

2022

Taiwan's Voluntary National Review



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Abstract

To achieve Taiwan's sustainable development goals (T-SDGs), improve the mechanism of sustainable development promotion, and respond to the call-to-action from the United Nations to regularly review the sustainable development process, Taiwan reviews the critical policies, measures, outcomes, and indicator monitoring results of 18 T-SDGs goals in 2022 after the first national voluntary review report was released in 2017. It also facilitates the international community to understand Taiwan's progress in promoting the SDGs/T-SDGs and share its experience.

This report starts from the aspects of the economy, society, environment, government governance, and global partnership and takes a snapshot of the overall performance of SDGs/T-SDGs. Under the raging and challenging COVID-19 epidemic, the adoption of relief and economic stimulus packages in Taiwan has led the economy to show resilience and grow against the trend. Taiwan embedded digital transition in the economy to facilitate innovation and growth, improve gender equality, practice universal health coverage, and develop the remote villages with “regional revitalization” measures to create new prosperity for social development. Taiwan also encourages the green energy industries, transforms into a circular economy system, and increases biodiversity to optimize a sustainable environment. In the sustainable development of cities, Taiwan promotes smart government and governance. To establish a global partnership, Taiwan provides other countries with anti-epidemic materials and assistance and combines the capacity of government, schools, and NGOs to engage as well. All these have shaped the growth momentum of Taiwan's sustainable development.

Abstract

Then further refer to the contents of reports on the voluntary government review (VDR) and the voluntary local review (VLR), and refine the important policy, measures, and substantive achievements in promoting progress for each SDGs/T-SDGs goal. It shows Taiwan's efforts to promote sustainable development goals. This report introduces simple graphic symbols to highlight the progress so that readers can understand the practical results of SDGs/T-SDGs and their corresponding indicators.

This report examines Taiwan's current natural resources, population, industrial structure, and other conditions and considers the trend of the post-COVID-19 epidemic era, the accelerated development of digitalization, and the new global economic and trade situation of net-zero transition. It is believed that future engagement in sustainable development should develop countermeasures and grasp opportunities for transition to respond to critical issues of digital innovation and inclusiveness, demographic changes and social inclusion, and net zero emissions. Therefore, it can achieve sustainable development goals of the United Nations, meet the needs of the present without harming future generations, and leave no one behind, march towards the road of sustainable development together.

The promoting of sustainable development is a cross-sector and cross-departmental project that requires central and local governments to work together, public-private engagement, and cooperation as well. Although Taiwan is not a member of the United Nations, it is very willing to follow the relevant norms of the United Nations for sustainable development and fulfill its responsibilities as a member of the global village, and work with countries around the world to implement global sustainable development.

Chapter I. Introduction

In 2015, the United Nations published *Transforming Our World: The 2030 Agenda for Sustainable Development*, proposing 17 Sustainable Development Goals (SDGs) and 169 targets to balance economic, social, and environmental development. The goals and targets have stimulated global action toward sustainable development and served as a guide for countries to develop their own Sustainable Development Goals. In line with the spirit of the UN SDGs, Taiwan has listed sustainable development as a focus of national policy implementation over the past decade.

In order to realize the SDGs, improve the mechanism for promoting sustainable development, engage with the international community, and meet local development needs, Taiwan initiated the development of its own SDGs in 2016. After scores of inter-ministerial meetings, public forums, an online platform to solicit feedback from the general public, and five consultation meetings at the Legislative Yuan with private organizations involved in sustainable development, the government obtained feedback from stakeholders both in the public and private sectors. In 2018, the government put forward the Taiwan SDGs, which included 18 goals and 143 targets; an additional 336 corresponding indicators were proposed in 2019. On November 19, 2019, the government passed the *Guidelines for Following Up and Assessing Progress Toward the SDGs* to measure the progress toward the goals and targets.

In response to the United Nations' call for countries to conduct regular reviews of their SDGs efforts, Taiwan referred to the UN *Handbook for Preparation of Voluntary National Review* and released its first Voluntary National Review (VNR) in September 2017 at the International Conference on Sustainable Development held in New York. The review included an introduction to Taiwan, review methodology, progress made from 2015 to 2017, and future tasks to be implemented.

As a follow-up to the first VNR, Taiwan will release its second VNR in 2022. The report outlines the evolution of the organization responsible for SDGs and efforts toward SDGs in Taiwan from 2017 to 2021, with a focus on the progress made on the 18 goals and associated targets, as well as major policies and directions. The report also contains the overall results of the efforts on sustainable development, including relevant case studies. The report aims to help the international community understand Taiwan's progress in realizing SDGs and share its experience.

Moving forward, living with the pandemic will become the new normal, and the pandemic will likewise accelerate the development of digital technology. The trend toward net-zero emission will continue, along with the low birth rate and population aging in Taiwan. The report also explains Taiwan's response to ensure sustainable development in the face of such developments. These include digital innovation, the promotion of inclusive green growth, and social inclusion in the face of an aging population. In line with the international trend toward net-zero emission, Taiwan's response also includes proactive deployment of strategies to achieve net-zero by 2050, formulating strategies focusing on both adaptation and mitigation, and the introduction of ecosystem assessment and environmentally friendly solutions. These measures are taken to combat the worsening climate change so as to achieve inclusive, green, sustainable, and resilient growth.

The release of the second Voluntary National Review is a testament to Taiwan's recognition of the universal value of sustainable development. Central government agencies, local governments, businesses, and the general public are taking part and working together to realize the 18 SDGs to co-prosper with the environment and create a better and more sustainable Taiwan for future generations to come.

Chapter 2. Mechanisms for Promoting Sustainable Development and VNR Methodology

In 2015, the United Nations adopted the *2030 Agenda for Sustainable Development*, urging countries to regularly review the progress of their efforts on sustainable development and publish Voluntary National Reviews (VNR) as responsible members of the global community to realize global sustainable development goals together.

For this reason, Taiwan released its first VNR in 2017 to present the results and achievements of its sustainable development efforts in the 20 years since the creation of the National Council for Sustainable Development (NCSD) in 1997. The report also explained the major policies put in place in relation to the UN SDGs and Taiwan's efforts toward global partnership. The current report is Taiwan's second VNR. This chapter will explain the changes in policies and the organization responsible for promoting sustainable development in Taiwan since the first VNR.

2.1 Organization and System of Promotion

I. Changes to the National Council for Sustainable Development (NCSD)

Taiwan has a small land area and is densely populated. Due to its limited natural resources, frequent natural disasters, and special international status, the pursuit of sustainable development has become all the more urgent compared to other countries. In response to the call made at the UN Earth Summit in 1992, the Executive Yuan established the National Council for Sustainable Development (NCSD) in August 1997 to pursue global sustainable development in tandem with other countries. The Executive Yuan also appointed a minister without a portfolio to serve concurrently as chair, with the Environmental Protection Administration acting as the secretariat.

In 2002, the Premier started to serve concurrently as the chair of the NCSD. This change in leadership into a higher-ranking government official demonstrates the importance that the government attaches to sustainable development. The NCSD chair, for his part, appoints a minister without a portfolio to serve as chief executive officer to strengthen inter-departmental coordination and supervise operations. Commissioners of the NCSD are appointed from different government departments, scholars and experts, and private organizations, with each accounting for one-third of the total number of commissioners.

In 2007, the *Guidelines for the Establishment of NCSD and its Organizational Structure* were amended. The NCSD organizational structure was changed to include four deputy executive officers who are also the deputy heads of the Ministry of the Interior, Ministry of Economic Affairs, National Development Council, and Environmental Protection Administration. Under the deputy executive officers, seven working groups and two task forces were created. The working groups are:

- Health and Welfare Working Group (Ministry of Health and Welfare)
- Life and Education Working Group (Ministry of Education)
- Green Economy Working Group (National Development Council)
- Green Transportation Working Group (Ministry of Transportation and Communications)
- Land Resources and Urban and Rural Development Working Group (Ministry of the Interior)
- Sustainable Agriculture and Biodiversity Working Group (Council of Agriculture)
- Environmental Quality Working Group (Environmental Protection Administration)

There are also two additional task forces: The Task Force on Climate Change, Energy, and Carbon Reduction and the Task Force for the Promotion of a Nuclear-Free Homeland. The Environmental protection Administration acts as the NCSD secretariat.

II. Adjusting the organization and operations of the NCSD to improve efficiency and promote national sustainable development policies

The *Guidelines for the Establishment of NCSD and its Organizational Structure* were amended in November 2021 to improve operational efficiency. Based on Taiwan's 18 SDGs, 17 working groups and the Task Force for the Promotion of a Nuclear-Free Homeland were created and subsequently divided into four major work areas under the supervision of the four deputy executive officers, who are also the deputy heads of the Ministry of the Interior, Ministry of Economic Affairs, National Development Council, and Environmental Protection Administration. The four major work areas include:

- Inclusive societies (Ministry of Health and Welfare): SDG1, SDG2, SDG3, SDG4, SDG5, SDG16
- Sustainable Economy (Ministry of Economic Affairs): SDG7, SDG8, SDG18
- Resilient national land (National Development Council): SDG9, SDG10, SDG11, SDG17
- Green Environment (Environmental Protection Administration): SDG6, SDG12, SDG13, SDG14, SDG15

In addition, to achieve net-zero emissions by 2050, the Task Force on Climate Change and Net Zero Emissions Transition was created. To further sustainable development efforts, the task force is staffed by the Environmental Protection Administration, while the secretarial duties are carried out by the National Development Council.

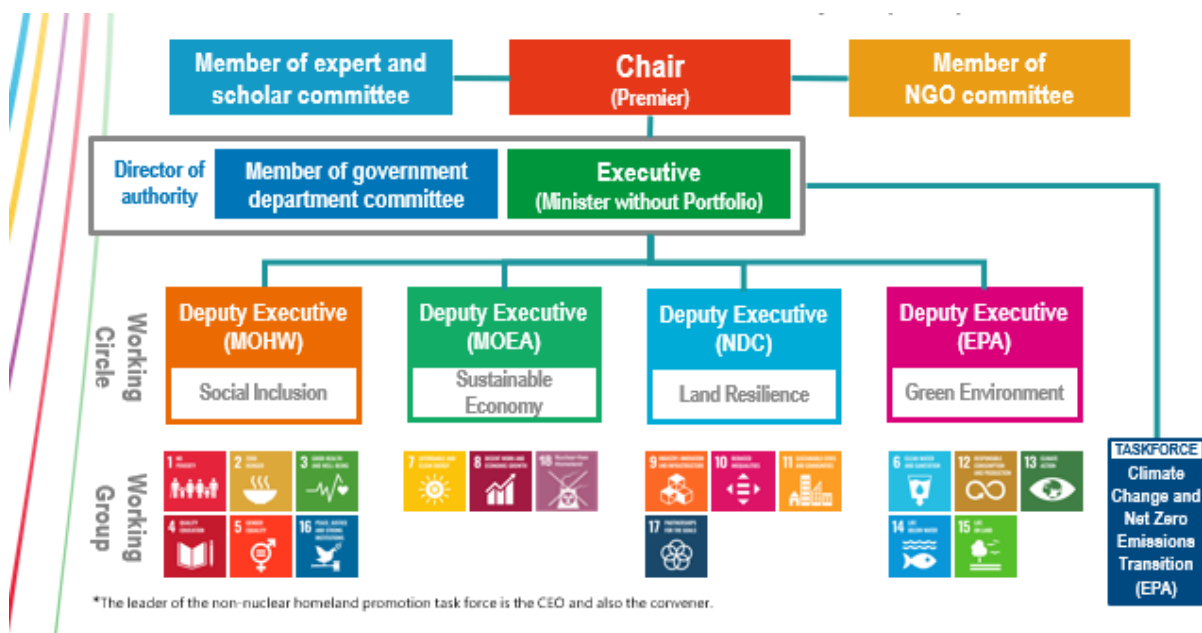


Figure 1- Organization and operations of the NCSO

Sources: NCSO, Executive Yuan, Republic of China(Taiwan)

III. Development of the Taiwan SDGs; review and assessment by the NCSO to ensure sustainable development

The NCSO 2018 referred to the UN SDGs and developed Taiwan’s own SDGs; additional indicators were formulated in 2019. There are, in total, 18 goals, 143 targets, and 336 indicators.

To achieve the SDGs and measure progress, the NCSO carries out follow-up assessments in accordance with the *Guidelines for Following Up and Assessing Progress Toward the SDGs*. Each working group convenes the relevant agencies to review and assess progress toward the indicators. After being compiled and submitted to the respective deputy executive officer for approval, the reports are sent to the NCSO secretariat, which initiates a review and assessment of the

progress toward the 18 SDGs; the report is then sent to the NCSO for review and approval. The NCSO secretariat sets up an assessment and follow-up system for the relevant government agencies to report back on the implementation status. It then conducts relevant reviews in order to simplify the assessment process and improve the efficiency of the follow-up work.

Each year, performance during the year is reviewed and assessed, while the performance over a four-year period is carried out once every four years so as to examine the progress made toward the SDGs and the appropriateness of the SDGs to ensure that the objectives for each period are achieved on schedule. The review process involves transparent oversight and participation from different sectors. Important review results and progress are regularly made public through the publication of the National Sustainable Development Annual Report and assessment reports, which ensure timely interaction with the general public.

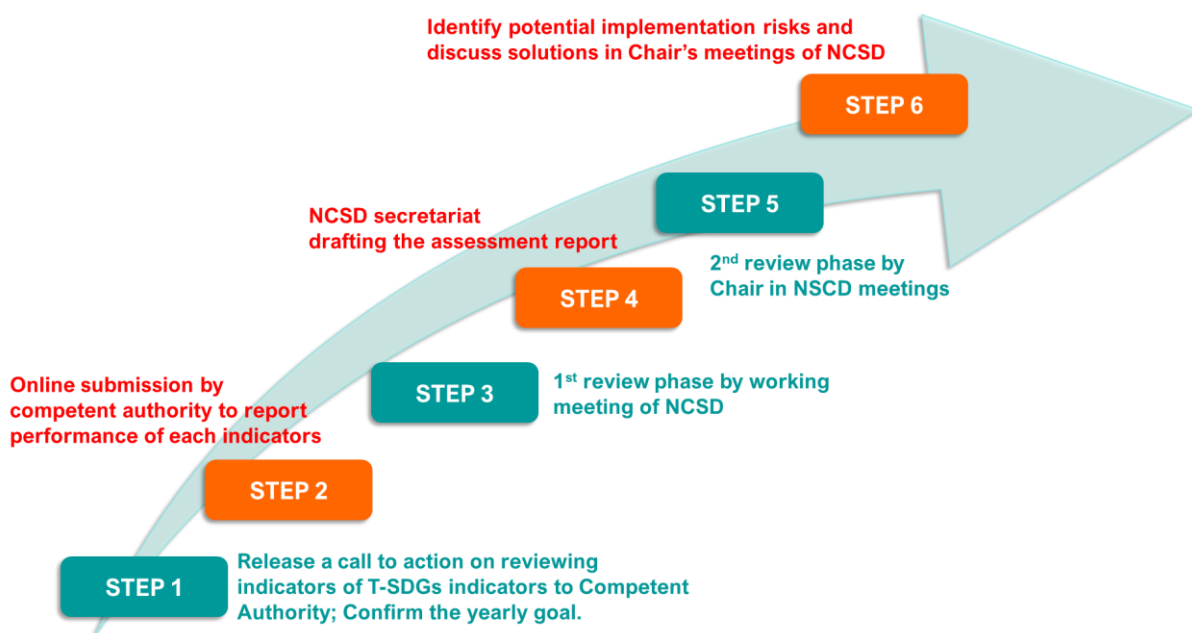


Figure 2- Flowchart of the review and assessment process

Sources: NCSO, Executive Yuan, Republic of China(Taiwan)

IV. National Sustainable Development Award to celebrate sustainable development efforts in local communities and in everyday life

To encourage people from all walks of life to actively take part in sustainable development efforts, the NCSD has organized the National Sustainable Development Award every year since 2004 to recognize schools, businesses, NGOs, and government agencies that have made outstanding contributions to the goal of sustainable development and helped raise awareness nationwide.

The list of award winners over the years can be found on the NCSD website: <https://ncsd.ndc.gov.tw/Fore/nsdn/Implement2/annualReport2>. The following is a brief overview of some of the winners in recent years:

- 2020: The Ministry of Health and Welfare has contributed to the sustainable development of the national health insurance system, using the MediCloud System to compile patient data and establish a mechanism for sharing medical images to improve the quality of medical care and save resources for the national health insurance system. The National Cheng Kung University, on the other hand, used advanced scientific research to design a prototype of an emergency quarantine hospital. In addition, the university, in line with the SDGs spirit, also assisted in international medical and teaching initiatives in Kenya, Myanmar, India, Indonesia, Nepal, and Malawi.
- 2019: Da-Yeh University won the award for its efforts in environmental education. Through practical courses, faculty and students took part in providing guidance and assistance to local industries. It also collaborated with the University of the West Indies in its clear water projects, which received a NT\$1.3 billion grant from the United Nations. On the other hand, the Society of Wilderness is committed to environmental protection, and its award-winning achievements include: the promotion of park

ecology initiatives, purchase and conservation of wildlands, a long-term companionship program for underprivileged children, and the beach debris quick screening program to take an inventory of marine debris and pollution hot spots.

