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White Paper for the International Green University Initiative at NTTU
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The United Nations Environment Programme, in its 2014 Emissions Gap Report, argued that global carbon neutrality should be achieved some time between 2055 and 2070, otherwise the Earth will face climate change disasters. In 2015, the United Nations issued the “2030 Sustainable Development Policy”, announcing 17 Sustainable Development Goals (SDGs) and providing a shared blueprint for peace and prosperity for people and the planet, now and into the future. Now in the 21st century, a commitment to maintaining lives on Earth has arisen, as well as to practicing healthy dietary and living habits, physical and mental exploration, and personal growth, or Lifestyles of Health and Sustainability (LOHAS).

Universities are the base for cultivating talent in higher education. Universities also have the crucial mission of cultivating future citizens of the Earth and the obligation of educating and realizing sustainable development. In 1990, 20 university presidents and principals signed the Talloires Declaration in the international conference titled “The Role of Universities in Environmental Management and Sustainable Development” and unveiled the following action plans: (1) Raise awareness of the urgent need for an environmentally sustainable future; (2) encourage university culture in pursuit of a sustainable future; (3) cultivate environmentally literate and responsible citizens; (4) develop environmental literacy among university faculty members; (5) establish environmentally responsible university ecosystems; (6) encourage government–industry collaborations in environmentally sustainable development; (7) develop cross-domain exchange programs; (8) establish partnerships with primary and secondary schools; (9) strengthen national and international collaborations and services; and (10) continue the momentum for exchanges and support for implementing this declaration. The Talloires Declaration led to the rise of today’s global Green University movement. Particularly, University of Indonesia (UI) has launched UI GreenMetric World University Rankings since 2010. The rankings are based on the performance of sustainability in higher education institutions and allow comparisons between them. By 2021, 956 universities around the world have participated in the comparisons. Our institution promotes ourselves as a green university that “creates and tolerates” to practice liberal democracy, enriching itself with "wisdom, health, sustainability, and aesthetics" as the connotation, and concretely implements SDGs. We aspire to
elevate individuals, families, schools, societies, countries, and even the whole world from the inside out in their existence and lives through each university member’s sustainable development cultivation and actions, so as to promote the sustainable future, peace and prosperity of the world.

National Taitung University (NTTU) was transformed from a normal college to a comprehensive university with three colleges of humanities, science and engineering, and normal education in 2003. The Zhiben campus formally replaced the Taitung campus as the main campus in 2014. Zhiben campus is an all-new campus based on green architecture and natural ecology owning a unique environment surrounded by mountains and seas.

In 2109, NTTU's Library and Information Center received the FIABCI World Prix d’Excellence Award in Public Infrastructures/Amenities for providing quality library and information services. Supported by Taitung's rich natural resources and diverse cultures, the Library and Information Center exerts influence in the form of the green university's knowledge collection and action learning.

Furthermore, to assist the transformation and upgrading of local industries, the pilot plant of NTTU's East Taiwan Bio-Economic Center was launched at the end of 2019. In addition to local joint efforts to create sixth-industry efficacy in agriculture, forestry, fishing, and animal husbandry, the pilot plant plans to report the carbon footprints of its products in the future.

Since 2003, the University has established a steady and strong foundation for an outstanding green university through building upward and downward consensus, and will gradually develop into an international green university that supports the sustainable development of a green knowledge economy.
Cultivating adaptive members of society with diverse skills and autonomous-learning capability.

Developing feature courses and research as an educational university in coordination with local demand and resources as part of NTTU’s mission to achieve excellence as an international green university.

Development Strategy

**Talent Cultivation**
1-1 Refine courses
1-2 Reinforce interdisciplinary learning
1-3 Expand professional skills
1-4 Achieve learning outcomes

**Academic Development**
2-1 Establish academic research
2-2 Expand industry-academia collaborations
2-3 Strengthen outcome applications
2-4 Establish research features

**Professional Services**
3-1 Comprehensive support system
3-2 Community service engagement
3-3 Local minorities outreach
3-4 Green university initiative

**Innovation in Institutional Affairs**
4-1 Refinement of service skills
4-2 In-depth localization
4-3 Internationalization
4-4 A healthy and sustainable campus

**Action Plan**
A. Institutional and administrative planning, promotional, and key feature solutions
B. Collegiate department programs and research solutions featuring excellent learning teaching
C. General education and teaching program solutions
D. Research center solutions for integrated project implementation

Figure 1. NTTU Blueprint
NTTU’s blueprint (Fig. 1), enacted in 2016, highlights educational innovation as its core. To fulfill its social obligations, NTTU is dedicated to strengthening cooperative mechanisms with local governments and industries in adherence to the concepts of regional governance and provision of diverse and concrete services through academic expertise. With the cultivation of people with diverse skills, adaptive capability, and the capability of autonomous learning, as well as with servicing the community as the university mission, NTTU aims to promote national development through academic research, talent cultivation, cultural advancements, and social service as it progresses toward its vision of “educational excellence, social care, establishing research, and advancing toward the international.” Simultaneously, the blueprint defines the three stages of academic development and self-positioning as the “advancement towards becoming a green university by developing unique education and research in conjunction with local needs and resources, gradually developing into an outstanding and refined international green university” in the hope of becoming an international university that supports the sustainable development of a green knowledge economy (GKE).

In June 2017, NTTU declared its determination to become an international green university in its Directions for the Establishment of International Green University Initiative. These directions appoint the university president as the committee chair, and the committee members include the director of the Office of Academic Affairs and other first-level managers, as well as student and faculty representatives. The committee drafted the university’s International Green University White Papers to establish objectives, strategies, and action plans for developing an international green university in adherence to the following basic policies:

1. Forming strategies and principles for developing into an international green university that comply with NTTU’s motto, vision, mission, and self-positioning;

2. Devising an action plan from the four development strategies—talent cultivation, academic development, professional services, and innovations in institutional affairs—defined in the NTTU blueprint to drive the university’s practical measures for becoming an international green university;

3. Developing international green university teachings and research based on wisdom, health, sustainability, and aesthetics while reinforcing NTTU’s cooperation and services with universities in and outside of Taiwan, exchanging resources and information to optimize collaborative efforts;

4. Cultivating a campus culture founded in wisdom, health, sustainability, and aesthetics through the collaboration of students, faculty, and staff in administrative affairs, service, teaching, research, and daily life;

5. Proposing GKE initiatives that combine government and local efforts and are implemented through cross-domain collaborations, and simultaneously establishing regional campus partnerships to continue exchanges and promotions;

6. Assessing NTTU’s performance in its administrative, service, teaching, and research development for becoming an international green university as its short-, mid-, and long-term goals, and developing a strategic smart system to establish long-term sustainable tracking and improvement mechanisms.

The following summary maps out NTTU’s vision, objectives, strategies, and action plans for becoming an international green university:
I. The NTTU Vision: Excellence in Education, Social Responsibility, In-Depth Research and Development, and Internationalization

NTTU is dedicated to becoming an international university founded on wisdom, health, sustainability, and aesthetics, with an outstanding campus and specialized education. We are committed to establishing teachings and scientific and technology development that support a GKE and cultivating a new generation that is disciplined, innovative, and able to apply knowledge for the benefit of all mankind. All faculty, staff, and students are encouraged to embody the campus culture in all aspects of university life, extending their influence into their communities, society, the country, overseas and to achieve global LOHAS in the future.

II. Objectives

1. Green internationalized academic development and talent cultivation

NTTU aims to form an international green university-cum-GKE industrial innovation center to assist local industries toward the development and transformation of GKE industries. Furthermore, NTTU aims to establish successful models of smart, healthy urban and rural areas and new agricultural and circular economies through integrating interdisciplinary learning paths and driving teaching innovations, research development, and talent cultivation based in wisdom, health, sustainability, and aesthetics through collaborations with local industries.

