives of this study were to identify opportunities for reducing greenhouse gas emissions, assess the effectiveness of the school's green campus initiatives, and develop improvement plans to achieve sustainable campus operations.

Upon completion of the inventory, detailed procedures and implementation methods for greenhouse gas inventory were documented. This inventory data will serve as a valuable resource for NCUT to monitor and evaluate its progress in energy conservation and carbon reduction efforts. Furthermore, it will facilitate the school's pursuit of ISO 14064 certification in the future by providing a solid foundation for developing greenhouse gas management strategies and practices.

NCUT held Gaia Day Summit Forum to focus on global cooling actions

On April 22, World Earth Day, National Chin-Yi University of Technology (NCUT) hosted a Gaia Day Summit Forum to delve into the global cooling action commitments advocated by the United Nations' 28th Climate Summit (COP 28). This forum convened experts and scholars from diverse fields to explore topics such as carbon emission reduction, mitigating the urban heat island effect, energy balance planning, legal incentives, creating healthy and safe built environments, and promoting energy conservation in agriculture and animal husbandry.

In his opening speech, NCUT President Chen Wenyuan underscored the significance of promoting Earth Day's concept and highlighted the school's proactive measures, including establishing a carbon neutrality center and a sustainable development center. These initiatives aim to help industries comprehend various climate actions, fulfill carbon reduction tasks, and support enterprises in transitioning towards sustainability. President Chen emphasized the importance of collective efforts for the betterment of the planet.

The forum encompassed a wide array of themes, including policies and regulations, technological innovation and dissemination, social engagement and public education, as well as international collaboration and resource sharing. Participants eagerly anticipated collaborating with experts across sectors to propose initiatives for COP 28 and formulate concrete action plans.

Distinguished guests at the event included Weng Guoliang, Chair Professor of WEPLUS HIGH-TECH CORPORATION; He Zhaoxi, Architect of He Zhaoxi Architects; Lin Jiehong, Deputy CEO of the Taiwan Architecture Center; and Feng Minghui, Deputy General Manager of InSynerger. Through intensive discussions, experts from various domains exchanged valuable insights and suggestions, offering guidance for advancing climate action at COP 28. These deliberations are poised to contribute to the ongoing refinement and enhancement of the global climate governance process.



Our institution has actively engaged in the "Academic Assistance Industrial Park Project Counseling Program" initiated by the Industrial Park Bureau of the Ministry of Economic Affairs, specifically offering guidance for Chuansing Industrial Park in 2022. Furthermore, NCUT has introduced a training course on greenhouse gas emission inventory, aiming to cultivate talents in the field of climate change. As part of the annual independent inventory process, adjustments or plans for energy-saving and carbon reduction are made. In 2023, our institution is involved in the "Industrial Park Cross-regional Low-Carbon Transformation Integration Promotion Plan," focusing on key industries, particularly metal and machinery equipment manufacturing. This initiative anticipates the participation of 12 manufacturers, jointly advancing low-carbon manufacturing processes and the application of green technologies, as illustrated in following Figure.



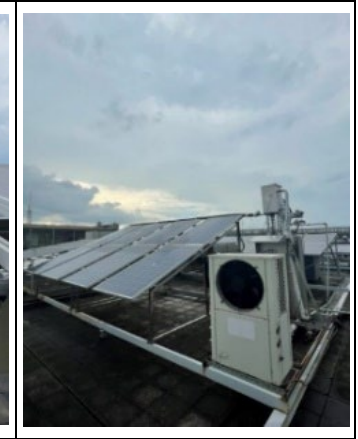
Solar panels



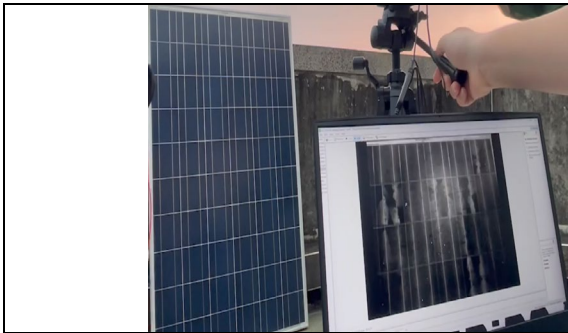
weather station



Illuminometer



heat pump



Solar photoelectric detection teaching



Special production of solar photoelectric cleaning machine



Solar energy generation System



Electric vehicles developed by NCUT



Solar energy generation

溫室氣體盤查報告書

Ver 1.0

學校名稱	國立勤益科技大學
校長	陳文淵
教職員工生總人數	10560
學校地址	臺中市太平區中山路 2 段 57 號
溫室氣體管理人員	2
聯絡電話	04-23924505 分機 2576
傳真	04-23933691
電子郵件信箱	jaspera@ncut.edu.tw