- 2018: The Ministry of the Interior promoted wastewater treatment and reuse and has successfully turned black water into “blue gold.” Taiwan’s first small-scale urban reservoir, the Fongshan River Water Reclamation Plant, was completed and commenced operations in August 2018. In addition, the Youngwater Culture and Education Foundation has for many years focused its efforts on Toubiankeng in Taiping district in Taichung, from bat cave rehabilitation projects and community development to the revival of the indigo dyeing industry in the Taiping Hakka community. Due to the Foundation’s efforts, Taiping Hakka indigo dyeing has been exhibited in Thailand, Japan, and France.

2.2 Policies of Sustainable Development Promotion

I. Inclusion of SDGs into the National Development Plan

The UN SDGs were incorporated into Taiwan’s National Development Plan in 2018. The focus is to look beyond GDP, incorporate SDGs concepts, and develop an inclusive, sustainable, and resilient national development plan to guide policy implementation by the different government agencies.

II. Incorporating the concepts of sustainable public works, barrier-free environment, and universal design in the development of public infrastructure; explaining the expected impacts of implementing ecological and environmental protection measures, energy-conservation and carbon-reduction measures, and measures to address the aging population

In accordance with Article 5 of the *Directions for the Planning and Review of Medium- and Long-Term Individual Projects of Executive Yuan Subordinate Agencies*, the expected impacts of implementing ecological and environmental protection measures, energy-conservation and carbon-reduction measures, and measures to address the aging population shall be explained. In principle, the concept of sustainability and ecological protection will have been included during the planning of medium- and long-term projects. During the review process, careful consideration will be given to project demand, feasibility, coordination, and project benefits, as well as its impact on national security, the society and the economy, the natural environment, and gender from a policy, project integration, and resource allocation and use perspective.

III. Use VDR and VLR to align government governance with the implementation of SDGs

1. The United Nations *2030 Agenda for Sustainable Development* encourages member states to conduct “regular and inclusive reviews of progress at the national and subnational levels” and calls on local governments and relevant stakeholders to report on their contributions. Starting in 2019, several cities in Taiwan have presented their voluntary local review (VLR), carried out international exchanges, and established close partnerships with cities worldwide.

- In 2018, New York was the first to release a VLR based on the SDGs framework to report on the progress of SDGs implementation. In March 2019, the mayor of Taipei City visited New York City and had in-depth exchanges on the experience and methods used by New York City in promoting sustainable development. In September of the same year, Taipei City released its VLR, focusing on seven priorities that included SDG11, SDG7, and SDG3.
- In July 2019, the New Taipei City government released Taiwan's first VLR. The city government used SDGs as its policy objectives, established indicators, and formulated a budget to incorporate SDGs into its policies. New Taipei City was also invited to sign the New York City VLR Declaration, becoming a partner city committed to advancing the SDGs along with Los Angeles, Helsinki, Stockholm, Barcelona, and other cities worldwide.

2.The VLR not only helps to review the progress of local governments in realizing sustainable cities and communities (SDG11), but it also allows for the localization of the UN SDGs. In doing so, it enables bottom-up stakeholder participation, which improves the coherence of the SDGs from top to bottom. It also facilitates national voluntary reviews, making VLRs and VNRs more complementary to each other. For this reason, the government has provided guidance and assisted local governments in preparing VLRs, and has requested local governments to release their VLRs in 2021.

3.At the same time, in order to ensure that policy implementation at the central government level will accelerate the advancement of SDGs, all central government agencies will be required to submit voluntary department reviews (VDR) once every four years starting in 2021, so that policy implementation at the government agency level will be more closely linked to the SDGs.

IV.Promote the integration of university social responsibility (USR) with sustainable development goals

To encourage universities to focus on human well-being and advanced technology, pay attention to local needs, help resolve community needs, and fulfill their social responsibilities, the government started to promote the concept of university social responsibility (USR) in 2018. The second phase of the USR initiative was launched in 2020, and the government encouraged universities to focus on specific areas of concern in their respective locales for them to integrate into local communities more closely. University social responsibility is linked to the UN SDGs, where efforts will be expanded internationally to create a model for good practices, enhance social impact, and promote the realization of SDGs.

USR initiatives at all universities are linked to the 17 UN SDGs and are aligned with global sustainable development issues to guide universities to expand their influence. The government also encourages engagement with universities worldwide to cultivate human resources with international vision and mobility. The USR initiatives are divided into two categories focusing on features of the universities and global connectedness.

1.Features of the universities:

The focus is on curriculum advancement and campus sustainability, linking primarily to Quality Education (SDG4), followed by Good Health and Well-being (SDG3), and Sustainable Cities and Communities (SDG11). For instance, the Engineers in the Action plan of the National Taiwan University of Science and Technology links to Sustainable Cities and Communities (SDG11), and the initiative allows faculty and students to help improve community infrastructure in other countries through hands-on work. The initiative helps foster respect for diversity, humility, tolerance, as well as compassion and participation, with the aim to fulfill university social responsibility.

2.Global connectedness:

The focus is on international cooperation and expansion in the scope of actual practice, linking primarily to Partnerships for the Goals (SDG17), followed by Responsible Consumption and Production (SDG12) and Climate Action (SDG13). For instance, the USR initiative at National Sun Yat-sen University focuses on education at the local level while applying the learned knowledge at the international level. The initiative covers community issues and uses foreign cultural exchanges and cross-disciplinary courses to link practical local efforts with international issues. The university's social responsibility of fostering the well-being of the local community is realized through cultural cultivation and deepening of identity.

2.5 Preparation of the National Voluntary Review

I. The NSDC guided central government agencies and local governments in conducting voluntary internal reviews, leading to the release of VDRs and VLRs.

After Taiwan released its first VNR, the NSDC conducted a follow-up and further review of the VNR. The NSDC found that VNR should be based on long-term follow-up and should incorporate different levels of government, such as central government agencies and local governments, and the private sector, to faithfully reflect the progress of Taiwan's sustainable development efforts, which can then serve as a basis for subsequent improvement. For this reason, the NSDC laid out guidelines and urged central government agencies and local governments to carry out voluntary department reviews (VDR). As of 2021, 29 VDRs had been submitted, and another 22 counties and municipalities had released their voluntary local reviews (VLR). The reviews posted on the NSDC website serve as the foundation for the current VNR, which will be used as a basis for international exchange of experience and to demonstrate Taiwan's commitment to advancing the SDGs.

II. The NSDC invited commissioners from the private sector and solicited feedback to ensure a more comprehensive VNR content.

As the VNR is an important document that demonstrates Taiwan's contribution to global sustainable development, the NSDC in February and March of 2022 invited NSDC commissioners from the private sector to solicit recommendations and discuss the report's structure. The purpose is to take an inventory of the changes in the promotion of sustainable development policies after 2018; present the progress and achievements; identify sustainable development trends to determine challenges, and formulate policies for inclusive, green, sustainable, and resilient growth in the post-pandemic era; and review the current activities and propose new measures and visions moving forward. The NSDC convened its 53rd working conference in May 2022 to review the contents of the second VNR to improve its contents and demonstrate Taiwan's commitment to promoting sustainable development.

Chapter 3. Results of Taiwan's Efforts toward SDGs

3.1 Overall Performance on Sustainable Development

I. The Economy

1.Sustainable growth despite the pandemic: Promoting prevention measures and stimulus packages to enable inclusive economic growth and education

(1)Combining big data and using digital technologies to prevent and control the spread of the disease.

Taiwan has made good use of its national health insurance database accumulated through the implementation of the National Health Insurance system. Having digitalized information on travel history, occupation, contact history, and cluster, the government used this data to effectively keep the spread of the disease under control. In addition, the government also created a “face mask national team” that was able to increase the production of face masks from 2.71 million pieces per day to nearly 20 million pieces per day. The government also used big data from the national insurance system to launch a mask-rationing plan where the general public had to register to purchase face masks; the government also provided online maps showing the availability of face masks. These measures helped stabilize the resources needed for disease prevention and enabled the economy to function normally.

(2)Launched relief packages 1.0 to 3.0 in 2020 and distributed triple stimulus vouchers to effectively lead the recovery of domestic demand; launched relief package 4.0 in 2021 and distributed quintuple stimulus vouchers to create another wave of economic miracles.

- As the pandemic severely crippled global economic activities in 2020, the government launched relief packages 1.0 to 3.0 to look after the well-being of families, protect the underprivileged, and support businesses and industries. A comprehensive mechanism was established to help affected industries and individuals.
- As the spread of the disease came under control, the government started to ease domestic prevention and control measures while still maintaining strict border control. To boost domestic spending, the government distributed triple stimulus vouchers, which were easy to claim and easy to use, and offered domestic travel subsidies and vouchers, agriculture vouchers, art fun vouchers, sports vouchers, and Hakka village travel vouchers. Local governments, private businesses, financial institutions, mobile payment operators, and e-ticket operators also got together to help boost spending. As a result, revenue in the retail and food industries saw positive growth, which led to an increase in employment and a decrease in the number of leaves without pay in the relevant industries. In the service industry, employment increased from 6.858 million in June 2020 to 6.905 million in December 2020, while the number of leaves without pay decreased from 31,816 at the end of June to 6,463 by the end of December.
- The Covid-19 situation worsened globally in the middle of May 2021, and there was a significant increase in the number of cases in Taiwan. As a result, the government raised its epidemic alert level to Level 3, which severely affected domestic demand-based industries. To alleviate the impact on industries and individuals, the government promptly launched relief package 4.0 to extend help to individuals, strengthen industries, increase loans, and reduce burdens. The government eased the eligibility criteria, hoping to maximize the benefits of the relief

package in the shortest possible time and minimize the impact of the pandemic on the general public and businesses.

- In 2021, relief and stimulus packages maintained domestic spending. In addition to positive growth in retail and restaurant sales in September and October, production and manufacturing continued to thrive. Industrial production and manufacturing indicators set record highs during the year, the highest since 2011. Export continued to prosper, with record highs in total exports and export orders. The labor market gradually stabilized. The unemployment rate dropped for six consecutive months from July to December, and the number of employees taking leaves without pay decreased from a relative high of 58,731 at the end of August to 18,272 by the end of December.

(3) Strengthened the employability of the young and helped workers overcome employment difficulties during the pandemic

- To help the public start their own businesses and build a conducive environment for business start-ups despite the pandemic, the government provided interest subsidies on start-up loans to facilitate access to capital and help stabilize operations during business start-ups. For fresh graduates, the government offered employment assistance to help young people seek jobs and enjoy stable employment. To encourage non-engaged young people to learn and accumulate the skills needed for future employment, the government provided vocational training subsidies and incentives to assist them in participating in industry training or pre-employment training.
- In order to prevent workers from falling into financial difficulties, the government offered relief packages, wage subsidies, and employment stabilization measures. In addition, it focused on stabilizing labor-

employee relations, in particular those who were forced to take leaves without pay. The government worked to alleviate the financial burdens of employed workers and helped those out of work find employment. The government is committed to helping the youth overcome employment difficulties during the pandemic, providing subsidies to affected businesses to improve the work environment and promote work-life balance. All the above measures were adopted to care for workers at the grassroots level.

(4) Inclusive economic growth despite the pandemic

- Taiwan was able to mitigate the impact of the pandemic due to effective disease prevention and control measures and immediate government relief. In 2020, Taiwan's economic growth reached its target of 3.36 percent, which was not only the highest among the Four Asian Tigers but also surpassed those of other developed countries. In 2021, economic growth reached 6.57 percent, which was the highest in 11 years. This growth, despite the harsh global situation, is a testament to the resilience of Taiwan's economy. The GDP per capita exceeded US\$30,000 for the first time, higher than Japan and South Korea in terms of purchasing power parity. The unemployment rate in December 2021 dropped to 3.64 percent, which was at the same level as in April of the same year. The average unemployment rate in 2021 was 3.95 percent. The Gini coefficient based on income per household was 0.340, an increase of 0.001 from 2019. However, the Gini coefficient per capita income dropped to 0.274, down from 0.276 in 2019.

- In December 2020, the WEF 2020 published a special edition of the Global Competitiveness Report, *How Countries are Performing on the Road to Recovery*. The report made special mention of Taiwan's excellent performance in providing financial assistance to businesses, improving its healthcare system, and combating the pandemic.

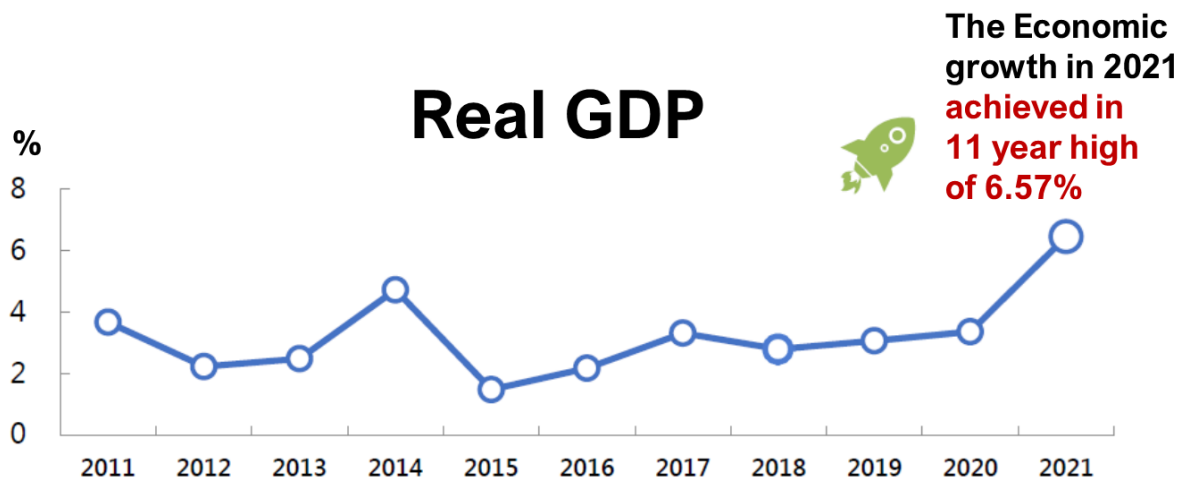


Figure 3-Real GDP in Republic of China(Taiwan)

Sources: DGBAS, Executive Yuan, Republic of China(Taiwan)

- According to the IMD World Competitiveness Report, Taiwan moved up to number seven in the world competitiveness rankings, which was the highest since 2013 and marked an improvement for four consecutive years. The Report states that innovation, digitization, welfare benefits, and social cohesion are critical to economic performance during the pandemic.

(5) Pandemic prevention and control and non-stop schooling

Schools have set up teams to prevent the spread of the disease on campus and provide assistance to foreign students who were unable to return to Taiwan to attend class. Schools adopted online teaching to prevent disruption to student learning. Toward this end, schools created convenience kits for online learning and provided online teaching guidelines and resources. For the economically disadvantaged students, schools also provided the necessary Internet connections, loaned access devices to

enable online learning, and offered necessary assistance so that young students could continue to receive meals from school. In remote areas where online learning was difficult, schools provided TV teaching programs and other diversified teaching methods to assist student learning.

2.Promote innovative growth and develop a digital economy

(1) Since 2017, the government has focused on economic growth with “innovation, employment, and distribution” as the core values. By increasing investment in Taiwan and implementing structural reforms, the government has relied on innovation as the main driver of economic growth, with job creation as its main goal and a focus on the fair distribution of the fruits of economic growth. In the process, there has been no additional burden on the environment, and harmony with the environment and sustainability has been achieved. For two consecutive years, WEF named Taiwan one of the four super innovators in the world, along with Germany, the United States, and Switzerland.

(2) To accelerate the development of the digital economy and transform Taiwan from a manufacturing-based industry environment to an innovation-based industry ecosystem, the government is actively promoting the Digital Nation and Innovative Economic Development Program (2017-2025), or DIGI+, the 5+2 Industry Innovation Program, Digital Infrastructure of the Forward-looking Infrastructure Program, Taiwan AI Action Plan, and Taiwan 5G Action Plan. It is estimated that in 2021, the digital economy will account for 26.4 percent of the GDP. In 2021, Taiwan was ranked 8th in the IMD World Digital Competitiveness Ranking, the highest over the last few years. In 2020, The average R&D manpower per 1,000 people was 11.87 full-time equivalent (FTE), and mobile broadband users accounted for 100 percent of the mobile phone market, which was the highest in the world.