2. Green internationalized academic innovation and professional services

Intelligent innovation, energy conservation, and a balanced ecosystem of the college campus can fully support NTTU’s teaching and autonomous learning culture; simultaneously, its service-oriented campus management demonstrates its professional, warm, harmonious, and efficient administrative culture. NTTU hopes its campus culture will be rooted in its faculty, staff, and students and have a positive influence on all visitors to the university.

III. Strategies

1. Talent cultivation

1-1 Reinforcing interdisciplinary learning and curriculum teaching

Academic departments are dedicated to the development of courses and programs related to wisdom, health, sustainability, and aesthetics, integrating interdisciplinary learning paths to introduce core occupational capacities and employment paths. These courses and programs also combine the active engagement and investment of local GKE industries in teaching, research, promotion, talent cultivation, and international exchanges.

1-2 Enhancing professional skills and learning outcomes

NTTU will establish a rewards system to form a connected community that enables faculty and students to participate in international green university activities and a campus culture founded on wisdom, health, sustainability, and aesthetics. This rewards system—combined with integrated courses and student groups to conduct guided tours of demonstration sites, GKE industry tours, community tours, and international exchanges—will encourage commitment to specialized creations and achievements and establish learning outcomes. NTTU expects its entire faculty, staff, and student body to
have a profound understanding of the international green university initiative and to
embrace the principles of wisdom, health, sustainability, and aesthetics in their campus
lives.

2. Academic development

2-1 Establishing academic research and industry–academia collaborations

Combined with NTTU's industrial–academic Innovation Park, cloud-based big data
services in Taitung, and the pilot plant of the East Taiwan Bio-Economic Center, the
University will develop an innovation platform for GKE industries as well as knowledge
and virtual integration services to become an international green university-cum-GKE
industrial innovation center. NTTU is dedicated to the establishment of teachings and
scientific and technological research that support the development of GKE industries,
and will continue to assist local industries in their development toward and
transformation into GKE industries and promote sustainable development in the region.

2-2 Strengthening outcome applications and establishing research features

NTTU will plan, integrate, and promote feature projects related to wisdom, health,
sustainability, and aesthetics and propose a plan that combines governmental and
nongovernmental efforts, as well as continue to strengthen research results through
interdisciplinary cooperation. Moreover, NTTU will establish regional campus
partnerships to bolster domestic and overseas university collaborations and services
and extend exchanges and promotions.

3. Professional services

3-1 Participation in social services and care for local minorities

Through one-stop logistic management, NTTU will integrate academic
(departments and institutes of NTTU's three colleges) and research (all-level research
centers) efforts with regional businesses, governmental agencies, and extramural
research institutions to achieve practical effects and circular applications of
interdisciplinary integrations. Additionally, NTTU will strengthen its links with local
tribes through establishing an indigenous language learning center, cultivating
indigenous language teachers, and opening indigenous language courses.

3-2 Intelligent campus

Abiding by NTTU's motto "Fairness, Sincerity, Love, and Dedication" as the
principle of personal conduct, and adhering to the spirit of unremitting effort of NTTU's
anthem "Always Cautious and Diligent," we foreground "Create and Tolerate " as the
key concept of university affairs development. Only by “creating” achievements can we
contribute to our country and society; meanwhile, it is necessary to "tolerate" the
creative process of others. On the other hand, on the premise that campus buildings
comply with the Ecology, Energy Saving, Waste Reduction, and Health (EEWH)
standards and continual progress is made toward intelligent, green buildings, NTTU will
build pilot venues that integrate intelligent, green buildings with intelligent campus
application interfaces to create an innovative campus that drives autonomous learning,
health, and sustainability. Additionally, NTTU will develop an intelligent decision system
for academic affairs to reinforce management efficacy and establish a long-term
tracking and improvement system to reinforce achievement characteristics as an
international green university. These efforts will gradually shape a learning, work, and
living environment that is intelligent, healthy, sustainable, aesthetic, safe, diverse, and international, while encouraging NTTU faculty and students to engage in teaching, research, and project related to intelligent green campuses in implementing coherent campus management measures and service quality.

3-3 Aesthetic campus

Flanked by mountains and the ocean, NTTU incorporated public art into its campus design to show off the features of an international green university and establish the Eastern Taiwan Humanities Innovation Base, thereby creating an aesthetically pleasing environment. NTTU will continue to improve its artistic and cultural education and research and to encourage arts and cultural exchanges, thereby raising the artistic and cultural literacy of its faculty and students.

4. Innovations in institutional affairs

4-1 Healthy campus

Faculty and staff jointly pursue student-oriented, 3-A active lives: “Activity, Interaction, and Affecting.” Moreover, regarding the core of daily life such as food, clothing, housing, travel, education, and fun, we implement 4-S safe living: "Safe-Food, Safe-Housing, Safe-Travel, and Safe-Mind.” We expect each student to find personal fulfillment not only in academic life, but also in campus life: to achieve personal growth through various campus activities and social interactions to enhance a well-balanced life. Meanwhile, we will establish a friendly campus environment by implementing barrier-free concepts in buildings, spaces, and facilities. On the other hand, NTTU will reinforce health and safety management in its laboratories and for toxic substances to prevent potential disasters and ensure the health and safety of its faculty, staff, and students. NTTU will create a friendly campus environment with accessible buildings and spaces and reduce radiofrequency and electromagnetic waves in accordance with health and safety standards. Computer facilities will comply with ergonomic aids and anti-fatigue regulations to prevent injuries from long-term computer use and poor posture and introduce awareness of health-oriented computer use. NTTU will also reinforce catering education and environmental hygiene management to promote healthy dietary culture, personal health, and global sustainability.

4-2 Sustainable campuses

NTTU will push university-wide measures to reduce energy and water consumption as well as reduce waste—particularly paper and plastic. In addition, NTTU will do its best to preserve campus ecological environments in compliance with the principles of ecological protection and environmental beautification.

4-3 Internationalization of development

NTTU will promote study abroad and overseas relocation teaching programs to strengthen students’ actions and adaptability and cultivate innovative students who use their talents with great proficiency. Furthermore, NTTU will hold international Austronesian summer camps, accompany students participating in overseas exchange programs, and conduct immersive English programs to promote international exchange. NTTU will also build an internationally friendly campus that participates in international assessments to increase its visibility as an international green university.
IV. Action Plans

Objective 1: Green, internationalized academic development and talent training

Strategy 1. Talent cultivation
1-1 Reinforcing interdisciplinary learning and curriculum teaching
1-2 Establishing learning outcomes

Strategy 2. Academic development
2-1 Establishing academic research and industry-academia collaborations
2-2 Strengthening outcome applications and establishing research features

Strategy 3. Professional services
3-1 Participating in social services and care for local minorities
3-2 Smart campuses
3-3 Aesthetic campuses

Strategy 4. Innovations in institutional affairs
4-1 Healthy campuses
4-2 Sustainable campuses
4-3 Internationalization