1.3 校園溫室氣體減量政策

- 1 本校成立有能源管理委員會，審議及推動全校節能事項。
- 2 本校訂定有節能管理辦法，對校內大型會議室空調冰水主機進行監控，如全校用電達契約容量之 95% 時，系統即對各大樓冰水主機輪流進行卸載，藉由此一管理機制之運作，減少超約導致台電罰款之機會。
- 3 本校節能管理辦法規定，由業務承辦單位定期對校內各單位進行節能情形進行查核，並於相關會議提報各單位違規情形，以收警備之效果。
- 4 本校勸支校務基金新台幣 380 萬餘元，改善本校國秀樓普通教室傳統照明燈具，汰換為 T5 節能燈具，更換後照度增加，節能效果顯著，約可減少 29% 電能，一年可節省用電 116,827 度 (KWH)，大幅減少用電。
- 5 配合台電已提高供電電壓為 22.8 KV 之需要，將全校既有 11.4 KV 高壓變壓器更換為高效率之 11.4/22.8 KV 高壓變壓器。
- 6 電信費用節省措施：96 年 11 月份由事務組與「中華電信公司」簽訂三項「電信服務契約」，97 年起並由中華電信公司免費佈設一條 E1 專線，與本校數位式總機系統結合，可享市內月租費 8 折、市內電話費 8 折、長途電話費 8 折、市話撥中華行動電話 5 折、市話撥非中華行動電話 55 折、及群組內 0.03 元/秒等多項優惠措施。97 年全年電信費用節省近 28 萬元。98 年 7 月底已完成網路電話機制建置，達成開放教職員工、學生、家長等校內、外免費通話網路之目標，進一步節省電信費用支出。本校數位電訊系統成效如下：
 - (一) 與教育部網路語音交換平台整合，進行電話節費，達到校園開源節流之政策。
 - (二) 透過本校數位電訊系統與其他學校及教育部各所屬單位相互撥打語音通話費用免費。
 - (三) 校內任何話機都可以撥打到學術網路 (TANET) 電話單位。
 - (四) 校外單位欲撥打本校學術網路網路電話，可直接本校網路電話代表號。
 - (五) 其他學校及教育部各所屬單位網路電話簿查詢網址，可查詢教育部與已銜接學校之網路電話號碼，達到校內、外免費通話網路之目標，進一步節省電信費用支出。
- 7 國秀樓、圖書資訊館及行政大樓之空調小型送風機改以時間電解控制方式管理。
- 8 公共區域中央空調系統之冷卻水塔每年進行清洗，以達節能省電之目的。
- 9 新近完工圖書資訊館之燈具及用水器具均使用已符合省能、省水標準器具。
- 10 減少紙張浪費措施：本校為減少紙張浪費，除大力推動各項業務電子化外，並要求同仁採用再生紙及雙面列印，更於新圖書資訊館建置無紙化會議室，以減少會議時紙張浪費，同時提高會議效率。

Greenhouse Gas Inventory Report

Campus-Wide Energy Monitoring System: NCUT is advancing its commitment to energy efficiency by planning and implementing a campus-wide energy monitoring system, with the contract officially awarded this year. The system is scheduled for completion by December. Once operational, it will provide real-time electricity consumption data, enabling direct energy-saving management and control. This system will play a crucial role in strengthening the university's energy-saving mechanisms and optimizing resource usage.

Energy-Saving Promotion: To promote energy conservation and carbon reduction, NCUT has taken visible and impactful measures:

- Large-scale energy-saving and carbon-reduction banners have been hung on the outer walls of key buildings like Guoxiu Building and Ching-yong Hall. These banners serve as constant reminders for teachers, students, and visitors to integrate energy-saving practices into their daily lives.
- LED marquees across the campus continuously display the ten major energy-saving and carbon-reducing measures, ensuring that the message reaches the campus community day and night.
- Energy-saving reminders, such as guide stickers, are placed near light switches in every building, encouraging mindful energy usage.

Automated Energy-Saving Measures: In public areas, all water dispensers have been programmed with automatic on/off switches. These dispensers are set to power off at 11:00 p.m. and automatically power on at 6:00 a.m. the following day. This automated schedule effectively reduces energy consumption, contributing to the university's overall energy-saving initiatives.

Description:

1. **Annual Greenhouse Gas Inventory Report:** NCUT is committed to environmental stewardship through the diligent preparation of an annual "Greenhouse Gas Inventory Report." This comprehensive assessment of the university's greenhouse gas emissions enables precise calculations and fosters a systematic approach to reducing these emissions over time. The report serves as a critical tool in the university's sustainability efforts, guiding the implementation of effective emission reduction strategies.
2. **Solar Power Initiatives:** NCUT has made significant strides in sustainability by installing solar power generation systems on key structures, including the machine tool building, Chin-Yi dormitory, and the engineering school building. These installations are instrumental in



reducing greenhouse gas emissions, showcasing the university's commitment to leveraging renewable energy to lower its carbon footprint.

3. **Solar Power in the Engineering Hall:** The NCUT Engineering Hall is equipped with a solar power generation system on its top floor, which utilizes solar radiation energy to generate electricity. This innovative system absorbs heat and converts it into electrical power, contributing to the university's overall energy efficiency and sustainability goals.
4. **Electric Vehicle R&D and Battery Management:** NCUT is at the forefront of advancing the electric vehicle research and development sector. A key component of this initiative is the deployment of a battery management system (BMS), which significantly extends the lifespan of batteries. This effort not only promotes sustainable practices but also positions NCUT as a leader in the development of technologies that support the transition to cleaner energy sources.