II. The Society

1. Promoting gender equality

On May 20, 2011, the Legislative Yuan passed the Enforcement Act of Convention on the Elimination of All Forms of Discrimination against Women (CEDAW Enforcement Act), which took effect on January 1, 2012. Putting CEDAW into law has aligned Taiwan's efforts to safeguard the human rights of different genders with those in the international community. The Enforcement Act also clearly stipulates that government agencies at all levels shall have an obligation to eliminate gender discrimination and promote gender equality. In addition, a national report will be prepared every four years, and foreign experts will be invited to review the results of the efforts to promote women's human rights and gender equality. To ensure that government policies and plans incorporate the perspectives of different genders, gender impact assessments will be conducted during the review of important medium- and long-term projects so as to promote gender equality measures and to effectively implement gender mainstreaming policies.

(1) Taiwan ranks first in Asia and sixth in the world in gender equality.

In 2010, the United Nations Development Programme (UNDP) introduced the Gender Inequality Index (GII), which measures gender inequality using five indicators in the following three dimensions: reproductive health, empowerment, and the labor market. Taiwan in 2019 had a gender inequality index of 0.045, which was 6th among 163 countries and first in Asia.

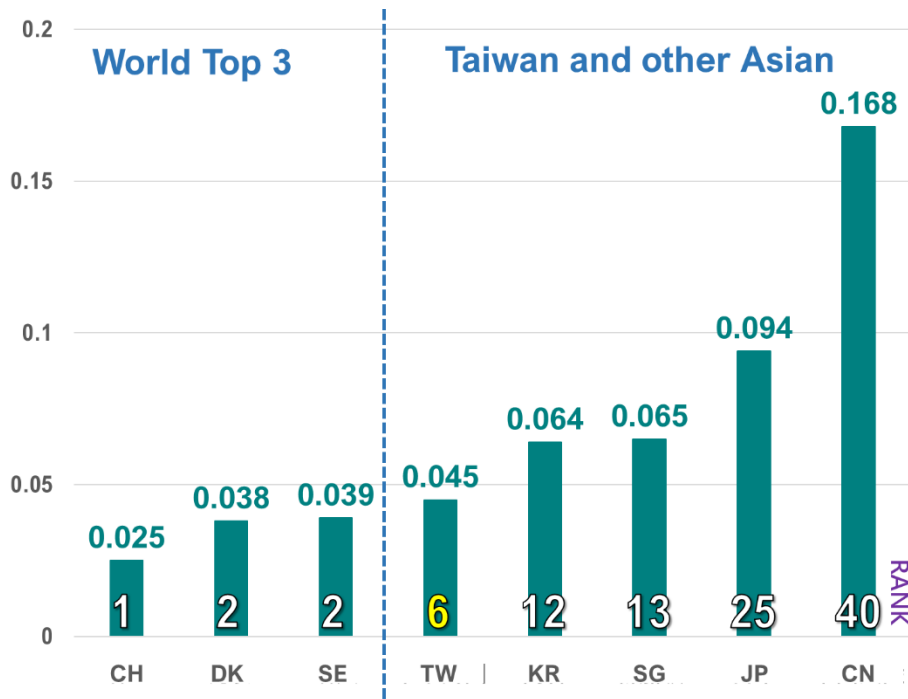


Figure 4-2019 Gender Inequality Index(GII)

*The lower of GII Score is the better.

Sources: UNDP; Executive Yuan, Republic of China(Taiwan)

(2)Taiwan is the first country in Asia to legalize same-sex marriage.

On May 24, 2019, Taiwan legalized same-sex marriage, thus becoming the first in Asia to do so. As of the end of June 2022, 8,387 same-sex couples have completed their marriage registration in Taiwan.

(3)Taiwan ranks first in Asia in the proportion of female members of parliament.

To encourage participation in politics among women, Taiwan's election system has a guaranteed quota for women. In 2020, the proportion of female members of parliament in Taiwan reached a record high of 41.6 percent, which was the highest in Asia. This figure far exceeds the 23.9 percent average in APEC and ranks second among APEC countries.

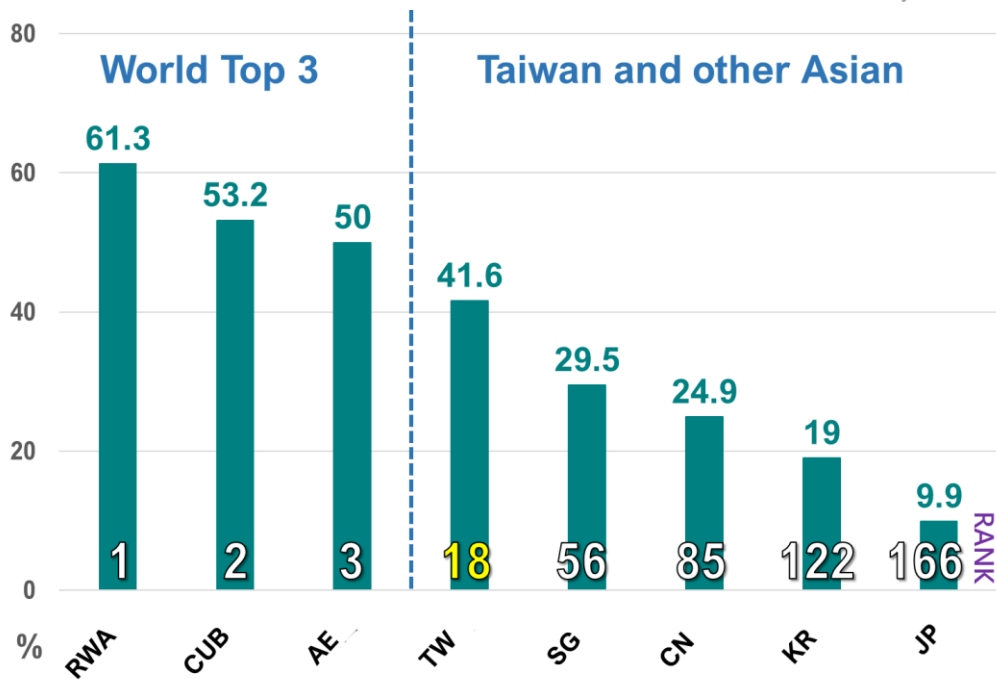


Figure 5-2020 Ratio of Female Parliament

Sources: World Bank; Executive Yuan, Republic of China(Taiwan)

(4)Case samples

Female SME owners from Taiwan took part in the 2019 APEC Business Efficiency and Success Target (BEST) Award competition to introduce key objectives of the new agricultural policy that promoted gender inclusion and sought to engage with international trends. The participants won the Highest Growth Potential award, which was the first time Taiwan received this honor.

In the 2021 APEC BEST Award, participants from Taiwan showcased an innovative non-invasive fiber-optic physiological monitoring technology to provide better care for infants and the elderly. The innovation was the winner in the category of the Fourth Industrial Revolution Project.

2.Realizing universal health coverage

(1)Universal Health Coverage (UHC) is one of the UN SDGs. Taiwan introduced universal health insurance as early as 1995, becoming the first in Asia to effectively implement a single-payer health insurance system

in which everyone enjoys equal health care benefits¹. From birth, all citizens will have equal access to medical care regardless of gender, age, or wealth. In addition, to safeguard human rights and equality, foreigners working or legally residing in Taiwan and people serving prison sentences are also all covered under the health insurance umbrella; no person is left out².

(2)Based on the 16 essential health services in four categories of universal health coverage (UHC) as announced by the WHO in 2015, national coverage rates in 183 countries ranged from 25 to 89, with a median of 68.5. In 2017, the service coverage index (SCI) in Taiwan was 87.0, up 1.9 percentage points compared to 2016. The SCI was just below Canada and was tied for second place with the United Kingdom. Taiwan thus has a relatively high health service coverage. In 2019, the SCI in Taiwan increased to 89.2.

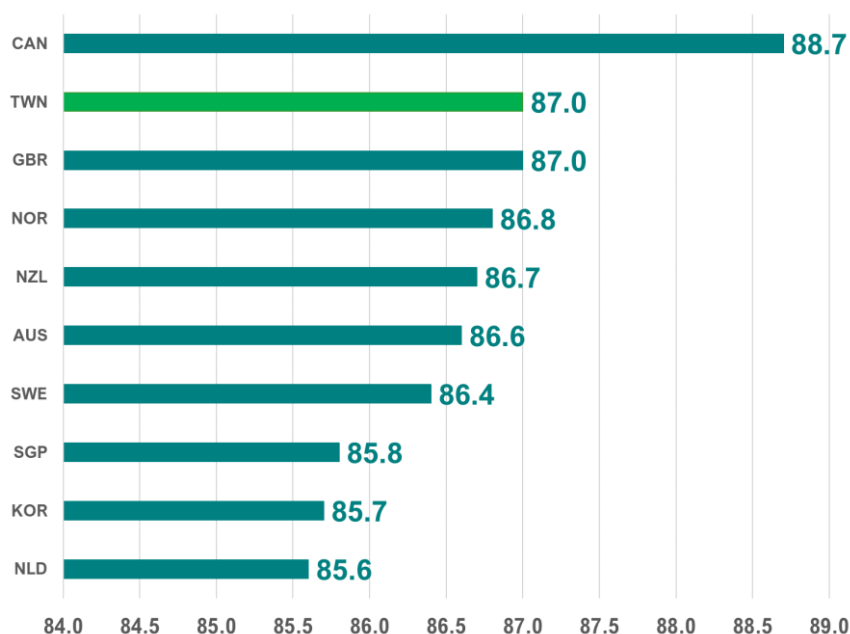


Figure 6- Service Coverage Index above 85

Source: Analysis of 2017 Universal Healthcare Coverage. Ministry of Health and Welfare.

¹ <https://www.roc-taiwan.org/za/post/6184.html>

² <https://www.president.gov.tw/News/23364>

3.Promoting regional revitalization and rural development

- (1) In response to Taiwan's declining population, over-concentration of the population in metropolitan areas, and the imbalance between urban and rural development, the government rolled out a people-centered regional revitalization policy in 2019 to integrate central and local government resources. Through collaboration between the public and private sectors, the government has taken measures to encourage businesses to invest in local communities, introduce advanced technologies, integrate resources of the different government agencies, and encourage community participation in regional revitalization and brand building. The goal is to revive local industries based on local conditions and increase job opportunities so as to attract the younger population back to their hometowns, thus achieving a balance between urban and rural development.
- (2) Regional revitalization includes the creation of a tourist environment, the development of urban and rural specialty industries, the development of farm and fishing villages, the building of long-term care centers, the creation of a cultural environment, the development of diversified indigenous industries, and industry development in Hakka communities. To facilitate regional revitalization, the government has set up youth training centers and provided guidance for youths to take part in revitalization efforts. The government has also used smart technologies to aid local industry development to create new economic models and new lifestyles for local communities. The ultimate goal is to recreate prosperity in urban and rural areas.

(3)Case samples

- Promoting sustainable cacao farming in Pingtung County: Instead of growing betel nuts, which is unfriendly to the environment, the government has encouraged farmers to grow cacao. Standardized practices have been established, and the entire cacao fruit is utilized to the fullest, which is consistent with the concept of a circular economy. Pingtung cacao has won gold medals at international chocolate awards, and its products are exported worldwide.
- ReWood Studio from Hukou Township in Hsinchu has successfully marketed its products overseas: A group of young businesspersons born in the 1980s founded the ReWood Studio brand name at an old charcoal factory in Hukou Village in Hsinchu. They developed 60 cleaning and maintenance products, which they successfully marketed online to Southeast Asia. They hope that other traditional industries may be able to replicate their successful experience.
- Wei Hsun Farm in Shuilin Township in Yunlin is promoting smart farming: The team uses smart farming models to grow produce at a small scale. The process increases competitiveness, lowers the entry barrier to smart farming, and reduces operating costs. The use of smart farming methods also increases the willingness of young people to return to their hometowns to start their businesses.
- Developing low-carbon green industries in Tongshan Township, Yilan County: The township has integrated local farming, education, and shared open spaces to promote tourism and education, focusing on food and agriculture education in particular. The goal is to build an education center to promote food and invite visitors to experience Tongshan Township through local produce, travel, and education.

III. The Environment

1. Developing green energy, recycling resources, and optimizing the environment

(1) To balance both environmental sustainability and energy transition, the government started to develop the green energy industry in 2017 by promoting the Green Energy Industry Innovation Program and encouraging private participation in green energy investment. In 2021, the government launched Green Energy Industry Innovation Promotion Program 2.0 and continued to focus on energy conservation, creation, storage, and system integration. The goal is to be proactive in the above four areas and transform Taiwan into a green energy center in Asia-Pacific. In addition, the government is also actively seeking to improve green energy technology and infrastructure, investing in annual budgets to improve infrastructure and R&D capabilities. Special budgets are also allocated to forward-looking infrastructure projects to fill inadequacies in green energy infrastructure.

- From 2017 to 2021, the renewable energy installed capacity increased by 6.9 GW, and by the end of 2021, the capacity increased by 11.58 GW, which is 1.5 times higher than that during the end of 2016. Solar power installations grew by more than five times, and the two demonstration off-shore wind farms were connected to the grid and started commercial operations in 2019 and 2021, respectively.

(2) To transform the economy from one that is linear to one that is circular, in 2018, the government launched the Circular Economy Promotion Plan. Four major strategies have been adopted, which include the creation of a dedicated R&D zone to develop recycling technology and innovative materials, construction of new recycling demonstration parks, promotion

of green consumption and trade, and facilitating the integration of energy resources and industrial symbiosis. The goal is to develop a circular model whereby resources from manufacturing to consumption are recycled and reused, and ultimately, to achieve zero waste and minimum utilization of environmental resources.

Promote the recycling and reuse of energy resources. At the end of 2021, the recycling and reuse rate of industrial waste reached 81.1 percent. Promote the integration of resources in industrial parks. From 2009 to 2021, the recycling and reuse volume was about 5.06 million tons/year, which led to CO₂ emissions being reduced by a total of 1.14 million tons/year.

(3)Case samples

- The Industrial Technology Research Institute (ITRI) has demonstrated the benefits of recycling and reuse. ITRI has used high-level processing technology to convert food processing wastes, such as soybean residue and lemon peel residue, into dairy cattle feed additives and used soybean residue to produce pet products and feeds.
- CPC Corporation is looking into electricity generation using hydrogen, which is a by-product of the petrochemical process. Hydrogen is collected and reused to generate clean energy, a process that is both environmentally friendly and reduces carbon emissions.
- Taiwan Sugar Corp. is using oyster shell powder combined with plant fiber and plastic to produce plastic imitation wood, which is moisture-resistant, acid- and alkali-resistant, and insect-resistant. The material can be used in aquatic buildings and ceilings.

2.Promoting biodiversity

Although Taiwan is not a party to the Convention on Biological Diversity, the government approved the Biodiversity Promotion Program in 2001, which was subsequently revised to Biodiversity Action Plan for Sustainable Development. In 2011, the government further revised the action plan based on the Aichi Biodiversity Targets. Apart from efforts by the central government agencies, 22 local governments have also incorporated biodiversity into their policies to create mechanisms through which local governments can establish wildlife conservation schemes within their areas of jurisdiction to promote biodiversity mainstreaming. In addition, the Taiwan Biodiversity Observation Network and Observation Data Platform was established in 2019 to monitor the actual biodiversity status on the island. The results of the government's biodiversity efforts include:

- (1) In 2020, forest cover increased to 60.71 percent, which was significantly higher than the global average of 30 percent. Protected areas accounted for 19 percent of the total land area of Taiwan, which is higher than the 17 percent set by the Aichi Biodiversity Targets.
- (2) Within state-owned forestry areas, the percentage of ecological check-ups for the management of wild creeks has reached 100 percent. In reservoir catchment hillside areas, the percentage of ecological check-ups for the management of wild creeks has also reached 100 percent.
- (3) The government has formulated regulations for the collection, preservation, and use of strains of soil organisms, animals, and plants. It has also integrated the investigation, monitoring, and removal of invasive alien species and provided educational training.
- (4) The government has made use of methods such as diverting access roads, impact mitigation, compensation, and substitution to carry out road

planning, design, and construction. For example, in the shallow mountainous areas of central Taiwan, where leopard cat road kill is frequent, the government has implemented conservation measures such as building animal passages, installing active warning systems, and closing highway lanes to give way to purple crow butterfly migration.

IV. Government Governance

1. Promoting sustainable urban development; smart cities ranked 4th worldwide

To ensure sustainable urban development, local governments have set up dedicated departments to promote sustainable development, linking their policy directions to SDGs and developing VLRs for a follow-up review. Some local governments have even mainstreamed their SDGs, which has helped cities move in a more concrete direction toward the UN SDGs.

The central government is actively promoting the Forward-looking Infrastructure Program focused on urban and rural development and rail construction, which can help to improve transportation and the quality of the living environment. To develop a smart Taiwan, the central government is also proactive in assisting local governments in promoting smart cities within the framework of the DIGI⁺ Program. Between 2018 and 2020, the government proposed 223 smart service applications to develop innovative people-oriented applications and public services, such as AI air pollution monitoring, smart parking, and AR/VR smart English learning. In its Asia Silicon Valley 2.0 Promotion Plan, the government used digital technologies such as 5G, AI, and federated learning to develop innovative services, including smart transportation and smart business. The efforts have led to the development of 249 smart solutions in the areas of tourism and retail, next-generation communication, smart transportation, smart manufacturing, smart governance,

and health care. In addition, new innovative applications are being developed across the 22 counties and cities islandwide, which will benefit the development of smart cities and towns and cross-regional cooperation.