- 1-1.1 “Wise, healthy, healthy, and aesthetic” curriculum and program integration and development
- 1-2.1 Establish a rewards system to promote an interconnected community
- 2-1.1 Develop an innovation platform for GKE industries and knowledge and virtual integration services
- 2-2.1 Combine communities with local GKE industries to promote humanistic innovations, social practices, and industry-academia collaborations
- 3-1.1 Fulfill university social responsibilities
- 3-1.2 Establish an indigenous language learning center
- 3-1.3 Develop teachings and academic research into indigenous ecologies
- 3-2.1 Build intelligent green buildings
- 3-2.2 Build a decision and intelligent system for institutional affairs
- 3-2.3 Build demonstration sites in accordance with the values of “wisdom, health, sustainability, and aesthetics” and develop an intelligent navigation and notification system
- 3-2.4 “Aisin Gioro Yu-Yun Xiaxue Special Collection Room” to inherit the wisdom of global sustainable development.
- 3-3.1 Reinforce education in natural aesthetics and cultural literacy
- 3-3.2 “Lin Wen-Bao Children’s Literature Special Collection Room” to establish NTTU as the major archival center for the research of global Chinese children’s literature to promote the culture of sustainability.
- 4-1.1 Monitor air quality
- 4-1.2 Manage laboratories and toxic chemicals
- 4-1.3 Develop accessible systems
- 4-1.4 Adhere to radiofrequency and electromagnetic wave safety standards
- 4-1.5 Promote health-oriented computer labs
- 4-1.6 Ensure health-oriented dining environments and culture
- 4-2.1 Install intelligent energy-saving systems
- 4-2.2 Install intelligent water-saving systems
- 4-2.3 Reduce, recycle, and reuse
- 4-2.4 Promote ecological conservation on campus
- 4-3.1 Promote overseas academic programs
- 4-3.2 Reinforce local internationalization efforts
- 4-3.3 Conduct international student recruitment and forge ties with sister colleges
- 4-3.4 Shape New Southbound Policy talent and core Austronesian settlements
- 4-3.5 Build a friendly environment as an international green university

Fig. 2. Objectives, strategies, and action plans for NTTU’s international green university initiative
NTTU developed the action plan presented in Figure 2 in accordance with its vision and objectives of an international green university as well as in consideration of present circumstances. The following is an explanation of the action plan, divided into four strategies—talent cultivation, academic development, professional services, and innovation in institutional affairs.

1. Talent Cultivation

Strategy 1-1 Reinfocing interdisciplinary learning and curriculum teaching

Action Plan 1-1.1 “Wise, healthy, sustainable, and aesthetic” curriculum and program development

▲To be implemented by: all colleges and relevant departments, Center for General Education, and the Office of Academic Affairs

▲How:

(1) Reinforcing interdisciplinary programs in liberal arts with fundamental soft power, logical thinking, active participation, and social implementation as the objectives; cultivating communicative expressions and logical thinking, increasing learning motivations, encouraging autonomous learning, and developing innovative Mandarin and English, programming, green general education, social participation, and self-learning courses to strengthen the six literacies—cultural literacy, bioethics, social care, international perspectives, scientific spirit, and environmental consciousness—and three traits—sustainable ecology, exploration of diverse cultures, and implementation of social care—of general education.

(2) Promoting indigenous cultures and outdoor-activity internships: integrating courses on culture and leisure industries, outdoor experiences, and digital marketing with industries related to indigenous cultures to create summer internship courses that provide students with the opportunity to receive immediate feedback from instructors onsite and cultivate their understanding toward the industries as well as develop their practical skills.

(3) Jointly developing Taitung environmental and cultural tours and experiential activities: the Department of Cultural Resources and Leisure Industries and the Department of Physical Education courses utilize Taitung’s natural environment to develop outdoor adventure and tour packages, collaborating with the Departments of Education Industry and Digital Media to enhance future marketing and customer experience through graphic design, the Internet, and virtual-reality technologies. The teaching process, centered around practical problems, encourages students to participate in team-based cooperation and learning models as well as cultivates team cooperation and learning, critical thinking, and problem-solving.

(4) Establishing the Eastern Taiwan Humanities Innovation Base as the site of interdisciplinary collaborations between NTTU and the local region. Internally, this base will connect and integrate expertise in the College of Humanities to exert the influence of its programs’ summative results, such as productions that integrate creation, performance, and thematic works with the publishing, digital, and video industries. These products can be made into a collection or repeatedly used as teaching materials and NTTU cultural products. Externally, this base will act as a local, domestic, and overseas service platform for humanities innovations.

(5) Implementing local and diverse interdisciplinary practices: through interdisciplinary courses designed to combine expertise cultivated at NTTU, the university forms a
beneficial effect from serving the region with departmental expertise, thereby activating “in Taitung” learning and life experiences. Teachers and students are provided with opportunities to engage in higher education and public social services through activities themed around the region, such as story map interviews, recruitment of international students to study at NTTU, Mandarin learning in Eastern Taiwan, and Mandarin for tourism.

(6) Strengthening students’ future occupational capacities through organically connecting breakthroughs in NTTU’s greater plan and using NTTU’s practical module courses to improve the students’ practical skills and accumulate momentum in the practical field, course innovation, and social influence; integrating NTTU’s Biotechnology Intern Factory of Eastern Taiwan to provide students with a venue to apply their acquired skills. Examples include product packaging design and corporate identification systems developed by the Department of Art Industry; copywriting and story-writing by the Department of Mandarin and Chinese Literature; and field surveys and industrial analyses by the Department of Public and Cultural Affairs.

(7) Providing services and training to local professionals (e.g., labor universities and workshops) and bridging the gap between residents and local governments (e.g., public issues such as controversy over the Miramar Resort and henneries) through the “walk into local communities” program in and outside the university to establish teaching research and learning with “at NTTU” as the starting point.

(8) Integrating the Department of Applied Science and the Interdisciplinary Program of Green and Information Technology to design a green energy and technology course module for actively creating a green energy education demonstration campus. The course syllabus covers the four pillars of green energy industries—energy conservation, energy storage, energy creation, and systems integration.

(9) Establishing a biotechnology innovation and entrepreneurship interdisciplinary course module by integrating resources from the Department of Life Science, the Department of Information Science and Management Systems, and the Office of Industrial Collaboration and Continuing Education Affairs; introducing marketing management courses and innovative entrepreneurship practices, with the Office of Industrial Collaboration and Continuing Education Affairs recruiting teachers or professional managers to teach courses of industrial and entrepreneurship practices and collaborating with the Innovation Incubator Center to improve student entrepreneurship.

(10) Combining professional knowledge from the Department of Life Science and Department of Information Science and Management Systems to develop new courses that revolve around agricultural applications and development in Taitung and integrating them with current courses to cultivate professionals with interdisciplinary knowledge on agricultural biotechnology and Internet of Things.

(11) Integrating interdisciplinary learning pathways related to wisdom, health, sustainability, and aesthetics to introduce UCAN occupational capacities and employment paths, providing recommendations for adjusting and planning departmental core capabilities, course outlines, and student learning paths.

(12) Increasing the ratio of practical modularized courses to improve teaching outcomes and reinforce the connection between interdisciplinary learning and integrated courses in creativity, innovation, and entrepreneurship. The purpose of these efforts is students’ seamless transition into employment after graduation through the introduction of
more industry expert instructors and establishment of an internship system to improve their practical skills.

**Strategy 1-2 Establishing learning outcomes**

**Action Plan 1-2.1 Establishing a rewards system to promote an interconnected community**

▲To be implemented by: the Office of Student Affairs, the Office of Academic Affairs, the Office of Research and Development, and the Office of Industrial Collaboration and Continuing Education Affairs

▲How:

1. Establishing a rewards system that considers performance of the faculty, staff, and students in the international green university initiative—including waste reduction, recycling, energy conservation, and campus environment management—as an assessment indicator for grant application and grading and the allocation of funding to colleges, centers, and departments.

2. Promoting an international green university youth academy within the school that enables teachers and students to participate in international green university activities and guides learning paths for implementing healthy and sustainable living; forming an interconnected community of the regional campuses on social media sites that enables joint participation in GKE industrial innovations.

3. Encouraging student groups to organize environmental protection activities and tours of GKE industries and community sustainable development efforts, while guiding autonomous student organizations to engage in international green university actions to cultivate a campus culture that subscribes to the values of wisdom, health, sustainability, and aesthetics.