(1) Participating in the Carbon Disclosure Project (CDP) and being recognized as A-List cities

Many cities have taken part in the Carbon Disclosure Project (CDP), actively reducing carbon emissions and disclosing to the public the results of their greenhouse gas reduction efforts. The CDP rates the performance of cities around the world on their reduction in greenhouse gas emissions, efforts to adapt to climate risks, and water resources management. In 2018, CDP published a ranking of cities around the world, and cities in Taiwan were named on its A-List.

- In 2018, Kaohsiung, Taichung, and Taipei, together with Hong Kong, made the A-List. Only four cities in Asia were on the list.
- In 2019, nine cities from East Asia made the A-List, with six cities from Taiwan, namely: Taipei, New Taipei, Taoyuan, Taichung, Tainan, and Kaohsiung. The other cities were Hong Kong, Yokohama, and Seoul.
- In 2020, seven cities from East Asia made the A-List, with five cities from Taiwan, namely: New Taipei, Taoyuan, Taichung, Tainan, and Pingtung County. The other cities were Hong Kong and Seoul.
- In 2021, eight cities from East Asia made the A-List, with three cities from Taiwan, namely: Taipei, Taoyuan, and Kaohsiung. The other cities were Yokohama, Tokyo, Hong Kong, Tokyo, and Seoul (Dobong District).

(2) Developing smart cities

All 22 counties and cities in Taiwan are promoting smart cities, covering transportation, housing, and agriculture. For instance, Chiayi County is developing smart agriculture, using smart technology to raise livestock and promote symbiosis between fish farms and electricity generation. On the other hand, Hsinchu City is using smart technology to monitor and analyze daily changes in water quality, while Kaohsiung City is actively promoting optoelectronic smart buildings.

Year	TOP 1	TOP 7	TOP 21
2004		Taipei	
2006	Taipei		
2009			Taoyuan
2010			Taoyuan
2011			Taoyuan
2012		Taichung	New Taipei
2013	Taichung	Taoyuan	Hsinchu
2014		Hsinchu, New Taipei	Taoyuan
2015		New Taipei	Taoyuan, Taitung
2016		Hsinchu, New Taipei	Taoyuan, Kaohsiung, Taitung
2017		Chiayi, Taoyuan	Keelung, Tainan, Yilan
2018		Taoyuan, Tainan, Chiayi	Kinmen
2019		Taoyuan	Chiayi, Keelung, Tainan

Figure 7-Counties and cities in Taiwan named in the Top 7 Intelligent Communities of the Year and Smart21 Communities

Sources: ICF

- In 2009, Taoyuan City was the only city in Asia awarded the Founders Award and named to the Smart21 Communities in the Intelligent Community Forum (ICF) ranking. The city was again included in the Smart21 Communities in 2010, 2011, 2013, 2014, 2015, 2016, 2017,

2018, and 2019, and was named the Top 7 Intelligent Communities of the Year in 2013, 2017, 2018, and 2019; it was also awarded Intelligent Community of the Year in 2019. In 2020, Taoyuan hosted the 2020 Intelligent Community Forum and Top 7 Global Cities Announcement Conference. For its efforts in integrating digital governance and pandemic prevention and control, the Taoyuan City government was honored with the Digital Government Award at the Asian-Oceanian Computing Industry Organization (ASOCIO) awards in 2021.

- The Smart City Index was developed by IMD in partnership with the Singapore University of Technology and Design (SUTD). In 2021, Taipei City ranked 4th, which was four spots higher than 2020. Taipei City ranked second in the Asia Pacific region, next only to Singapore.

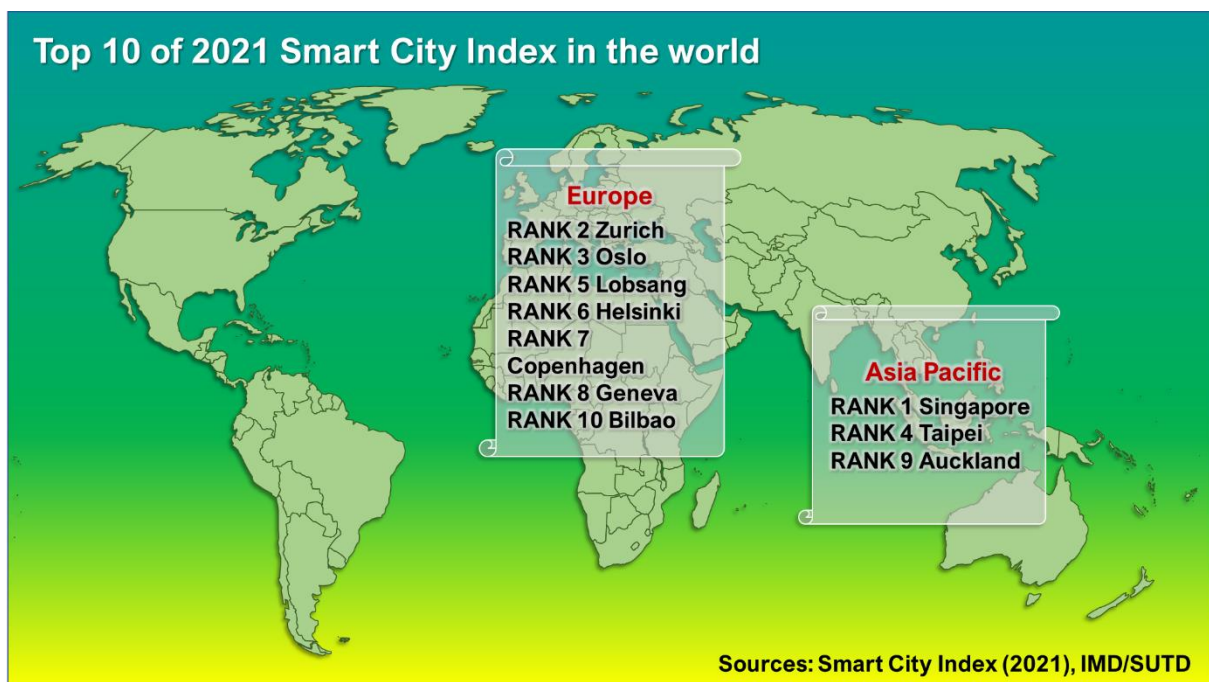


Figure 8-TOP 10 of 2021 Smart City Index in the world

Sources: Smart City Index(2021), IMD/SUTD

(3) Compiling an educational version of the VLR

New Taipei City is promoting a sustainable education policy and has published an educational version of the VLR in 2022. The publication includes character education, adaptive development, quality education, healthy cities, cross-disciplinary talent, and friendly campuses. Starting from grassroots work on school campuses, the New Taipei City government is teaching schoolchildren to become aware of global sustainable development issues and is instilling the concept of sustainability in school and in daily life.

(4) Combining smart and green low-carbon technologies to establish a demonstration area or science city

- Shalun Smart Green Energy Science City in Tainan: Developed using the concept of a circular economy, the science city is a low-carbon and energy-saving community that nurtures biodiversity using green energy technologies such as smart grids and low-carbon transportation systems. It is also a smart eco-city that uses facilities and service systems enabled by smart technologies. After a plan for a demo site for autonomous driving was approved in 2016, work on the demo site was completed, and the demo site was put into use in 2019. Currently, the development of the areas surrounding the science city is also underway.
- Demo site for a sustainable, low-carbon smart city: Work on the Shuinan Trade and Economic Park in Taichung is underway. Upon completion, the park will serve as a demonstration site for smart, low-carbon, and innovative technologies. It will consist of a trade and economic zone, innovative research zone, eco-residential community, an international convention center, an intelligent operation center, and a water recycling center. The park is developed using eco-friendly principles, combining intelligent buildings with energy management systems.

2. Developing smart government

Beginning with e-government in 1996, Taiwan started to promote smart government in 2019, using data to build a public-private collaborative smart governance model. Efforts toward a smart government continued in 2021 when the government launched the Service-oriented Smart Government 2.0 program. The areas of focus include pushing for institutionalization of the use of public data, building an environment conducive to the use of public data, establishing a demand-driven data analysis and decision-making model, and using emerging technologies to develop smart services applications. The goal is to accelerate the release of data to drive the transformation of government services, create public service value through digital governance, reduce information asymmetry between the government and the general public, enhance transparency in governance, and offer innovative government digital services. Among the achievements include:

- (1) Amount of open data: In 2017, Taiwan again ranked first in the Global Open Data Index published by Open Knowledge International.
- (2) Data utilization: In the IMD 2021 World Digital Competitiveness Ranking, Taiwan ranked 4th in the Use of Big Data and Analytics.

At the start of the Covid-19 outbreak in 2020, the National Health Insurance Administration under the Ministry of Health and Welfare released for public access information on the number of face masks available at health insurance contracted institutions and the list of health insurance contracted institutions and pharmacies. In turn, private organizations used the data to develop 142 innovative applications for use by the general public. In doing so, the government was able to assist the public in buying face masks and, at the same time, adjust the supply of face masks according to sales in each area.

(3)AI readiness: In 2022, Oxford Insights released its 2021 Government Artificial Intelligence Readiness Index, which compares the visions for AI, governance and ethics, data availability, and infrastructure among governments. Taiwan ranked 18th out of 160 countries worldwide and ranked 5th in East Asia.

3.Promoting open government and transparent governance

To promote transparency and participation in governance and as part of its efforts to join the Open Government Partnership (OGP), Taiwan created the Open Government National Action Plan Taskforce in 2020, which consisted of representatives from government agencies and the civil sector.

In line with the OGP spirit of transparency, accountability, and public participation, government agencies have worked together with relevant civil sector organizations, convening stakeholders' meetings to formulate the Open Government National Action Plan. The government is committed to working with private organizations to promote open access and information disclosure, expand public participation mechanisms, increase dialog on gender and ethnic inclusion, realize clean governance, and enforce money laundering measures. The results of the government's efforts include:

(1)Promoting data openness and information disclosure: The government formulated the draft of the Guidelines on the Access and Use of Government Open Data to focus on government data with high application value. The government has also created an open data collection platform, adding four sets of data on the environment, including data collected by FORMOSAT-5 during the first half of the year, Taipei City rainfall and flood simulation maps, geologically sensitive areas, and agricultural environment sensing parameters.

(2)Expanding the public participation mechanism: The government established an information-sharing platform and collaboration platform for regional revitalization. An online review scheme is used to lower the threshold for youth participation and develop the ability to review relevant issues.

(3)Increasing dialog on gender and ethnic inclusion: The government released its 4th national report on the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW). It has also formulated the draft of the Hakka Language Development Act and initiated citizen deliberation so that stakeholders can carry out in-depth discussions during the legislative process.

(4)Implementing clean governance: The government released its report on the transparency of political donations, set up government procurement integrity platforms, and worked to pass legislation to protect whistle-blowers. Currently, platforms for more than 50 government procurements have been set up.

- In its 2021 Corruption Perceptions Index, Transparency International ranked Taiwan 25th out of 180 countries, which is the best ranking that Taiwan has received so far.

(5)Enforcing anti-money laundering measures:

The government has launched platforms to allow inquiries regarding relevant information on businesses and companies in Taiwan and for companies to report information on their person-in-charge and major shareholders. It also amended the guidelines for approving the establishment national religious foundation and oversight thereof.

In addition, Taiwan 1996 passed the Money Laundering Control Act, which is the first money laundering prevention law in Asia. In 2017, the

Anti-Money Laundering Office was created under the Executive Yuan to coordinate work on money laundering prevention and control. Since then, nearly 100 anti-money laundering and anti-financial terrorism-related laws and regulations have been amended to tighten financial oversight and trace the flow of illegal money. For its part, the private sector has also strengthened internal control, compliance, and preventive measures. In its 3rd Mutual Evaluation released in June 2019, the Asia/Pacific Group on Money Laundering (APG) awarded Taiwan the best rating of “Regular follow-up.”



Figure 9-Taiwan's APG process result.

Source: (FSC), Executive Yuan, Republic of China(Taiwan)

V. Global Partnership

1. Providing pandemic prevention and control resources to other countries

Since the outbreak in 2020, Taiwan has linked passenger inbound information with the national health insurance database to carry out big data

analysis. With the aid of digital technology, the government implemented an electronic fencing system using cell phone GPS tracking to enforce home quarantines. Big data was used to analyze hot spots, and text messages were used to keep track of those under quarantine to effectively lower the risk of community spread. In addition, the government created a “face mask national team” to ensure an adequate supply of face masks and launched a mask-rationing plan where the general public had to register to purchase face masks. Such measures ensured a stable supply of resources needed for prevention and control, which enabled the economy to function normally. In addition, Taiwan has shared its prevention and control know-how with the international community to contribute to the global fight against the pandemic.

(1) Donating medical supplies and equipment for pandemic prevention

- Diplomatic allies Eswatini, the Marshall Islands, Tuvalu, Palau, and Nauru received face masks, protective gowns, isolation gowns, nucleic acid analyzers, thermal imaging devices, infrared thermometers, infrared forehead thermometers, respirators, and quinine.
- The Philippines, Singapore, Indonesia, Vietnam, Thailand, and Myanmar received face masks, N95 masks, protective gowns, isolation gowns, and automated nucleic acid analyzers. India received medical oxygen cylinders and oxygen concentrators.
- The United States, Japan, and Canada received face masks.
- In addition, local governments also donated supplies and shared prevention and control experiences.
 - ◆ Taipei City donated more than 190,000 face masks and 2,100 protective gowns to San Francisco, Boston, Phoenix, Manila, Quezon City, Prague, Castries, Saint Lucia, Colombo, Sri

Lanka, and Lalitpur, Nepal.

- ◆ New Taipei City donated 2,300 isolation gowns, 1,890 face masks, and 800 cloth masks to Cincinnati, San Francisco, New York, and Landkreis Starnberg in Germany.

(2) Providing technical assistance for prevention and control

- Video conferences: Video conferences with Palau, the Marshall Islands, the Philippines, Indonesia, Malaysia, and Thailand to share relevant prevention and control know-how.
- Capacity training: Online assistance to Palau on screening and sampling, remote consultation, and installation of laboratory virus testing equipment.

(3) Coordinating with local hospitals to dispatch a team of disease prevention experts to Eswatini, as well as providing assistance and guidance in critical care to health care workers in Eswatini.

2. Promoting global partnerships

(1) In 2020, Taiwan's official development assistance (ODA) budget was approximately US\$501.6 million (about NT\$14.31 billion), accounting for 0.073 percent of the gross national income (GNI), up from 0.051 percent in 2019.

(2) In 2020, Taiwan provided assistance to friendly countries, primarily in the area of infrastructure for social development, followed by infrastructure in the economy and agriculture, fishery, and forestry sectors. Major areas of assistance included health care, education and scholarships, agriculture, fishery and forestry, municipal construction, economic infrastructure, and humanitarian assistance.

(3) Partner countries, methods, and the scope of partnerships

- Assistance provided to over 25 countries, including, among others: Eswatini (including vocational education and vocational training improvement and maternal and infant health improvement); Paraguay (including programs to improve the efficiency of medical information management); Honduras (including forest pest control, avocado cultivation expansion); Belize (including urban resilience and disaster prevention); Saint Lucia (including the integration of information technology in educational development); Nauru (including food diversity promotion); Guatemala (including expansion of bamboo growing); and Nicaragua (the development of saba banana).
- Aid and scope of aid: These include bilateral and multilateral aid to assist the economic and social development of recipient countries.
- Bilateral aid: Technical services and humanitarian aid were provided through technical and medical missions abroad and overseas service missions. The government also subsidized education and training and assisted in infrastructure projects.
- Multilateral aid: Working together with international organizations such as the Association of Medical Doctors of Asia (AMDA) to donate medical equipment to Nepal; donation to the Western and Central Pacific Fisheries Commission (WCPFC) to establish the Chinese Taipei Trust Fund; cooperation with international organizations such as the Border Consortium (TBC) to provide better nutrition and education at refugee camps and with the European Bank for Reconstruction and Development (EBRD) to provide concessional financing to eight projects through the Green Energy Special Fund (GESF). The projects include municipal infrastructures such as LED streetlights, smart

meters, electric buses, waste-to-energy, and biogas recovery. Green financing was also planned for the private sector to encourage enterprises and households to invest in energy efficiency, sustainable resources, and climate change adaptation and mitigation.

(4) Local governments joined international organizations to form partnerships.

More than 10 cities, including New Taipei City, Taichung City, Taipei City, Taoyuan City, Kaohsiung City, Pingtung County, and Hsinchu County, have joined the Local Governments for Sustainability (ICLEI) to share their experiences in promoting sustainable cities by observing and learning from each other.