4. Encouraging the inclusion of international green university topics in student associations’ activity proposals for high school outreach camps.

**2. Academic Development**

**Strategy 2-1 Establishing academic research and industry–academia collaborations**

**Action plan 2-1.1 Developing an innovation platform for GKE industries and knowledge and virtual integration services**

▲To be implemented by: the Department of Information Science and Management Systems, the Library and Information Center, and the Office of Industrial Collaboration and Continuing Education Affairs

▲How:

1. Setting GKE industry grades, combining field expert databases, GKE industries’ databases, and cloud-based big data services in Taitung, and implementing the recommendations of field experts and circular economy matchmaking and consultancy mechanisms to develop an innovative platform for GKE industries.

2. Establishing a database for GKE innovation cases for use in teaching, research and development, and industry–academia collaboration, thereby effectively supporting and combining teaching and research innovations in local GKE innovation.

3. Drafting a library collection policy and gradually building collections with the goal of establishing an international green university-cum-GKE industrial innovation center.

4. Applying virtualization technologies to virtualize shared physical collections into
personalized virtual collections; developing virtual knowledge integration services that enable the organization, spread, sharing, and application of knowledge; connecting regional GKE industries, community tribes, and schools of every level in Taitung; and transforming NTTU into an international green university-cum-GKE industrial innovation center

**Strategy 2-2 Strengthening outcome applications and establishing research features**

**Action plan 2-2.1 Combining communities with local GKE industries to promote humanistic innovations, social practices, and industry–academia collaborations**

▲To be implemented by: all colleges and relevant departments and the Office of Industrial Collaboration and Continuing Education Affairs

▲How:

(1) Proposing social design and action plans with humanistic care and academic innovation to address critical social issues in the Taitung region for promoting sustainable development and improving local living well-being

(2) Encouraging creative teams in integrated courses to engage in research into GKE industrial innovations and the achievement of outcome transformations to enhance the application of learning and industry–academia collaboration in teaching and research

(3) Encouraging creative teams in integrated courses to participate in innovation platforms for Taitung’s rising GKE industries, provide GKE internships and counselling, and introduce industrial–academic services such as e-commerce, business intelligence, and circular economy matchmaking

(4) Assisting local industries in their development and transformation toward GKE industries and building smart, healthy towns and villages, new agriculture, smart marketing, and circular economies to continue establishing, refining, and promoting GKE industries

**3. Professional Services**

**Strategy 3-1 Participation in social services and caring for local minorities**

**Action plan 3-1.1 Fulfilling the University’s social responsibilities**

▲To be implemented by: the Office of Industrial Collaboration and Continuing Education Affairs and the Eastern Taiwan Bio-Economic Center

▲How:

(1) Operating the Eastern Taiwan Bio-economic Center: The Eastern Taiwan Bio-economic Center will collaborate with NTTU departments to integrate teaching research resources both in and outside the school (such as the Agricultural Products Inspection Center) to assist in product and packaging design, narrative marketing, innovative business models, and other integrated installation models for the purpose of directing product development toward the health and health-food industries. This integrated installation model will enable NTTU teacher–student teams to apply their interdisciplinary knowledge and skills while assisting with technology transfer and innovation counseling after products mature and enter the market. These teams can also guide the development of regional industries and assist in the improvement of industrial quality to create a circular mechanism for industrial–academic supply and demand between NTTU and local industries.

(2) Creating circulation of local services: NTTU will build regional links, such as forming...
interdisciplinary teacher–student teams, selecting regional issues, applying interdisciplinary capacities, spreading issue outcomes, deepening domain intelligence, and creating value through regional links, as well as adaptive models for hardware and software equipment, teacher qualifications and resources, practice venues, and implementation methods.

(3) Establishing the Pilot Biotechnology Intern Factory: The Pilot Biotechnology Intern Factory will conduct mass production trials by commission with enterprises for the commercialization of achievements through industry–academia collaborations or research into academic innovations. During subsequent industry–academia collaborations, the intern factory may conduct training of local industrial professionals and drive corporate, industrial, governmental, or academic premarket collaborative research to achieve the six-stage industrial development through marketing strategies and plans, such as product packaging and design, narrative marketing, e-commerce platforms, digital marketing resumes, and integrated tourism and leisure.

(4) Discovering interdisciplinary and integrated issues: Interdisciplinary integration and development shift the focus and foundation of existing academic research to feasible issues, including LOHAS, minority groups and diversity, and cloud-based long-term care services. These aspects build upon NTTU’s teaching capacity, empowerment of minorities, YongLin schools, childcare, goods banks, and physical fitness projects and programs to outline new directions of development for smart green agriculture, smart culture and creativity, and smart education. These endeavors will be locally implemented by intercollegiate and interdepartmental teacher–student teams in practice venues across Eastern Taiwan.

(5) Building a one-stop social service management center: A one-stop social service management and service portal can strengthen resource scheduling at every level as well as the construction of communication platforms, formation of interdisciplinary teams, allocation of local companion service resources based on industrial–academic research results, and functions and operations in line with local supply/demand. Therefore, this portal can implement and drive local implementation and operational mechanisms that increase the co-creation of the value chain.

(6) Establishing sustainability highlights in interdisciplinary integration. The Industrial and Academic Innovation Park has two sustainability highlights: the humanities, arts, education, and culture and creativity exhibition and performance platform, and the agricultural, forestry, fishery, and animal husbandry tourist factory. The open exhibition and performance platform and tourist factory enable achievements in interdisciplinary integration to be demonstrated to stakeholders within and outside of NTTU, providing feedback on feature topics, innovative teaching, academic and research resources, and implementation mechanisms to establish a continual cycle of improvement.

Action plan 3-1.2 Establishing an indigenous language learning center

▲ To be implemented by: the Research Center for Indigenous Education and Social Development

▲ How:

(1) Providing adult indigenous language courses: NTTU will provide indigenous language classes for the languages spoken by indigenous villages in Taitung—Tao, Amis, Puyuma, Paiwan, Bunun, and Rukai—in compliance with Taiwan’s Indigenous Languages Development Act and to ensure the status of indigenous languages as national languages.
(2) Establishing an indigenous language learning center as the adult language learning base in Eastern Taiwan, unifying local indigenous language talents to fulfill national language equality and development policies

(3) Expanding indigenous language teaching qualification programs: cultivating administrative, education, and language research talents necessary for a multilingual environment as envisioned by the government, and achieving national language equality and sustainability

**Action plan 3-1.3 Developing teachings and academic research into indigenous ecologies**

▲ To be implemented by: the Office of Academic Affairs, the Department of Cultural Resources and Leisure Industries, the Research Center for Indigenous Education and Social Development, the Center for Austronesian Culture, and the Department of Life Science

▲ How:

(1) Organizing a teaching and research community on traditional ecological knowledge (TEK): Instructors from the Department of Cultural Resources and Leisure Industries and the Department of Life Science will review the collaborative possibilities of Western scientific knowledge systems and traditional Formosan ecological knowledge in the pursuit of the collaborative development of mainstream value and local knowledge; the Research Center for Indigenous Education and Social Development and the Center for Austronesian Culture will be invited to collaborate and become a teaching and research platform for sustainability

(2) Expanding the faculty and systematically establishing indigenous TEK courses: Basic to advanced courses will be established that discuss basic concepts to specialized topics

(3) Cultivating indigenous TEK talents and building teaching and research features: NTTU will recruit research students interested in TEK and utilize local resources to unify niche tourism industries suited for local development, and transform this knowledge system into ecological, tribal, and cultural tours or agricultural products with indigenous traits to improve tribal economies; the generation of more local TEK perspectives will lead to the construction of knowledge systems that better reflect local social contexts and demands to fulfill NTTU’s social responsibilities

**Strategy 3-2 Intelligent campuses**

**Action plan 3-2.1 Building intelligent green buildings**

▲ To be implemented by: the Office of General Affairs and the Library and Information Center

▲ How:

(1) Establishing a university-wide ecology, energy saving, waste reduction, and health (EEWH) database and continually maintaining buildings that have passed EEWH certification as examples of intelligent green buildings for learning, work, and living environments, as part of NTTU’s advancement toward intelligent and green architecture

(2) Integrating NTTU’s demonstrations of ecological campuses, green architecture, reclaimed water use, water-saving devices, smart lighting, healthy and energy-saving computer labs, and kitchen waste reduction to develop a decision and intelligent system

**Action plan 3-2.2 Building a decision and intelligent system for institutional affairs**

▲ To be implemented by: the Office of Institutional Research, the Library and Information Center
Center, and the Office of Research and Development

▲ How:

(1)Stocktaking, cleaning, and consolidating databases on student status, teaching, courses, and learning outcomes within the student and academic affairs systems—all with student learning outcomes as the key outcome indicators—and establishing a data storage system for institutional research use; establishing a key performance index while developing a decision and intelligent system for student learning outcomes as a critical foundation for upgrading the student and academic affairs systems from the 2.0 integration version to the 3.0 smart version.

(2)Building a cloud-based file management system for university departments to store and share files for project management and oversight, academic evaluations, presentations, and activity logs, thereby facilitating the preservation of institutional documents and information as well as the sharing, spread, and transfer of knowledge and experience. This system will be the text data source for the decision and intelligent system.

(3)Stocktaking, cleaning, and consolidating databases on expenses, reader demographics, use of library and information resources, quality of services, loyalty, and satisfaction within the library and information system—all with reader satisfaction as the key outcome indicator—and establishing an information storage system and key performance index to develop decision and intelligent systems for managing reader satisfaction and performance. These systems will serve as the informational platform for the long-term tracking and improvement of library management and services.

(4)Constructing teaching, research, and performance databases and a data storage system for academic affairs and research, as well as establishing a key performance index to be integrated with the decision and intelligent system for student learning outcomes.

(5)Compiling international green university management guidelines and performance indices related to teaching, research, administrative, and service matters; stocktaking, cleaning, and consolidating databases on academic affairs and establishing a data storage system for academic affairs and research, as well as a key performance index to develop an academic affairs decision and intelligent system. This system will serve as the informational platform for the long-term tracking and improvement of international green university management.

Action plan 3-2.3 Building demonstration sites in accordance with the values of “wisdom, health, sustainability, and aesthetics” and developing an intelligent navigation and notification system

▲ To be implemented by: the Library and Information Center, the Office of General Affairs, the College of Humanities, and all relevant departments

▲ How:

(1)Building demonstration sites featuring “wisdom, health, sustainability, and aesthetics” in existing green buildings that incorporate intelligent systems for lighting, climate control, electricity meters, electrical grids, energy consumption management, water usage and paper waste reduction, eco-friendly recycling of kitchen waste and other resources, indoor air quality and noise level regulation, and maintenance of healthy and energy-saving computer labs and Maker spaces as part of NTTU’s continued development toward intelligent green architecture. The Library and Information Center will be the pilot.
(2) Developing intelligent campus applications and stipulating management standards to encourage NTTU teachers to incorporate the aforementioned demonstration sites into their teaching, research, and promotion, while providing students with experimental venues to conduct observations, internships, assessments, creation, and thematic research.

(3) Updating the NTTU website with a responsive web design and connecting the teachers' personal webpages with the teaching, research, and performance databases; using advanced, cloud-based, two-way, immediate multilingual translation technologies to develop and combine pre-translation services for NTTU's multilingual portal with post-proofreading, thereby providing simultaneous multilingual updates and improving NTTU's online university ranking.

(4) Applying intelligent simultaneous interpretation systems and technologies to build demonstration sites with two-way consecutive interpretation services, and promoting this system to the University's departments and other applicable learning venues to build a Mandarin-centric, bidirectionally interactive and international university to showcase campus traits that demonstrate wisdom, health, sustainability, and aesthetics, as well as to create an environment that facilitates exchange with international universities and the learning of foreign languages.

(5) Developing an intelligent navigation and notification system that exhibits how NTTU—as an international green university—incorporates campus traits demonstrating wisdom, health, sustainability, and aesthetics to each member and visitor to its campuses to generate natural and subtle ripples of influence.

**Action plan 3-2.4 Installing “Aisin Gioro Yu-Yun Xiaxue Special Collection Room” to inherit the wisdom of global sustainable development.**

▲ To be implemented by: the Library and Information Center, the Office of General Affairs, the College of Humanities, and all relevant departments.

▲ How:

(1) Through Mr. Yu-Yun's Xiaxue special collection and special exhibition to inherit the harmonious wisdom of the sages in teaching faith, comradeship, and altruism, and to implement NTTU's motto "Fairness, Sincerity, Love, and Dedication," the goals of green international university and global sustainable development, and to promote support and motivation for teaching, research, and education.

(2) Collecting and archiving materials about Mr. Yu-Yun's life, teaching, books, films, manuscripts, and related information.

(3) Exhibiting the characteristics of Mr. Yu-Yun's educational philosophy and Xiaxue teaching to show their distinct local connection with the aboriginal culture in Taitung.

(4) Incorporating contemporary library information technology to develop virtual reality integration in collection and to promote exhibition activities.

(5) Providing information services for domestic and foreign education promotion, teaching, and research.

(6) Providing information services for domestic and foreign readers, visitors, and related group visits.

(7) Jointly hosting Xiaxue lectures, forums, and other activities, to follow the wisdom of the ancients to promote the wisdom of global sustainable development, and to keep pace with the contemporary world.

**Strategy 3-3 Aesthetic campuses**
Action plan 3-3.1 Reinforcing education in natural aesthetics and cultural literacy

▲ To be implemented by: the College of Humanities, the Department of Art Industry, the Graduate Institute of Children's Literature, the Department of Music, the Center for Austronesian Culture, Center for General Education, and the Library and Information Center

▲ How:

(1) Encouraging an environment of artistic creation and innovative design to raise artistic and aesthetic standards and broaden the efficacy of NTTU's arts and culture programs through the NTTU Art Gallery. The gallery was established in September 2014 and is managed and maintained by the Department of Art Industry.

(2) Bolstering the NTTU Art Gallery's functions (or establishing an arts and culture center) and collaborating with the General Education Center to plan, organize, and assist NTTU departments in promoting education in natural aesthetics and arts and cultural activities to advance the literacies of teachers and students in natural aesthetics and in arts and culture.

(3) Holding resident artist performances and exhibitions and collecting artwork.

(4) Developing and integrating NTTU's special collections, such as in children's literature, folk music, and Austronesian cultures with digital archival technologies to promote digital collections and enhance the teaching and research capacity in arts and culture.

(5) Strengthening NTTU's connections with its alumni and the community through artistic and cultural activities.

(6) Assisting artists in providing product added-value services and establishing a platform for industry–academia collaboration with aesthetic and GKE value to develop original and cultural products.

(7) Establishing an alliance mechanism with aesthetic education universities and seed schools to nurture NTTU students to participate in community volunteer activities in aesthetic education, as well as to assist secondary school seed teachers and seed schools with organizing aesthetic education activities. Such an alliance will develop case examples of collaborations in aesthetic education among higher education institutions, secondary schools, seed teachers, and communities.

(8) Collaborating with the Taitung County Government to invite award-winning Austronesian artists into residence at NTTU to create and display their artwork on campus.