- In 2018, New Taipei City, representing Taiwan as an executive member of the East Asia region, attended the ICLEI World Congress 2018 and signed the Montreal Action Plan 2018-2021 to share the commitment with global cities to accelerate the sustainable development of cities and regions in the next six years.
- In 2021, Taoyuan City was invited to participate in the online forum Daring Cities 2021, organized by ICLEI. The mayor of Taoyuan delivered an address to share Taoyuan's efforts in eco-logistics and sustainable development. These included the promotion of eco-logistics with a focus on technology, low carbon, and people, and building eco-logistics demonstration zones to encourage innovation in the logistics industry, such as the use of intelligent warehousing systems, automated equipment, and shared warehousing to increase operational efficiency. During the development process, there was also good interaction with relevant stakeholders. It is through collaboration between the public and private sectors that the vision of a sustainable city may be realized.

3.Schools promoting global partnerships

The second phase of the university social responsivity (USR) program calls for alignment with SDG indicators. The USR initiatives are divided into two categories focusing on features of the universities and global connectedness. Global connectedness is primarily linked to Partnerships for the Goals (SDG17), encouraging schools to partner with international organizations to promote cross-border cooperation and develop cross-border curriculum and teaching so as to disseminate practical domestic experience to the international community and contribute to the realization of SDGs among nations. This approach also brings in quality international resources and enhances a school's international influence.

(1)Contributions of universities in 2022 to the SDG17 efforts ranked 55th worldwide

- Times Higher Education (THE) publishes the World University Ranking based on 11 out of 17 UN SDGs (SDG17 is a compulsory category) to measure the social impact of a university.
- In 2022, 45 universities from Taiwan are included World University Ranking, with the top two placing 33rd and 37th, respectively, and the SDG17 ranking is 55th in the world. The ranking included 1,406 universities worldwide.

(2)Case samples

During the pandemic, National Taiwan University worked with Luke International Malawi to promote opportunities for public health practice in Malawi, which included disease prevention, response, and control in Mzuzu through local contact tracing and attending relevant meetings. The NTU team also helped the Mzuzu Medical Center with data management on the novel coronavirus pneumonia and the creation of an online health data platform to allow public access to real-time information.

4. Collaborating with NGOs to promote global partnerships

In line with the United Nations' SDGs, the government has long worked together with Taiwan's domestic NGOs and INGOs to offer healthcare, education, public health, and humanitarian aid to diplomatic allies and countries in South Asia. Overseas aid offered includes:

- (1) The government, together with the Noordhoof Foundation, organized a training program for seed medical personnel on craniofacial malformations. Another training program was organized jointly with the Sunshine Social Welfare Foundation in Central and South America for rehabilitation personnel treating patients with burn injuries.
- (2) The Taiwan Root Medical Peace Corps has provided timely medical and humanitarian assistance to more than 49 countries, especially in times of major natural disasters such as the Haiti earthquake in 2010 and the Nepal earthquake in 2015. In 2020, the Peace Corps was ranked 144th among the top 500 global NGOs by Global Geneva.
- (3) Committed to the core spirit of the UN Convention on the Rights of Persons with Disabilities, Eden Social Welfare Foundation is committed to social services both in Taiwan and abroad. Its work includes donating aids, employment training for persons with physical disabilities, and post-disaster assistance. The Foundation proactively participates in international organizations such as Rehabilitation International and the International Association for Volunteer Effort.

3.2 Progress in Implementing SDGs

I. SDG1: Strengthen social care services and economic security for the disadvantaged

Building a blissful society where no one is left out, where all people can live in peace and work happily, and where all can enjoy all their basic rights are keys to achieving sustainable development. Based on UN SDG1, “End poverty in all its forms everywhere, ”Taiwan has set its own SDG1 as “Strengthen social care services and economic security for the disadvantaged.”

1. Major Policy Directions or Measures

(1) Enhance the self-support rate of the financially vulnerable

A. Helping low-income and middle-to-low income households rise from poverty

The government uses the public budget and rebates from the sale of charity lottery to subsidize municipal, county, and city governments in carrying out relevant measures to help households escape poverty, and it is working together with welfare organizations to improve the schooling environment. For instance, the government has provided referral and counseling services to job seekers from disadvantaged families to remove barriers to employment, financial management education, after-school counseling for children, and transportation subsidies during the job-seeking process. In addition, for those who are able but are unemployed, the competent authorities in the municipalities, counties, and cities have provided employment referrals, vocational training, or temporary work instead of relief.

B. Assisting economically disadvantaged children to accumulate savings

The government has created accounts for the future education and development of economically disadvantaged children to help them accumulate savings. The goal is to help accumulate assets, invest in education, and offer freedom in employment. By giving children equal access to quality education and career development opportunities, they would grow up to become self-reliant.

C. Launching relief programs

To assist those affected by COVID-19 and who are mired in financial difficulties because they are unable to work, the government, in 2020 and 2021, launched expanded emergency relief programs. In 2020, 373,000 people benefitted from the program, and a total of NT\$4.98 billion were disbursed. In 2021, about 882,000 people benefitted from the program, and a total of NT\$16.56 billion were disbursed.

(2) Enhance the protection and equality of all citizens in starting businesses and seeking employment

To help those who intend to start their own businesses, the government provides entrepreneurship training courses, business start-up consulting services, and interest subsidies for business start-up loans to facilitate access to capital and help stabilize operations during business start-ups.

(3) Safeguarding the economic security and well-being of the disadvantaged

A. Safeguarding the livelihood of the economically disadvantaged

The government has continued to distribute the cost of living subsidies to the eligible low-to-middle income elderly population, disadvantaged children and youth, persons with physical and mental disabilities, and children from families with special needs.

B. Mitigating the impact of the pandemic on the livelihood of the disadvantaged

To mitigate the impact of the pandemic on the livelihood of the economically disadvantaged, the Executive Yuan approved additional disbursement of cost of living subsidies to the disadvantaged. From April to June 2020, the eligible low-to-middle income elderly population, disadvantaged children and youth, and persons with physical and mental disabilities received an additional NT\$1,500 in subsidy per person per month.

(4) Increasing the coverage rate of long-term care service

A. Stabilizing the foundation of long-term care services

Since the implementation of Long-term Care 2.0 in 2017, the government has focused on “aging in place” in building a community-based long-term care service system. By implementing standard fees for long-term care services, a contracting system for long-term care service providers, and a user-friendly information system, the number of long-term care service users grew from 106,000 in 2017 to 357,000 by the end of 2020, which represented a 236 percent increase. This continued increase will encourage the participation of more service providers.







B. Expanding service capacity to meet demand

The expansion of the Integrated Community Services Center (Tier A), Complex Service Centers (Tier B), and Alley Long-term Care Stations (Tier C) will help to improve the overall community care service system. In addition, culture and health stations will be set up based on the needs of the local elderly population and the distribution of long-term care resources among local indigenous peoples.

2. Major Progress

Selecting Principles of Highlighting Indicators

- 1) Reference to countries, evaluation indicators from international organizations, or countries with foreign partnerships;
- 2) Consider the coherence to SDGs;
- 3) Outcome indicators;
- 4) To highlight the implementation results, increase Additional Indicator with reference to international attention.

1 NO POVERTY			
 Achieved 2020 target  Failed to achieve 2020 target; slightly behind  Failed to achieve 2020 target			
Indicator	Target	2020 Actual Value	Progress
1.1.1 Rate growth of the portion of self-reliance in the economically disadvantaged.	7%	13.6%	
1.3.6 Rate of the dependent population of low and middle-low-income households in total population.	2.9%	2.66%*	
Additional Indicator Relative Poverty Rate	11.2% (global average)	7.05%	

Note: The promotion of social welfare policies has resulted in a decline in the number of low-and-middle-income households, as well as a decrease in the dependent rate (in total population). This indicator has been revised and set a more reasonable target.

Figure 10-Process review on SDG 1

In the area of improving the self-reliance of the economically disadvantaged, the self-support rate of the low-income and low-to-middle income households was 13.6 percent at the end of 2020; the target of exceeding 7 percent was achieved. In the area of safeguarding the disadvantaged, the percentage of the dependent population from low-income and low-to-middle income households in the total population was 2.66 percent in 2020, which was lower than the target of 2.9 percent. This is mainly due to the implementation of government policies to alleviate poverty, which helped the disadvantaged to become self-reliant. As a result, the number of low-income and low-to-middle income households has decreased every year. The target will be revised to less than 2.9 percent in the future.

In addition, according to the OECD data³ in December 2021, the relative poverty rate in OECD countries was 11.2 percent in 2019. Taiwan's figure is between 6.6 percent and 7.4 percent on average, which is better than international levels.



Figure 11- Selected Indicators of SDG 1

Source: Taiwan SDGs follow-up and assessment database. Directorate General of Budget, Accounting, and Statistics.

II. SDG2: Ensure food security, eradicate hunger, and promote sustainable agriculture

Faced with climate change, the COVID-19 pandemic, and the impact of the Russia-Ukraine war on food supply, Taiwan has formulated SDG2, which aims to ensure food security, eradicate hunger, and promote sustainable agriculture. By

³ OECD Income Distribution Database (IDD).

establishing new agricultural models, building an agricultural security system, and improving agricultural marketing capabilities, Taiwan aims to accelerate industry structure transformation and upgrade. In addition, Taiwan continues to develop smart agriculture and improve the traceability of agricultural products in order to increase the added value of agricultural products and ensure the sustainable development of agriculture.

1. Major Policy Directions and Measures

(1) Safeguarding soil and water resources to ensure food security

- Understanding the status quo of agricultural land resources and completing the classification of agricultural development zones

The government completed the 2019 inventory of national agricultural land resources, which would be used for policy making in the agricultural sector and land use. In addition, in accordance with the Spatial Planning Act, relevant guidelines and operational mechanisms will be developed for the classification of agricultural development zones, which will be used to guide local government planning and safeguard the total quantity and quality of agricultural lands.

- Promoting land use planning within the agricultural sector to ensure reasonable use of agricultural land and resources

To ensure that agricultural development zones are converted into quality agricultural development areas, the government has provided guidance to local governments in carrying out comprehensive agricultural land use planning and developing regional value chains so as to facilitate the appropriate deployment of agricultural resources. To facilitate the overall planning of rural areas, the government has guided land use planning in the agricultural sector to prevent the loss of quality agricultural land and to maintain food security.

- Restructuring of irrigation associations and planning for more efficient use of irrigation water

After the Irrigation Act was announced in July 2020, irrigation associations were upgraded to become official government agencies on October 1 of the same year. The new agency is responsible for providing more expansive irrigation services and ensuring the quality of irrigation water. Its efforts allow the agricultural sector to become more resilient and will safeguard the livelihood of farmers, which in turn will help ensure food security and promote sustainable agriculture.

(2) Promoting sustainable agriculture

- Promoting good agricultural practices to increase the production and safety of agricultural products

As of March 2022, the sources of Traceable Agricultural Products (TAP) have expanded to include 65,000 hectares, more than three times the land area compared to the end of 2018. The government encourages organic production and environmentally friendly farming. To strengthen international cooperation and trade and promote TAP, the government has signed organic equivalency agreements with Japan, New Zealand, Australia, the United States, and Canada.

- Expanding and diversifying markets and increasing the self-sufficiency rate of domestic produced food products

Due to COVID-19, global trade and consumption have decreased, and international shipping costs have risen, thus affecting export markets. In response, the government has provided incentives to diversify export markets and assist in the export of agricultural products.

Domestically, the government is promoting school lunches at elementary schools and meals in the military as ways to maintain the supply and demand of farm products and increase the food self-sufficiency rate.








(3) Improving harvest and increasing agricultural output value in the face of extreme climate

To mitigate the effects of extreme weather on crop harvests, the government is promoting the use of adaptive breeding and subsidizing the building of reinforced greenhouses that provide better protection against the elements. In addition, the government has adjusted production and distribution measures and has organized international campaigns. For instance, it is using e-commerce and farmers' markets to expand market demand for domestic agricultural products, thereby increasing the overall value of the products.

(4) Continuing to promote policies related to farmers' welfare to improve the social safety net

To safeguard the quality of life for retired farmers, lower the risk of agricultural operations, and safeguard farmers' income, the government promulgated the Agricultural Insurance Act in May 2020 and the Farmer Pension Act in June 2020. In addition, the government continues to encourage the farmers to join the farmers' health insurance and has launched an occupational injury insurance scheme for farmers on a trial basis so as to improve farmers' occupational safety and offer a more comprehensive social insurance system to farmers.

2. Major Progress

  Achieved 2020 target  Failed to achieve 2020 target; slightly behind  Failed to achieve 2020 target 			
Indicator	Target	2020 Actual Value	Progress
2.1.1 Prevalence of undernourishment.	Provide indicator data	Complete the preliminary estimation*	
2.2.1 Prevalence of stunting among children under 5 years of age.	≤3.5%	0.81%	
2.4.1 Percentage of agricultural area adopting sustainable practices.	20.7%	has reached 20.7%	

Note: Data collection and the preliminary estimation have been completed.

Figure 12- Process review on SDG 2

With regard to the prevalence of undernourishment, since Taiwan currently has no indicator that corresponds to the minimum calorie requirement set internationally, the goal was to determine the minimum requirement in Taiwan. After meetings between government agencies and experts in April 2021, an initial assessment of the current calorie intake and target values was completed. In the future, continuous follow-up monitoring will be required to understand domestic trends and adjust the target values and policies accordingly.

As for the nutritional requirements during the different stages of a person's development, the incidence of developmental delay among children in Taiwan was 0.81 percent in 2020, which was below the target of 3.5 percent. In the area of sustainable food production, sustainable agricultural practices were used in 20.7 percent of the farmlands in 2020, meeting the target of that year. This shows that through proactive marketing of TAP products and organic farm products, the government has effectively promoted organic and environmentally friendly farming.

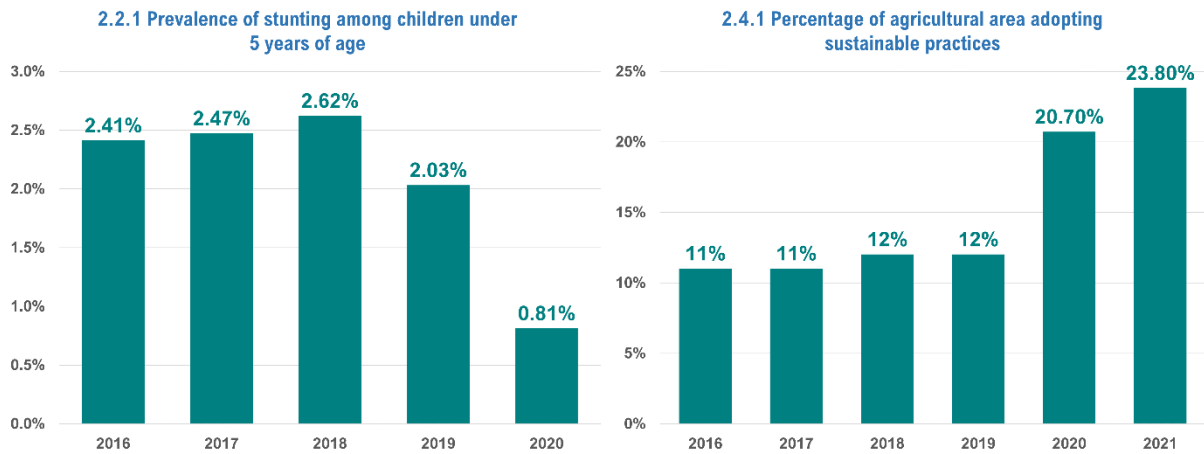


Figure 13- Selected Indicators of SDG 2

Source: Taiwan SDGs Follow-Up and Assessment Database.

III.SDG3: Ensure healthy lives and promote well-being for all at all ages

Improving human health and well-being is at the core of the UN 2030 Agenda. As COVID-19 severely affected public health and livelihoods, countries are placing greater emphasis on improving public health systems and achieving universal health coverage. Based on the UN SDGs, Taiwan has formulated SDG3, which aims to ensure healthy lives and promote well-being for people of all ages.

1.Major Policy Directions and Measures

(1)Reducing cancer death rate among people aged 30 to 70

- Enforcing the Cancer Control Act and providing public education on cancer prevention and treatment

Implementation of the Cancer Control Act involves the treatment, early detection, and prevention at the source. Government agencies are working together to use multiple media platforms to disseminate information on cancer prevention and treatment. In addition, the government is collaborating with private organizations to provide health education at the community level.

- Promoting cancer screening services and improving the quality of treatment

The government continues to offer screening for four types of cancer: cervical cancer, breast cancer, colorectal cancer, and oral cancer. It has compiled a list of accredited hospitals that provide patient-centered, medically proven treatment and care. The government also encourages the public to build healthy lifestyles and keep away from risk factors. These measures are taken to improve the quality of treatment to reduce deaths.

(2) Reducing the mortality rate of chronic diseases among people aged 30 to 70

Public health agencies, clinical teams, and professional organizations work together to promote healthy habits, provide preventive health services, and detect chronic diseases and associated risk factors at an early stage. Care for patients with chronic diseases is focused on the individual, with family and the community providing additional support. For instance, the government has created an online platform for diabetes care and has compiled a list of medical institutions specializing in diabetes and kidney disease so as to offer continuous, accessible, and high-quality care.

3. Reducing the incidence of AIDS and tuberculosis and strengthening health emergency preparedness measures

- Reducing the incidence of AIDS and tuberculosis

The government has referred to the experiences of the WHO and international institutions and carried out exchanges with experts from the United States and Australia on prevention strategies and practical experiences. The government is also working together with departments of health at the local government level, designated medical institutions for AIDS treatment, medical associations, and community groups to increase awareness and remove the stigma. In addition, the government is also promoting pre-exposure prophylaxis, multiple screening, and immediate treatment. For tuberculosis, the government has a Directly Observed

Treatment Short-Course (DOTS) in place, has established the Taiwan Multidrug-resistant Tuberculosis Consortium (TMTC), and provides screening for latent TB infection.

- Strengthening health emergency preparedness measures

During the outbreak of COVID-19, the government immediately established the Central Epidemic Command Center (CECC) to coordinate and direct the mobilization of resources and manpower. Responsibilities of the CECC include monitoring and analysis of outbreaks internationally, border control and inbound quarantine measures, implementation of prevention and control strategies in communities without the need for medical intervention, procurement and domestic R&D of vaccines, and production of face masks. To strengthen disease prevention and control moving forward, the center will continue to implement risk control and promote universal vaccination and integrate advanced technology into health management to build a resilient society.

(4) Lowering maternal mortality rate and mortality rates of newborns and babies under five years old

The government is committed to building a quality pre-and-post natal care system. With the implementation of the program designed to optimize medical care for children, each county and city now has at least one key hospital for children's care and a medical center for perinatal care, which are responsible for high-risk pregnancy and newborn care, so as to reduce the risk of delivery and provide quality newborn care. For expectant mothers, the government continues to provide maternity check-ups and eugenic care to ensure a safe pregnancy. There is also a program to look after women with high-risk pregnancies, where the focus is on follow-up care to reduce maternal mortality. 24-hour emergency and intensive pediatric care is also available. To lower the mortality rates among

newborns and children under five years old, the government continues to carry out retrospective analyses of the causes of death, improve the review process, and expand such reviews to more counties and cities.

(5) Building a smoke-free environment to reduce smoking and exposure to secondhand smoke

To protect children and the youth from tobacco use, reduce the number of smokers, and reduce the impact of tobacco use on national health, government agencies are working together with private organizations, businesses, and the public to campaign against smoking, build a smoke-free environment, provide services to help quit smoking, monitor progress, and carry out research and international exchanges.

(6) Promoting traffic safety

The government has formulated the Senior Citizen Road Accident Prevention Plan; a rolling review is carried out every quarter, the results of which are reported to the Traffic Safety Committee under the Ministry of Transportation and Communications. Strict training is required for would-be drivers, and some counties and cities are working together with the Directorate General of Highways and businesses to provide safety training to motorcycle delivery personnel.

2. Major Progress

3 GOOD HEALTH AND WELL-BEING		😊 Achieved 2020 target	😞 Failed to achieve 2020 target; slightly behind	😞 Failed to achieve 2020 target
Indicator		Target	2020 Actual Value	Progress
3.1.1	Maternal mortality rate.	≤11.6‰ ⁰⁰⁰	13.0‰ ⁰⁰⁰ * ¹	😞
3.2.1	Under 5 Mortality rate.	≤5.0‰	4.3‰	😊
3.2.2	Neonatal Mortality rate.	≤2.4‰	2.4‰	😊
3.3.1	Number of new HIV infections per 1,000 uninfected population.	<0.20‰	0.11‰	😊
3.3.2	Tuberculosis incidence per 100,000 population.	<40‰ ⁰⁰⁰	33‰ ⁰⁰⁰	😊
3.4.6	Age-Standardized Suicide Rate.	≤12.0‰ ⁰⁰⁰	11.8‰ ⁰⁰⁰	😊
3.6.1	Number of road traffic fatalities.	<2,500	About 3,000 ²	😞
3.a.1	Smoking rate of adults above the age of 18.	<14.5%	13.1%	😊

1. Because of the higher maternal age (the risk of childbirth increases) and the number of births declines.
2. Indicator 3.6.1: Due to the large number of locomotives used in Taiwan and the entry into an aging society, the number of traffic accident deaths among the elderly is increasing year by year.

Figure 14- Process review on SDG 3

In 2020, the mortality rate of children under 5 years old was less than 5 per 1,000, and the figure had been steadily decreasing over the past three years. The neonatal mortality rate was 2.4 per 1,000, which also had been steadily decreasing over the past three years. The maternal mortality rate was higher than the target of 11.6 per 100,000 due to the higher risk associated with advanced maternal age and the decline in the number of births. However, compared to 2019, the mortality rates in recent years continued to be lower than 30. The government has continued to offer measures to ensure safe pregnancy and safeguard maternal and child health of the vulnerable. For the number of newly diagnosed AIDS cases involving patients aged 15 to 49 and the incidence of tuberculosis, both health targets were achieved. The figures show that Taiwan is proactive in promoting prevention and treatment measures to effectively reduce the risk of transmission of AIDS and tuberculosis.

The government continues to promote suicide prevention efforts through home visits and counseling. In 2020, the standardized suicide death rate of 11.8 per 100,000 people was lower than the established target. The number of deaths

from road traffic accidents was about 3,000, mainly due to a large number of motorcycles and the aging population; the number of traffic deaths among the elderly is increasing every year. In addition, smoking among the population over 18 years old decreased from 15.3 percent in 2016 to 13.1 percent in 2020, indicating that the anti-smoking campaigns worked to reduce the smoking population.



Figure 15- Selected Indicators of SDG 3

Note: In 2019, the available data showed that 90 percent of the contracted cases took medication. This figure did not reflect the number of new HIV infections among people aged 15 to 49. For this reason, the figure for 2019 was not included in 3.3.1.

Source: Taiwan SDGs Follow-Up and Assessment Database.



SDG3 Results: Individual Case Study

MEDICLOUD SYSTEM OF THE MINISTRY OF HEALTH AND WELFARE

Introduction

Since the implementation of the National Health Insurance (NHI) system in 1995, the coverage rate has reached 99.9 percent. To ensure the sustainable development of the NHI system, the government has implemented strategies that involve the general public, medical institutions, and government to provide safer and better medical care for the public. The goal is to achieve a more accurate diagnosis, less duplication of prescriptions and tests, and more reasonable use of resources. In addition, smart government services have been created to improve the performance of health insurance services.

Project Objectives and Practices

Under the MediCloud System, a cloud-based data platform is built to store a patient's health and medical records, including consultation records, prescriptions, and examinations. With special attention to data security and patient privacy, the system allows medical personnel to access the cloud database to avoid duplication of prescriptions and increase patient safety. In addition, patients can access My Health Bank online to look up personal health information and safeguard their right to know.

Results

Impact on society: In response to the pandemic, the government has integrated national health insurance, immigration, household registration, and police data to effectively monitor the activity history and health conditions of people at risk. In addition, the national health insurance card of each individual was also used for registration to purchase face masks, which allowed for a more efficient distribution of disease prevention resources. In the spirit of international mutual aid, the public also made use of the NHI Express app to help offer humanitarian aid.

Impact on the environment: The MediCloud system compiles information on patients' doctor's visits and prescriptions. During a doctor's visit, the system automatically displays whether the patient still has enough medication, which helps eliminate duplication of prescriptions.

Impact on the economy: Medical institutions can also share medical images through the cloud system. This will save costs on further CT and MRI examinations. In addition, the system effectively reduces the duplication of drugs for six types of chronic diseases, including hypotension and lipid-lowering drugs. This has resulted in savings in drug expenses of approximately NT\$340 million a year.

IV.SDG4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Education is an essential process for acquiring knowledge, developing attitudes, and learning skills; it is also an important building block for achieving SDGs. Based on the UN SDGs, Taiwan has formulated SDG4, which aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. The goal is to ensure that all citizens have access to inclusive, equitable, and quality education at all stages of life and to promote lifelong learning so that people can fully maximize their potential and cultivate a sense of equity, justice, respect for diversity, and democracy.

1.Major Policy Directions and Measures

(1)Providing equitable and high-quality education opportunities

- Providing free, equitable, and high-quality basic education

Ensure that all students up to age 15 can complete free, equitable, and high-quality compulsory education and acquire basic academic skills.

- Providing child care services

Provide innovative services at community-based public child care centers and expand public child care services that are both accessible and available. This will increase access to nursery schools and ensure that small children who require special assistance have access to preschool care.

- Ensuring affordable and high-quality higher education

Ensure equitable, affordable, and high-quality access to higher education for both youth and adults.

(2) Enhancing career development and lifelong learning

- Enhancing the ICT skills of the youth

Increase opportunities to develop ICT skills among the youths and expand their technical and vocational skills required at the workplace.

- Providing vocational training for the disadvantaged

Ensure access to education and vocational training at all levels for disadvantaged groups, including persons with physical and mental disabilities, indigenous people, and disadvantaged children.

- Promoting adult lifelong learning

Establish community colleges and other lifelong learning pathways to provide diverse learning opportunities for adults and ongoing education to the public to promote adult participation in lifelong learning.

(3) Building environmental education facilities to realize education in sustainable development

- Incorporating education on sustainable development to increase global literacy

Implement the medium-term plan for human rights education and civic education from the Ministry of Education to advance teachers' civic awareness and awareness of human rights and gender equality education so as to enable teachers to incorporate them into different curricula and facilitate students' participation in public affairs; continue to promote policies related to multiculturalism, diversity development, and cultural accessibility, so as to ensure that learners acquire the knowledge and skills needed to promote sustainable development.

- Building environmental education facilities to realize education in sustainable development

Continue to promote the Greenschool Partnership Program and the Sustainable Campus Project and establish comprehensive and professionally certified environmental education facilities to promote environmental education on campus and realize education in sustainable development.

- Providing talent and facilities to enhance the quality of education

Provide Internet access on campuses and relevant aids to students with physical and mental disabilities, as well as maintain an adequate number of faculty to ensure the quality of education.

2. Major Progress

4 QUALITY EDUCATION	Achieved 2020 target		Failed to achieve 2020 target; slightly behind		Failed to achieve 2020 target	
	Indicator	Target	2020 Actual Value	Progress		
4.1.1 When students complete basic education before age 15, the percentage of students who achieve level 2 or higher in reading and mathematics on the PISA exam should increase (PISA is held once every three years).	1. Overall : Reading: 83% Mathematics: 87.5% 2. By gender: Reading: Male 79.5%, female 87% Mathematics: Male 87%, female 88%	1. Overall* : Reading: 82.1% Mathematics: 86% 2. By gender: Reading: Male 78.7%, female 85.8% Mathematics: Male 85.1%, female 86.8%				Note*
4.2.1 Condition of children under age of 2 accepting educare services.	88%	92.99%				😊
4.3.1 The acceptance rate of youth and adults in higher education during the past 12 months.	77.5%	79.2%				😊
4.5.1 The opportunities for indigenous students to obtain higher education.	53.0%	54.7%				😊
4.6.1 Increase the participation rate of adults (above the age of 18) in lifelong learning.	33.84%	39.51%				😊
4.a.1 The rate of schools with integration of information technology into digital learning.	100%	100%				😊

Note: The statistical period of indicator 4.1.1 has not reached yet. Taiwan has participated in the "Programme for International Student Assessment" (PISA) since 2006. The last time Taiwan participated in PISA was in 2018, so the 2018 data will be used.

Figure 16- Process review on SDG 4

The OECD Programme for International Student Assessment (PISA) started in 2000 and is conducted once every three years. Taking part in the survey for the first time in 2006, Taiwan students in 2018 ranked number five globally in mathematics, and their reading literacy scores were significantly

higher compared to 2015. PISA 2018 used a computer-based assessment, as opposed to the paper-based assessment that Taiwanese students were used to; thus, some of the targets were not met. In 2020, 92.99 percent of children under the age of two received edu-care services, significantly higher than the original target of 88 percent. This shows that public and quasi-public child care services have substantially reduced parents' burden on child care.

The participation rate of youths and adults in higher education during the past 12 months was 79.2 percent, and the gross enrollment rate of indigenous students in 2020 (2020-2021 academic year) was 57.6 percent; both figures achieved their targets. In the area of lifelong learning, based on the 2020 Adult Education Survey, the adult participation rate in lifelong learning was 39.51 percent, which exceeded the 33.84 percent target. This indicated that lifelong education-related policies, such as promoting community colleges and elderly learning centers, were effective.

In the area of digital learning, 100 percent of schools below the senior high school level have Internet access and computer for use in teaching, which was higher than the 4.a.1 world target of 40 percent (Internet) and 48 percent (computer); the results show that Taiwan is in line with the standards of advanced countries. According to the 2018 OECD TALIS (Teaching and Learning International Survey) international survey, schools below the senior high school level in Taiwan ranked below international levels in “lacking or without digital technology for teaching” and “Internet access not widespread.” This shows that Taiwan has made considerable achievements in providing an equitable learning environment.

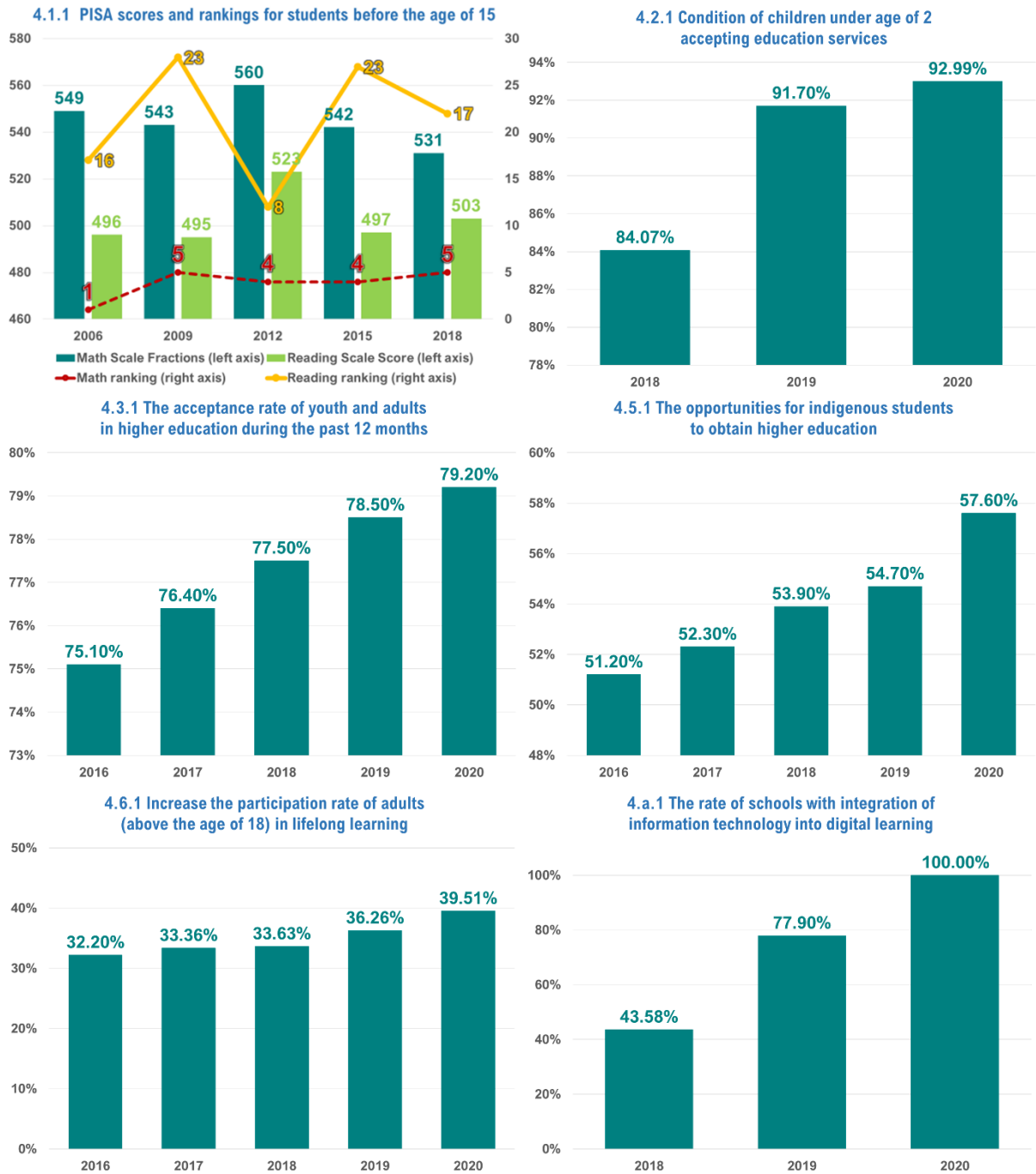


Figure 17- Selected Indicators of SDG 4

Source: Taiwan SDGs Follow-Up and Assessment Database.