Action plan 3-3.2 Installing “Lin Wen-Bao Children's Literature Special Collection Room” to establish NTTU as the major archival center for the research of global Chinese children's literature to promote the culture of sustainability.

▲ To be implemented by: the Library and Information Center, the Office of General Affairs, the College of Humanities, and the Institute of Children's Literature.

▲ How:

(1) Based on the donation of more than 100,000 copies of rare children's literature books, documents, and materials from Distinguished Professor Lin Wen-Bao, to install a special collection room of children's literature for domestic and foreign researchers.

(2) Facilitating NTTU as an important archival center in the field of children's literature in the global Chinese world, and to provide resources for domestic and international scholars in the related fields of research.

(3) Incorporating contemporary library information technology to develop virtual reality...
integration in collection and to promote exhibition activities.  
(4) Organizing children’s literature exhibition rooms and parent-child reading areas to enhance the understanding of children’s literature research for the readers and the public.  
(5) Jointly hosting lectures, forums, and other activities to promote the beauty of children’s literature related to global sustainable development.

4. Innovations in Institutional Affairs

**Strategy 4-1 Healthy campuses**

**Action plan 4-1.1 Monitoring air quality**

▲ To be implemented by: the Office of Student Affairs and the Office of General Affairs

▲ How:

(1) Conducting indoor air quality tests regularly and establishing an indoor air quality monitoring system to provide air quality status updates and alerts that, when combined with open air quality monitoring data, provides online inquiry services on indoor and outdoor air quality on campus  
(2) Prohibiting scooters from entering campus grounds and replacing school vehicles with electric and pedal vehicles  
(3) Encouraging ride sharing and the use of public transportation, measuring the number of cars entering and exiting campus and their CO2 emissions, and promoting carbon reduction rewards (such as NTTU coins) on campus  
(4) Enforcing no-smoking policies and restricting the use of pesticides, cleaning agents, and volatile compounds on campus  
(5) Preventing the buildup of stagnant water in and around buildings as well as air pollution (such as dust or fibers) during construction projects  
(6) Reinforcing the maintenance of air conditioners and adding air quality alerting systems in offices, classrooms, and labs lacking ventilation equipment or those equipped with copiers, printers, or lasers to remind staff to open windows for ventilation

**Action plan 4-1.2 Managing laboratories and toxic chemicals**

▲ To be implemented by: the Office of General Affairs and all relevant departments

▲ How:

(1) Formulating lab safety and management guidelines and conducting training for new lab personnel every year to enforce concepts of environmental protection and healthy sustainability  
(2) Reinforcing the management of toxic chemicals and reducing their use while encouraging and promoting the use of feasible substitutes in teaching and research  
(3) Reducing air pollution generated by laboratories from teaching and research activities  
(4) Compiling profiles of laboratory environments and conducting regular checks of the laboratory fume hood and operating environments to enforce sustainable review and improvement mechanisms

**Action plan 4-1.3 Developing accessible systems**

▲ To be implemented by: the Office of General Affairs and the Library and Information Center

▲ How:

(1) Installing barrier-free and accessible facilities in buildings and public areas throughout
NTTU, including guided paths, wheelchair ramps, handrails, evacuation exits, indoor walkways and stairs, lifts, restrooms, wheelchair audience seats, and parking spaces for persons with disabilities to provide universal access

(2) Providing campus tours and library and information services for persons with disabilities

**Action plan 4-1.4 Adhering to radiofrequency and electromagnetic wave safety standards**

▲ To be implemented by: the Office of General Affairs and the Library and Information Center

▲ How:

1. Enacting management standards of electromagnetic power density (µw/m²) on NTTU wireless network and cellular tower as well as suggestions for using personal mobile devices based on EU and German electromagnetic radiation levels for residential areas
2. Conducting regular checks of campus radiofrequency electromagnetic waves and establishing a campus radiofrequency electromagnetic wave monitoring system to provide status updates, warnings, immediate improvements, and online inquiry services

**Action plan 4-1.5 Promoting health-oriented computer labs**

▲ To be implemented by: the Library and Information Center

▲ How:

1. Enacting ergonomic computer lab setup guidelines, such as for sitting, standing, furniture, keyboard and mouse racks, lighting, and monitors based on the computer desk and chair dimensions recommended by the Institute of Labor, Occupational Safety, and Health (Ministry of Labor) and promoting the application of these guidelines across computer classrooms, administrative offices, and the Library and Information Center
2. Enacting anti-fatigue measures and suggested correct usage for computers based on the guidelines of the Institute of Labor, Occupational Safety, and Health (Ministry of Labor) on computer work station health and safety, and, according to survey results, guiding NTTU faculty, staff, and students to adopt natural and energy-saving positions and postures to prevent injuries from long-term computer use

**Action plan 4-1.6 Ensuring health-oriented dining environments and culture**

▲ To be implemented by: the Sports and Health Center and the Library and Information Center

▲ How:

1. Compiling profiles of NTTU dining environments and organizing a committee to conduct regular checks of dining spaces and environments for enforcing sustainable review and improvement mechanisms
2. Establishing an NTTU food pyramid based on Harvard’s proposed Healthy Eating Pyramid and, according to survey results, guiding NTTU faculty, staff, and students to adopt healthy dining practices as well as to usher in personal health and global sustainability
3. Establishing a physical fitness database to provide personalized health management services

**Strategy 4-2 Sustainable campuses**

**Action plan 4-2.1 Installing intelligent energy-saving systems**
To be implemented by: the Office of General Affairs, the Office of Student Affairs, and the Library and Information Center

How:

(1) Upgrading digital ammeters and digital power supply controls and establishing a university-wide database to develop an intelligent power monitoring system to provide immediate power consumption updates and anomalies for tracking and improving energy-saving efforts across NTTU.

(2) Reinforcing education on reducing power use and rewarding outstanding efforts in reduced power use.

(3) Installing digital power controls and minimum limit of climate control temperature and—based on class schedules—establishing demonstrations of automated powering of classroom air conditioning and lighting, as well as evaluating and recording power-saving performances. These measures will then be promoted across NTTU computer labs, normal classrooms, and lecture halls.

(4) Installing modular power supplies, rack cooling units, separate temperature channels, and other data center technologies to establish a demonstrative example of an intelligent energy-saving data center, while also evaluating and recording power-saving performances. These measures will then be promoted across data centers in the Library and Information Center, collegiate departments, and laboratories.

(5) Introducing fuzzy control technologies and infrared energy-saving stickers to establish demonstrative examples of intelligent energy-saving climate control, while also evaluating and recording energy-saving performances. These measures will then be promoted across NTTU, including in the Library and Information Center, the International Conference Center, and concert and lecture halls.

(6) Applying standby mode and automatic shutdown functions in computer operating systems, drafting computer power-saving guidelines to establish demonstrative examples, and evaluating and recording energy-saving performances. These measures will be promoted across NTTU, including all computer labs and administrative offices.

(7) Introducing virtual desktops and establishing demonstrative examples of cloud-based computer labs, while also evaluating and recording energy-saving performances. These measures will then be promoted across all NTTU computer labs, including in the Library and Information Center and each academic department.

(8) Introducing sunlight and personnel movement tracking technologies to build demonstrative examples of intelligent energy-saving lighting systems, as well as assessing and recording energy-saving performances. These measures will then be promoted across NTTU, including lighting systems in the Library and Information Center stacks and every buildings’ hallways.

Action plan 4-2.2 Installing intelligent water-saving systems

To be implemented by: the Office of General Affairs, the Office of Student Affairs, the Sports and Health Center, and the Library and Information Center

How:

(1) Increasing the number of digital water meters and establishing a university-wide water usage database to develop an intelligent water monitoring system that provides real-time power consumption updates and anomalies for tracking and improving water-saving efforts across NTTU.

(2) Reinforcing education on reducing water use and rewarding outstanding efforts in
reduced water use

3) Conducting regular water-saving impact analyses of NTTU’s recycling of waste water that help facilitate environmental education; after sewage treatment to meet release standards, the water is diverted into NTTU’s Mirror Lake (1.5 hectares). This plays a vital role in NTTU's reclaimed water system because the lake water is then used for irrigation, toilet flushing, and air conditioner cooling and circulation.

4) Installing water-saving showerheads, faucets, and dual flush toilets to establish demonstrative examples, as well as evaluating and recording water-saving performances. These measures will then be promoted across all NTTU bathrooms and restrooms.

5) Regulating swimming pool water levels and opening hours based on class schedules and the actual number of users.

Action plan 4-2.3 Waste reducing, recycling, and reusing

▲ To be implemented by: the Office of General Affairs, the Office of Student Affairs, and the Library and Information Center

▲ How:

1) Building university-wide waste reduction and recycling databases to develop systems that provide online processing and analyses of campus waste reduction and recycling efforts for tracking and improving waste reduction and recycling efforts across NTTU.

2) Installing online conference systems and group messaging systems to establish demonstrations of paperless meetings while assessing and logging paper reduction efforts. These measures will then be promoted across NTTU, including all meetings and promotion documents.

3) Implementing plastic restriction policies across all stores on NTTU campus grounds in accordance with the government’s expanded restrictions on plastic bags—customers must pay for plastic bags when shopping on NTTU campus grounds.

4) Enforcing garbage sorting and establishing friendly recycling demonstration sites that simplify the recycling process, while reinforcing reduce, recycle, and reuse campaigns for paper, plastic, and general waste as well as implementing a system to reward best efforts in waste reduction.

5) Installing electronic garbage disposal units and food waste reduction technologies, establishing demonstrative examples of food waste recycling, and conducting impact analyses of food waste reduction. These measures will then be promoted across NTTU’s administrative departments, academic departments, and student dormitories.

6) Implementing open-air and closed-air composting technologies, establishing demonstrations of decentralized and centralized composting, and conducting impact analyses. These measures will then be promoted across NTTU to accomplish the complete recycling and reuse of organic waste. The compost include sludge produced in wastewater treatment and fallen leaves and twigs on campus.

7) Promoting Green Office Certification to enhance the participation of faculty and staff in practicing the ideas of green international university, and to save energy and resources to reduce the carbon footprint in the office.

Action plan 4-2.4 Promoting ecological conservation on campus

▲ To be implemented by: the Office of General Affairs, the Office of Student Affairs, and Center for General Education
How:

1. Building campus ecological conservation databases and developing a monitoring system that provides ecological conservation statistics and anomaly alerts and assists in tracking for relevant departments and improving campus ecological conservation outcomes across NTTU.

2. Conducting regular water quality tests on Mirror Lake—which has a clay bottom and stone banks—and building manmade floating islands as habitats for aquatic plants that purify the water. These actions will support the lake's diverse ecological environment, which attracts spot-billed ducks, moorhens, egrets, white-breasted water hens, common kingfishers, and migratory birds that visit Taiwan during autumn and winter.

3. Planting native plants to replace non-native plants that have died from natural causes and composting dry branches and fallen leaves to improve soil quality and promote the environmental and sustainable development of campus environments.

4. Increasing the number of ecological footpaths to familiarize members of the University and the community with the diverse flora and fauna on NTTU's campus grounds as well as to cultivate concepts of conservation.

5. NTTU's campus has a forest area of 17.3 hectares, accounting for 29.2% of the campus area of 59.2 hectares; the main plantation consists of Indian almond, maple, bead trees, pongam trees, camphor trees, Taiwan Zelkova, Chinese pistache, and other high carbon absorption tree species, absorbing about 7.6% of the university's carbon dioxide emissions each year. In addition to continue promoting campus tree planting for afforestation blockchain, our plantation will enhance NTTU's carbon neutrality plan.

Strategy 4-3 Internationalization

Action plan 4-3.1 Promoting overseas academic programs

▲ To be implemented by: the Office of Research and Development

▲ How:

1. Promoting overseas relocation teaching programs through scholarships and subsidies to strengthen international mobility.

2. Encouraging overseas connections through cooperative agreements with overseas academic institutions and building academic overseas connections to provide NTTU students with overseas internship opportunities

3. Implementing study abroad programs and sending NTTU students on overseas study or internship programs to bolster their understanding of industries trends and drive career development

Action plan 4-3.2 Reinforcing local internationalization efforts

▲ To be implemented by: the Office of Research and Development

▲ How:

1. Encouraging NTTU faculty and students to attend local international events by applying for funds to host international events and invite scholars from regions covered by the New Southbound Policy (NSP) or overseas sister colleges to engage in NTTU exchange programs

2. Promoting second language courses beyond English to strengthen exchange and collaboration between NTTU and European countries; offering basic courses in Southeast Asian and European languages based on the internationalization of institutional affairs; constructing practice-oriented foreign language course designs; as
well as offering long-term advanced courses to NTTU students

(3) Expanding the recruitment of overseas students through short-term visitation or study abroad programs with attractive local culture and living conditions and a relocation teaching program with Sendai University, NTTU’s sister college

(4) Facilitating short-term exchanges with sister colleges by holding one-semester faculty and student visits on a regular basis and providing accommodation assistance to meet NTTU’s objectives in substantive exchange and campus internationalization

(5) Recruiting international students to study Mandarin at NTTU’s Chinese Teaching and Study Center, which was certified by the Ministry of Education to accept international students in September 2017 (only 1 year after its establishment). The Center also plans to, thanks the breathtaking mountainous and ocean views and diverse cultures in Taitung, organize short-term and customized Mandarin study camps for overseas students in Taiwan.

Action plan 4-3.3 Conducting international student recruitment and forging ties with sister colleges

▲ To be implemented by: the Office of Research and Development

▲ How:

(1) Strengthening the connection between sister colleges in NSP countries by expanding NTTU’s NSP language development policies and reinforcing exchange and cooperation agreements between NTTU and schools in NSP countries

(2) Filming recruitment videos that will be published on the Innovative Open House platform on the website of the University Entrance Committee for Overseas Chinese Students to attract overseas students

(3) Formulating strategic alliances to actively recruit overseas students: NTTU intends to recruit overseas students by holding local recruitment seminars in compliance with the Ministry of Education’s NSP in higher education in response to avid interest from Southeast Asian students to study in Taiwan. NTTU will continue to jointly conduct individual student recruitment with Taiwan University of Education, the Pan-Pacific University League, and other sister college leagues while attending overseas education joint exhibitions to promote its international teaching environment.

Action plan 4-3.4 Shaping NSP talent and core Austronesian settlements

▲ To be implemented by: the Chinese Teaching and Study Center and the Center for Austronesian Culture

▲ How:

(1) Assisting partner universities in NSP countries, such as Thu Dau Mot University in Vietnam’s Binh Duong province—the largest base of Taiwanese businesses in Vietnam—to establish Mandarin centers, as well as dispatching Mandarin language teachers to these partner universities to teach, train local Vietnamese language teachers to teach in Taiwan, create localized Mandarin teaching materials, connect with Taiwanese businesses in Vietnam, and recruit Vietnamese students. This model will then be pushed to educational institutions in other NSP countries each year, such as Syiah Kuala University in Indonesia, Grace Christian College in the Philippines, and the Phnom Penh Mandarin Language and Education Center in Cambodia. NTTU will also establish partnerships with academic institutions in New Zealand and Australia under the NSP and dispatch students on Mandarin-teaching internship programs to promote
academic exchange and collaboration between local Maori and Taitung indigenous people and NTTU’s Center for Austronesian Culture, as well as to cultivate southbound talent. Moreover, NTTU will offer Vietnamese language courses to support co-learning groups of Southeast Asian and South Asian languages within the university to cultivate talent and seed teachers in these languages.