V. SDG5: Achieve gender equality and empower all women and girls

Gender equality is a basic human right and the foundation of a sustainable society. To achieve gender equality and empower all women, it is necessary to safeguard women's right to self-determination, right to life, and personal safety, eliminate gender stereotypes, promote the division of domestic work, break down

gender segregation in the workplace, and increase women's representation in politics and business. Toward this end, Taiwan has formulated SDG5, which aims to achieve gender equality and empower all women and girls.

1. Major Policy Directions and Measures

(1) Reducing imbalance in the sex ratio at birth

- Continuing to implement measures to balance the sex ratio at birth from the source and use multiple channels to disseminate information to the public to reduce the imbalance.

Keep track of the sex ratio at birth in medical institutions and fertility clinics in the community; establish a mechanism to report on abnormal sex ratios in the community; continue to disseminate information through multiple channels to encourage the public to refuse gender screening of babies and respect gender equality, so as to foster an environment that fosters gender equality and advocates that girls and boys are equally precious.

(2) Lowering the legal minimum age of marriage for women to 18 years old and reducing the proportion of marriage registration of women under the legal age for marriage

Amendment to the legal age of marriage for women was completed in December 2020. After the amendment, the legal age of marriage for men and women has become the same, which highlights the equal legal status of men and women. The age check mechanism has been tightened, and efforts to increase awareness of the legal age of marriage increased in order to prevent underage marriages.

(3) Reducing the gap between time spent on unpaid domestic chores and care work by women and their spouses or partners

Implement measures to eliminate gender stereotypes and prejudices and subsidize civil organizations to organize activities to help eliminate the traditional division of work in the family and promote gender equality; incorporate the campaign against the traditional division of work in the family into the annual onsite performance review on social welfare; encouraged local governments to include in their awareness campaign the concepts of male participation in family care and housework.

(4) Encouraging government departments at all levels to advance and promote female supervisors and heads; encouraging political parties to increase women's participation in politics; increasing the proportion of female police officers and female managers of listed companies; guiding and encouraging women to be enterprise representatives.

- In addition to regularly updating the gender ratio information on members of the cabinet, the government also forwards recommendations to increase the proportion of female heads when assigning political appointees.
- Local governments are encouraged to give priority to the minority gender when promoting heads of level-1 agencies and heads of their subordinate level-1 agencies, provided that the candidates are equally qualified.
- Continuing to promote women's participation in politics to political parties and assisting political parties eligible for campaign subsidies to expand women's participation in politics and ensure women's empowerment.

- Supervising municipal, county, and city police departments to ensure that at least one of the chiefs or deputy chiefs of the women and children protection division is a woman so as to increase the proportion of female police officers.
- Compiling statistics on the gender of managers of listed companies and encouraging listed companies to promote women as managers through social responsibility-related campaign activities.
- Promoting the Women Entrepreneurship Program to provide customized and integrated services to women at different stages of entrepreneurship and with different needs.

(5) Proposing amendments to the Genetic Health Act and enhancing women's self-determination

Amendments are being considered to ensure the right to self-determination of married women and unmarried adult women with regard to induced abortion and litigation. Also under consideration are amendments to relax the need for spousal consent, lower the age for self-determination, and the introduction of judicial or administrative, or relevant mechanisms for dispute resolution.

2. Major Progress

5 GENDER EQUALITY				
Achieved 2020 target Failed to achieve 2020 target; slightly behind Failed to achieve 2020 target				
	Indicator	Target	2020 Actual Value	Progress
5.1.1	Sex ratio at birth.	1.068%	1.080%*	
5.5.4	The percentage of female police officers.	13.24%	14.17%	
5.5.5	The percentage of female managers in listed companies.	Confirm that The Taiwan Stock Exchange and Taipei Exchange collects and establishes the gender statistics of managers of listed companies in accordance with the definition of managers in 2019.	<ul style="list-style-type: none"> • Complete the establishment of target • this ratio has reached 29.4% in 2020 	
Additional Indicator Gender Pay Gap			14.8%	long-term downtrend

Note: Indicator 5.1.1 still higher than the level of the past four years. The government will continue to promote the concept of gender equality through various channels.

Figure 18- Process review on SDG 5

The sex ratio at birth in 2020 was 1.08 percent, which continued to be higher than levels over the past four years. The government continues to use multiple channels to promote awareness and instill the concept of gender equality.

In addition to encouraging government agencies at all levels to promote women as supervisors and heads of administrative agencies at all levels, the government has also implemented a policy to increase the ratio of female police officers. As a result, the proportion of female police officers increased from 11.92 percent in 2016 to 14.17 percent in 2020. In addition, the Taiwan Stock Exchange and the Taipei Exchange compiled gender statistics for managers of listed companies in 2020, and the ratio of female managers of listed companies reached 29.4 percent during that year.

In terms of the gender pay gap, the pay gap increased from 14.6 percent in 2018 to 14.9 percent in 2019 but decreased to 14.8 percent in 2020 under the government's continuous promotion of gender pay equality. In the long term, the gap in the average hourly wage between the two genders also showed a significant narrowing trend during the last decade.

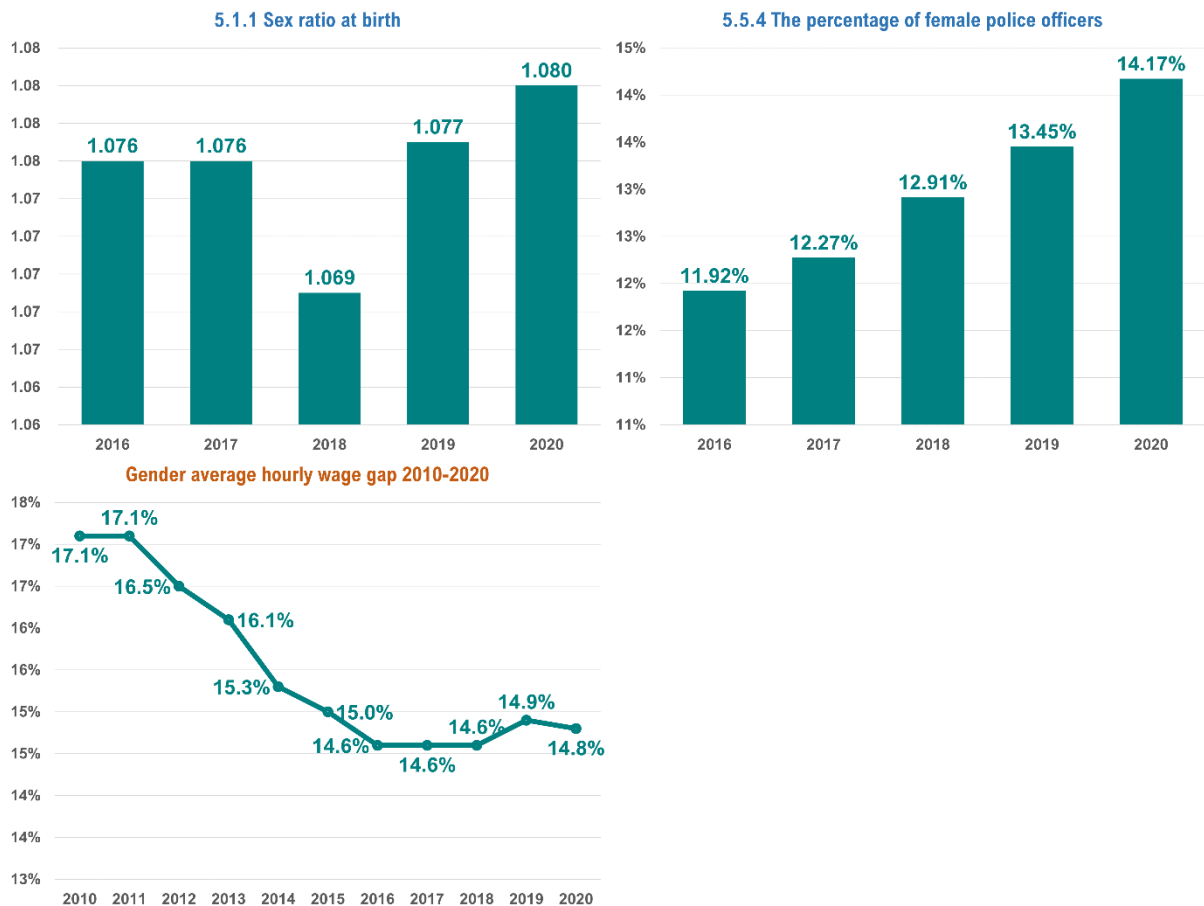


Figure 19- Selected Indicators of SDG 5

Note: Average hourly wage gap (%) = (1 - percentage of women's wages versus men's wages) x 100

Source: Taiwan SDGs Follow-Up and Assessment Database; Department of Statistics, Ministry of Labor. Labor Statistics Bulletin: Gender Wage Gap in 2020. March 26, 2021.

VI.SDG6: Ensure environmental quality and sustainable management of environmental resources

In recent years, Taiwan has faced multiple environmental issues and challenges due to global climate change, Taiwan's small land area and dense population, and rapid changes in socio-economic activities. The challenges include the increasing amount of environmental pollutants, water, and air

pollution, waste disposal issues, soil pollution, and the release of toxic chemical substances. Along with the increase in national income, the public has started to demand improved environmental quality. For this reason, Taiwan's SDG6 is focused on ensuring environmental quality and sustainable management of environmental resources.

1. Major Policy Directions and Measures

(1) Improving the recycling and reuse of waste resources to enable circular production and lifestyle

- Reducing the amount of general waste and promoting resource recycling

Promote waste reduction at the source for consumer products, emphasize environment-friendly designs, and implement policies to limit the use of plastic bags; promote extended producer responsibility (EPR), improve the management of income and expenditures of the Recycling Management Fund, and use economic incentives to encourage resource recycling and reuse; assist and supervise local governments in the proper handling of general waste and encourage the conversion of wastes into energy or resources to establish a circular system of waste processing.

- Increasing the recycling and reuse of waste materials among businesses to properly process business waste

Formulate waste management policies for businesses and improve legislation, compile baseline information of businesses to be regulated, improve the tracking mechanism of business waste and e-management, and fully track the quantity and flow of domestic waste.

(2) Improving wastewater management to ensure the sustainable use of land and groundwater resources

Improve the management of business wastewater discharge, reduce pollution-intensive industries, set maximum discharge limits and tighten effluent standards, and reduce pollution in rivers; encourage households to install sewage pipelines, promote the construction of underground sewerage systems and the recycling and reuse of sludge and wastewater discharge from treatment facilities; extend the lifespan of underground sewerage systems and built a cloud system for real-time management of sewerage systems islandwide; carry out real-time control and management of systems operations to increase the resilience of cities against disaster.

Carry out forward-looking infrastructure projects and water-related environmental projects; adopt measures to decrease the amount of pollution, use intercepting sewers and river purification methods to improve the water quality of rivers and reservoirs; accelerate the remediation and rehabilitation of polluted sites and agricultural lands; monitor the quality of the substrate, improve the overall groundwater management strategy, and promote the sustainable use of land resources.

(3) Strengthening water resources management

Promote the recycling and reuse of effluent from treatment plants; develop strategies to guide industries to use alternative water sources and promote water conservation measures, including the recycling of effluent from treatment plants in industrial areas for use by neighboring plants; encourage industries to use reclaimed water from public treatment plants and factories and use recycled water from nearby manufacturers to improve the efficiency of water use in industries in order to increase the recycling rate of water resources.

(4) Improving air quality to protect national health

The government uses control of stationary, mobile, and fugitive sources of pollution and policies to accelerate air quality improvement. Specific measures include: setting emission standards for different industries, reducing the current sources of pollution, emission reduction at state-run enterprises, reducing boiler emissions, issuing permits for fuel use and management thereof, implementing an emission cap, controlling the emission of hazardous air pollutants (HAPs), management of automatic continuous monitoring systems, reviewing the pollution fee for stationary sources, limiting volatile organic compound (VOC) in paints, managing construction sites and bare lands, reducing exhaust from restaurants, greening of bare lands and vertical greening, reducing raised dust at the Choshui River, improving diesel vehicles, phasing out and replacing old motorcycles, electrification of city buses, more efficient use of ship and aviation fuel, port transportation control, improving air pollution contingency measures, refining simulation models, improving the emission data system, strengthening basic research on air pollution, upgrading and maintaining monitoring instruments, and personnel training.

(5) Effective management of chemical substances to build a healthy and sustainable environment

Different government agencies have coordinated efforts to carry out risk assessment and management of chemical substances. Other measures include amended regulations relating to the Toxic and Concerned Chemical Substances Control Act; implementing relevant control in accordance with the Minamata Convention on Mercury and Stockholm Convention; implementing the Environmental Hormones Management Plan to stay engaged with the international community; screening and evaluating toxic and concerning chemical substances and the regulation thereof; performing

audits; auditing reports on release quantity and investigating dispersion of chemical substances in the air; and subsidizing local governments to strengthen the management of announced chemical substances.

2. Major Progress

6 CLEAN WATER AND SANITATION		Achieved 2020 target	Failed to achieve 2020 target; slightly behind	Failed to achieve 2020 target
Indicator	Target	2020 Actual Value	Progress	
6.3.1 Number of households taking over public sanitary sewers and the served rate of public sanitary sewer.	3.1 million households, and the penetration rate is 36%	About 3.38 million households, and the penetration rate is 37.9%		
6.3.2 Percentage of population served by waste water treatment plants.	60%	64.49%		
6.4.2 Water recovery rate of industrial park.	72.0%	72.9%		
6.4.3 Process water reclamation ratio in science parks.	85%	87.86%		
6.a.1 Projects in terms of assisting developing countries to improve their water and sanitation system.	Assist in promoting improved water and sanitation related programs in developing countries.	Assisted in total 2 projects to improve water and sanitation in developing countries.		

Figure 20- Process review on SDG 6

To improve sewage treatment, the government is accelerating the construction of sewerage systems and encouraging households to utilize sewage pipelines. In 2020, the public sewerage connection rate was 37.93 percent, while the sewage treatment rate was 64.49 percent. The water recycling rate in industrial zones was 72.9 percent, while the reuse rate was 87.86 percent. All four goals were met, showing that although manufacturing continued to be the main industry, Taiwan has made every effort to improve the efficiency in the use of water resources in the process of economic development.

In addition, since 2016, Taiwan has expanded international partnerships by assisting developing countries to improve water usage and sanitation each year. Examples include the water, sanitation, and hygiene (WASH) assistance program in Sulawesi, Indonesia, and the rainwater harvesting program in schools and communities in Jordan.

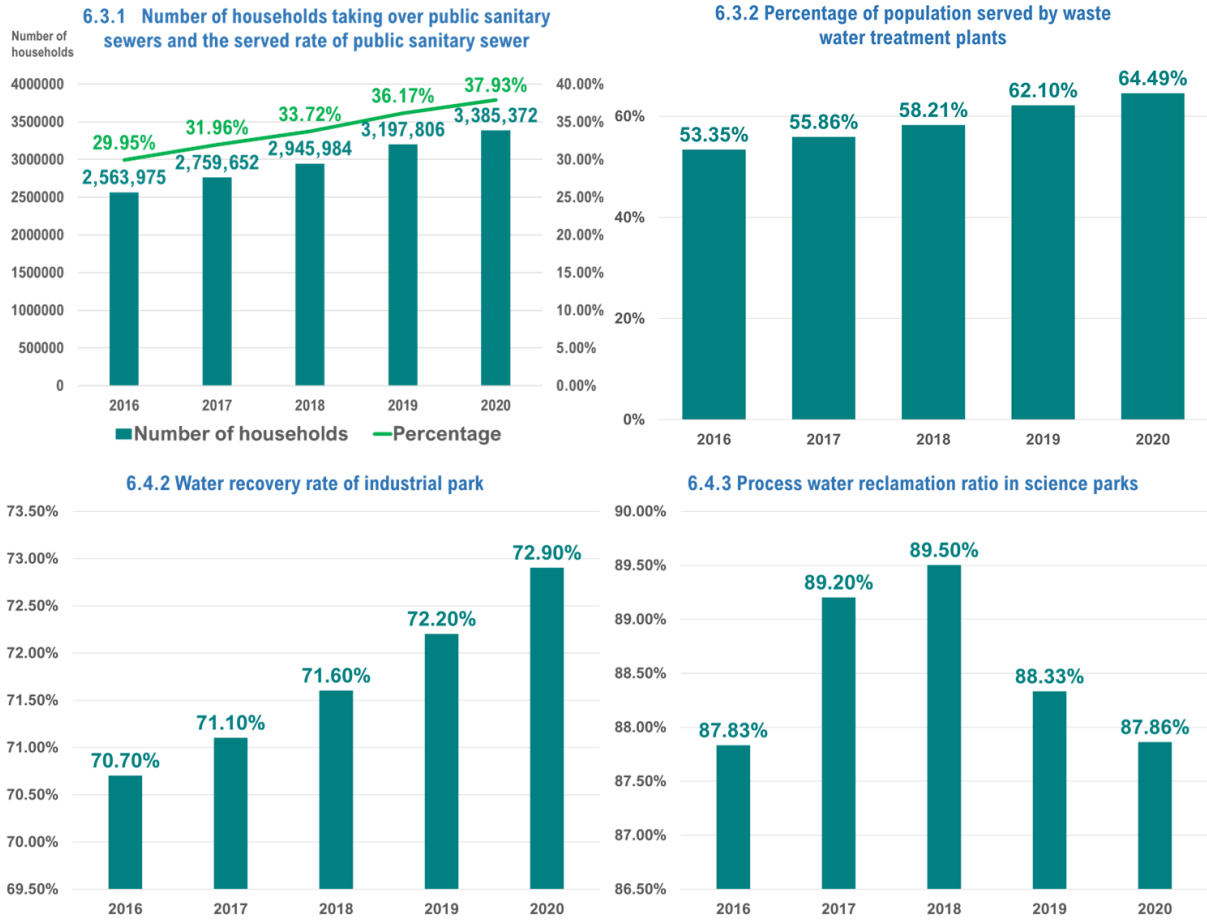


Figure 21- Selected Indicators of SDG 6

Source: Taiwan SDGs Follow-Up and Assessment Database.