(2) Promoting Austronesian societies, culture, and traditional knowledge that involves Taiwanese indigenous villages and driving cultural exchange activities between Taiwan and Austronesian groups worldwide through media broadcasts and publications; the expansion of NTTU’s Austronesian collections through the purchase or borrowing of Austronesian cultural objects; and academic programs and their achievements.

(3) Organizing international camps that integrate Austronesian studies, theories, and practices into social construction and community empowerment, as well as tribal visits from anthropological and Austronesian perspectives over 3–4 weeks in the summer, and accompanying and interviewing overseas students to understand overseas Austronesian current events and topics for building partnerships.

(4) Offering immersive trial English courses and programs as well as all-English summer camps.

(5) Developing an English-centric website of Austronesian languages that compiles research data on local languages by NTTU professors and indigenous language professors and facilitates field research by domestic and overseas scholars in local tribes as part of international exchanges and transnational collaborative research.

Action plan 4-3.5 Building a friendly environment as an international green university

▲ To be implemented by: the Office of the Secretariat, the Office of General Affairs, the Office of Research and Development, and the Library and Information Center.

▲ How:

(1) Building an international green university website featuring a visual interface that connects demonstration sites and performance index databases to compete in global green university contests and promote NTTU’s achievements.

(2) Applying Mandarin-centric, cloud-based two-way multilingual consecutive translation technologies, as well as building demonstrations of multilingual NTTU portals and mobile navigation and learning environments for two-way consecutive translation.

(3) Expanding the demonstration sites collegiate departments and other applicable learning venues to raise NTTU’s online university ranking and building an environment conducive to international university exchanges and the learning of foreign languages.

(4) Establishing channels of exchange with international green universities and promoting continued exchange visits and partnerships.

(5) Creating educational media about NTTU’s action plans, objectives, measures, demonstration sites, and efficacy for its international green university initiative. This includes copywriting, pictures, short videos, websites, and billboards for the reference of university faculty, staff, and students in compliance, learning, and teaching, as well as the integration of such educational media with the campus navigation system to reach out to exchange visitors.
National Taitung University
Wisdom Demonstration sites

1. Library and Information Center
   - University History Room
   - FIABCI World Prix d'Excellence Awards, 2019
   - FIABCI-Taiwan Real Estate Excellence Awards, 2018
   - Architizer & Unique Libraries, 2017
   - Virtual reality integrated special collection of children’s literature,
     Austronesian culture, and Xiaxue.
   - Parent-child reading room, N-power speaker’s corner, and egg chairs area
   - Facial-recognition checkout system
   - Interactive light wall and multimedia
   - Brainwave concentration and relaxation exercises
   - Smart, energy-saving computer host room
   - Smart classrooms and Maker spaces
   - Internship store

2. School Motto Stele: Fairness, Sincerity, Love, and Dedication

3. Monument to Creation and Comprehension at the entrance to the campus.

4. Intelligence Magnetic Field
   (public art installation)

5. Outer Space of Mankind
   (public art installation)
National Taitung University
Health Demonstration Sites

6. Sports and Health Center
   A. Laifu Physical Fitness Center
   B. Swimming Pool

NTTU Vegetarian Day (2nd Wednesday of each month)

7. Dining halls

8. TTUFun
   3-Good Campus Warm-Hearted "Love Umbrella" service.

Mountain and Ocean Education
- Hiking and forest therapy:
  - Jiaming Lake National Trail
  - Batongguan Walami Trail
  - Zhui Lu Old Trail, Taroko National Park
- Ocean and ecological experiences:
  - Kayaking and surfing
  - Diving and marine exploration at Green Island

"Three-Movement and Four-Safety" Life Movement Activities:
- "Activity, Inter-Action, and Affecting."
- "Safe-Food, Safe-Housing, Safe-Travel, and Safe-Mind."

6A. Laifu Physical Fitness Center
6B. Swimming pool

NTTU Vegetarian Day

Mountain and Ocean Education: Hiking and forest therapy

TTUFun

Mountain and Ocean education: Marine exploration and ecological experiences
National Taitung University
Sustainability Demonstration sites

- Student Activity Center and Gymnasium
- Library and Information Center
- Student dormitory II and dining center
- Jinsin Academy
- Student dormitory I and dining center
- College of Science and Engineering
- Campus entrance
- Administration Building
- College of Humanities
- Teachers' College
- University Rd. to the city center (Provincial Highway 11→)
- (Provincial Highway 9→)

- Sewage treatment plant
- Solid waste recycling center
- Green buildings
- High-efficiency heat pump system
- Affinity fencing
- Campus footpath
- Solar-powered water heating system
- Reclaimed water recycling system
- Mirror Lake trail
- Mirror Lake
- Protected woodland
- Grass Hill
- Integrated electricity and water usage monitoring system
- Permeable paving
- E-scooter and charging station
- Bus depot
- Ecological Pond
- Kitchen waste recycling
- Solar power system
- Leaf composting
- Educational farm
- Native flora gardens

16. Mirror Lake Trail
17. Mirror Lake
27. Leaf composting
24. Ecological Pond
National Taitung University
Aesthetics Demonstration sites

31. Student Activity Center and Gymnasium
32. Library and Information Center
33. Jinsin Academy
34. Student dormitory II and dining center
35. College of Science and Engineering
36. Student dormitory I and dining center
37. Campus entrance Administration Building
38. College of Humanities
39. Teachers’ College

University Rd. to the city center
(Provincial Highway 11→)
(Provincial Highway 9→)

30. Lee Chi-Mao calligraphy screen

31. Floating Clouds
32. Imagery of the Mountains and Water
33. Opportunity-Meet and Fate on the Same Boat
34. Sitting to the Rise of Clouds
35. NTTU Gallery
36. Clouds Into the Mountains
37. Tree’s Praise of Children
38. Kwang-Chung Yu Poetry Wall
39. Ching-Chung Lin memorial statue
40. Lee Chi-Mao calligraphy screen
41. Dinapur Lecture Hall
42. Wind Gallery
43. Trans action (cultural and creative design store)

30. Floating Clouds
36. Tree’s Praise of Children
35. Clouds Into the Mountains
39. Ching-Chung Lin memorial statue
38. Kwang-Chung Yu Poetry Wall
43. Trans action (cultural and creative design store)
International Green University
Wisdom · Health · Sustainability · Aesthetics

SUSTAINABLE DEVELOPMENT GOALS

1. NO POVERTY
2. ZERO HUNGER
3. GOOD HEALTH AND WELL-BEING
4. QUALITY EDUCATION
5. GENDER EQUALITY
6. CLEAN WATER AND SANITATION
7. AFFORDABLE AND CLEAN ENERGY
8. DECENT WORK AND ECONOMIC GROWTH
9. INDUSTRY, INNOVATION AND INFRASTRUCTURE
10. REDUCED INEQUALITIES
11. SUSTAINABLE CITIES AND COMMUNITIES
12. RESPONSIBLE CONSUMPTION AND PRODUCTION
13. CLIMATE ACTION
14. LIFE BELOW WATER
15. LIFE ON LAND
16. PEACE, JUSTICE AND STRONG INSTITUTIONS
17. PARTNERSHIPS FOR THE GOALS

NTTU in UI GreenMetric World University Rankings:
2019_160th of 780 universities; 2020_105th of 912 universities;
2021_74th of 956 universities