SDG6 Results: Individual Case Study

COLLECTION AND REUSE OF EFFLUENT FROM WASTEWATER AND SEWAGE TREATMENT FACILITIES AND THE PROMOTION OF WATER RECLAMATION PROJECT

Introduction

Although sewerage construction is not visible to the public, the government insists on doing the right thing. In addition to the yearly increase in sewage pipeline connections among households and improved overall sewage treatment, the government has continued to improve the living environment and river water quality. It is also using sewage treatment and reuse to successfully convert black water into “blue gold,” increasing the recycling of water resources and further driving the development of water-related technologies.

Project Objectives and Practices

The government has encouraged industries and factories to reuse effluent from treatment plants to stabilize water supply during the dry season, and water reclamation plants have been built to develop water-related technologies to supply water at different quality levels to meet different needs. In addition to supplying reclaimed water to industrial areas, Taiwan is also the first in the world to supply reclaimed water for high-tech wafer manufacturing. The government has carried out an overall environment friendliness assessment of treatment and reclamation plants so that treatment plants, along with water technologies and environmental education, can be linked together to create a sustainable water environment.

The water reclamation project in public treatment plants is expected to supply 289,000 tons of reclaimed water for daily industrial use by 2031, which is equivalent to the daily water consumption of 1.2 million people. The project will help promote the sustainable development of water resources. Since reclaimed water comes from domestic wastewater, the construction of sewage systems will continue to expand the scale of water reclamation projects. Doing so will increase the ability of industries to adapt to climate change and improve Taiwan's competitiveness.

Results

It is not easy to promote the conversion of domestic wastewater into reclaimed water. Through collaboration between the public and private sectors, the Fengshan River Water Reclamation Plant, which is the first small-scale urban reservoir in Taiwan, was completed and started operations in August 2018; the project also paved the way for other demonstration projects. Making efficient use of this hidden urban water resource and reusing domestic wastewater after treatment is the focus of the Ministry of the Interior moving forward. The future focus will include innovative developments in sewer systems to ensure sustainability.

VII. SDG7: Ensure access to affordable, reliable, sustainable and modern energy for all

An energy transition is a key to sustainable energy development. The government is dedicated to developing clean energy through the use of green energy and gas, reducing the use of coal, and phasing out nuclear energy. To achieve this, the government is developing renewable energy, increasing the use of natural gas in power generation, and working toward achieving low-carbon power generation. In doing so, the government can help increase the international competitiveness of industries, ensure a stable power supply, improve energy self-sufficiency, as well as reduce air pollution and carbon emissions. For this reason, Taiwan's SDG7 is committed to promoting energy transformation, increasing low-carbon energy supply, and efficient use of energy to ensure access to affordable, reliable, sustainable, and modern energy for all.

1. Major Policy Directions and Measures

(1) Ensuring universal access to energy services and increasing the share of electricity generation with clean fuels

- Ensuring universal access to energy services

To ensure universal access to energy services, applications for electricity services are not restricted by the economic conditions of the individual or household. In remote areas, households do not need to pay the line installation fee, and the rate of success for applications is 100 percent.

- Increasing the share of clean fuel power generation

With ensuring a stable electricity supply as a precondition, the government is dedicated to the development of renewable energy by using gas, reducing the use of coal, and other eco-friendly sources to increase the share of clean fuel power generation.

(2) Increasing the installed capacity of renewable energy

The focus is on solar power and off-shore wind.

- Solar power

The government has launched a program to realize solar power generation targets, focusing on the following areas: industrial zones; solar power generation within the husbandry, agriculture, and fishery industries; and collaborative efforts between the central and local governments. Demonstration sites have been set up, and projects are implemented on a case-by-case basis. These efforts serve as a foundation for the steady increase in solar power generation toward the 2025 target of 20GW. In December 2020, the installed capacity totaled 5.82 GW, an increase of 367.2 percent compared to the 1.25 GW in 2016.

- Offshore wind

To achieve the target of 5.7 GW by 2025, the government has approved the Four-year Wind Power Promotion Plan, which is implemented in three stages: the building of demonstration sites, identifying potential development sites, and zonal development. The first demonstration wind farm (128 MW) was completed on December 27, 2019, while the other wind farms are expected to be completed by 2025.

(3) Implementing mandatory energy efficiency policies to improve energy efficiency

- Mandatory energy efficiency policies to limit end-use energy consumption








The government continues to implement the minimum energy performance standard (MEPS) and has increased the number of items covered by the mandatory policy. By reviewing the existing regulatory

standards and revising and tightening the energy efficiency standards of products, the government is limiting energy consumption from the source by prohibiting the sale of high energy-consuming products in the domestic market. The government has also enforced energy efficiency regulations to encourage industries to adopt more energy-efficient methods and improve energy management efficiency during production and operation. For automobiles and motorcycles, there is also regulation in place to implement energy efficiency management and limit the total number of vehicles on the road.

- Promote energy efficiency

To instill public awareness related to energy conservation and carbon reduction, the government has adopted strategies to gradually put mandatory requirements and standards in place. The seven strategies include technology research and development, demonstration of applications, incentives and subsidies, industry promotion, energy audits and consultation on energy-saving measures, educational campaigns and policy support, and mandatory regulations and standards.

2. Major Progress

7 AFFORDABLE AND CLEAN ENERGY 				
 Achieved 2020 target  Failed to achieve 2020 target; slightly behind  Failed to achieve 2020 target				
Indicator	Target	2020 Actual Value	Progress	
7.1.2 Proportion of clean fuel power generation.	46%	46.6%		
7.2.1 Cumulative installed capacity of renewable energy.	10,875MW	9,482MW*		
7.3.2 Energy intensity.	2% improvement over 2015	2.93% average improvement from 2016 to 2020		

Note: Due to the COVID-19 epidemic, coastal management laws, and outflow control (to reduce the risk of flooding), etc., the progress of solar photovoltaic installations has been affected; Offshore wind power is lagging behind mainly due to the impact of the COVID-19 epidemic and public protests.

Figure 22- Process review on SDG 7

The transition to low-carbon energy has resulted in preliminary results. In order to ensure a stable electricity supply and achieve the efficient use of energy, the government will continue to increase the use of natural gas and reduce the use of coal, increase the share of renewable energy use, and improve energy efficiency. In 2020, clean energy accounted for 46.6 percent, representing a 101.3 percent achievement rate. The total installed capacity of renewable energy was 9,482 MW; the 87.2 percent achievement rate was slightly behind the 2020 target but still 22 percent more than that in 2019. The development of solar power was severely affected by COVID-19, the Coastal Zona Management Act, and strict border control, all of which slowed down installation. The Executive Yuan has established a coordination mechanism across three levels of government and strengthened cooperation with local governments to facilitate the achievement of solar power targets. There was also a delay in the installation of offshore wind, mainly due to COVID-19 and public protests. In response, the government held consultation meetings with stakeholders to identify areas that would be excluded from development to prevent further protests and accelerate zonal development. A consensus has been reached with the offshore wind industry and fishing associations. From 2016 to 2020, the energy intensity (energy consumption/GDP) improved by an average of 2.93 percent per year, which represented an achievement rate of 146.5%. The government will continue to move forward with the transition to low-carbon energy by 2025.

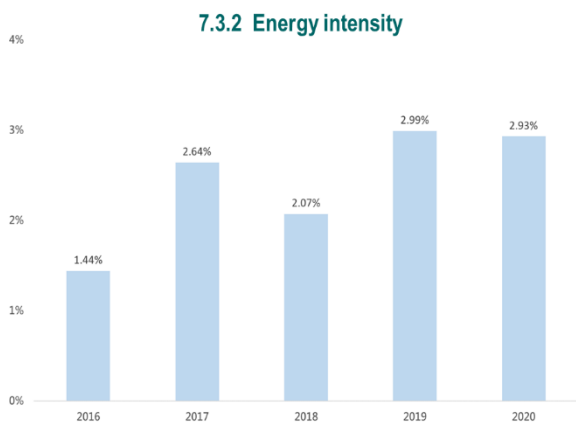
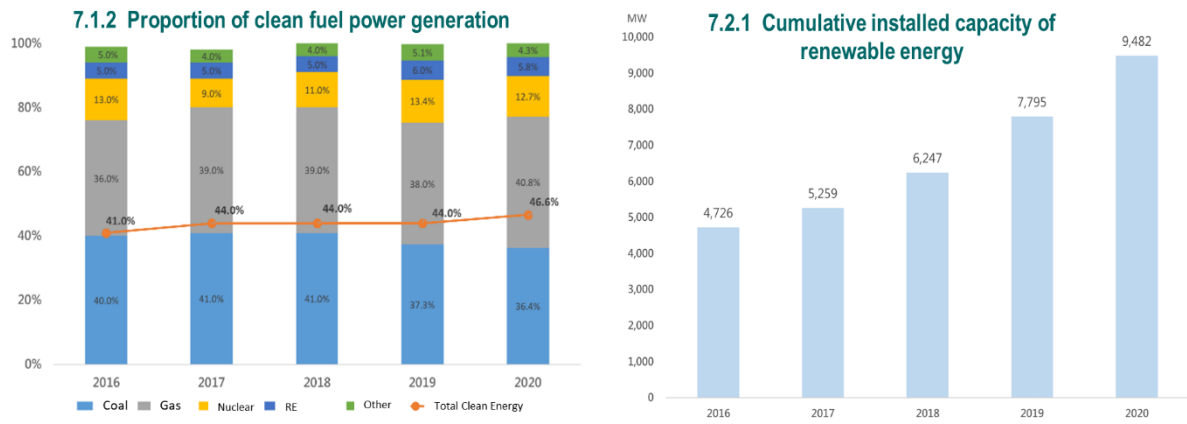


Figure 23- Selected Indicators of SDG 7

Source: Taiwan SDGs Follow-Up and Assessment Database.

VIII. SDG8: Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all

In response to climate change and to reduce the impact of extreme climate events, the government is committed to creating a new sustainable economic model and upholding the core values of innovation, employment, and distribution. While creating jobs and quality work opportunities, the government will also take into account the equitable distribution of the fruits of economic growth. For this reason, Taiwan has formulated SDG8, which aims to promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.

1. Major Policy Directions and Measures

(1) Implementing relief measures to alleviate the impact of the pandemic

In 2020, the global economy was severely hit by the pandemic. In response, the government passed the Special Budget for the Prevention and Control of COVID-19 and Economic Stimulus and Relief. It released NT\$1.26 trillion in stimulus and relief packages to provide financing, interest subsidies, employment, and tax relief to assist individuals and industries.

(2) Building a new model of sustainable economic development and promoting the digital transformation of industries










To respond to the trend toward digital innovation, accelerate the upgrade of industries, and build a new model of economic development, the government has implemented forward-looking infrastructure projects. The government is actively promoting the Digital Nation and Innovative Economic Development Program (2017-2025), or DIGI+, and the 5+2 Industry Innovation Program. The focus is on the six core strategic industries, channeling capital into infrastructure construction and strengthening policies to nurture and attract talent. The goal is to develop Taiwan into a digital, smart island and provide momentum for future economic growth.

(3) Improving employability of the youth and manpower training within industries to increase workplace safety

In order to improve the skills and know-how of the youth and narrow the gap between school and the workplace, the Ministry of Labor has launched training programs for the youths to increase their professional knowledge and employment skills and to assist them in finding suitable employment. In addition, to assist the unemployed in upgrading or developing their skills, the Ministry also provides pre-employment training

and assists in post-training employment. To ensure the safety and health of workers in the workplace, the Ministry also launched a three-year plan covering 2018 to 2020 to reduce incidents at the workplace. The plan used resources from various sectors to ensure workplace safety through oversight, inspection, campaigns, consultation, and collaboration among industries.

2. Major Progress

8 DECENT WORK AND ECONOMIC GROWTH			
 Achieved 2020 target  Failed to achieve 2020 target; slightly behind  Failed to achieve 2020 target			
Indicator	Target	2020 Actual Value	Progress
8.1.1 Economic growth rate.	2.5%-3% (2017-20 Average)	3.13% (2017-20 Average)	
8.3.1 Enhancing SMEs in the green industry access to finance through the credit guarantee schemes.	Over NT1,400 billion (2016.11-2020 grand total)	NT3,363 billion (2016.11-2020 grand total)	
8.5.1 Unemployment rate.	3.75%-3.82% (2017-2020 Average)	3.76% (2017-2020 Average)	
8.6.1 Number of young people participating in vocational training and employment rate after training.	80,000 (2017-2020 grand total) 84%	130,806 (2017-2020 grand total) 86%	
8.7.1 Fatality rates of occupational injuries per 1,000 workers.	<0.021‰	0.023‰*	
8.7.2 Occupational disability, injuries and illnesses rate per 1,000 workers.	<2.7‰	2.526‰	

Note: Due to the recovery of the domestic economy and the return of Taiwanese businessmen, the demand for construction projects and delivery services for online shopping has increased significantly. For the above reasons, the decline in occupational accident deaths in 2020 was less than expected.

Figure 24- Process review on SDG 8

Taiwan has been affected by the COVID-19 outbreak. However, with concerted efforts from the government and the people, the spread of the disease has remained relatively under control, with limited impact on economic growth and employment. From 2017 to 2020, the average economic growth rate was 3.13 percent, while the unemployment rate remained at 3.76%. The goals have been achieved.

To promote inclusive and sustainable economic growth, the government helped small and medium-sized enterprises in the green industry obtain financing of more than NT\$336.3 billion from November 2016 to 2020. In addition, to ensure that all can have quality employment opportunities, the

government has initiated measures to improve the employability of young people. Over the years, the total number of people who had received vocational training and the employment rates have met the set goals.

To promote a safe working environment, the government has taken measures to reduce injuries at the workplace. In 2020, the number of disabilities resulting from workplace incidents and injuries per 1,000 people dropped to 2.526, thus meeting the set goal. The number of deaths due to workplace incidents per 1,000 people was 0.023. However, due to an increase in the number of construction projects as the economy slowly recovered, the decline in the number of deaths in construction industry was slow. In the transportation, catering, and retail industries, domestic demand increased, and the number of workplace incidents was not reduced. Although the set goals were not met, the numbers were only slightly off and were at a record low.

The government will continue to implement policies and measures focused on innovation, employment, and distribution to facilitate industry transformations and promote inclusive and sustainable economic growth.



Figure 25- Selected Indicators of SDG 8

Source: Taiwan SDGs Follow-Up and Assessment Database.

IX.SDG9: Built affordable, safe, environmentally friendly, resilient, and sustainable transportation

To provide affordable and quality transportation services, meet the needs of the public in all forms, and ensure sustainable transportation development, the government uses public policy and invests resources to develop public

transportation. The goal is to reduce the use of private transportation and achieve the goal of energy conservation and emission reduction in the transportation sector. Taiwan's SDG9 aims to build affordable, safe, environmentally friendly, resilient, and sustainable transportation.

1. Major Policy Directions and Measures

(1) Improving the capacity of public road transport, railway, and high-speed rail

- Enhancing the quality and improving the competitiveness of public transportation services

Through the Public Road Transport Diversification and Promotion Plan (2017-2020) and steady investment of resources, the government has used collaboration and marketing campaigns to promote public transport development. Some of the measures implemented include the provision of high-quality and diversified public transport services to meet the needs of the public, the use of public transport information to develop value-added applications to increase the public's willingness to take public transport, and the integration of the resources of the central and local governments and private sector to provide better services.

- Improving transport services by expediting the procurement of new trains and replacement of old TRA trains

By expediting procurement and replacement of trains, the government continues to improve medium-to-long distance intercity transport on the East-West mainline and inter-region transport along the western mainline. In addition, the government will continue to automate ticketing operations and integrate ticketing, scheduling, information, and station services with different types of transport systems to provide more convenience to passengers.

- Promoting different fare levels for the high-speed rail to further develop the tourism market

Taiwan High Speed Rail continues to promote different fare levels, review fare discount schemes (e.g., regular tickets, return tickets, and discounts for university students), further tourism market development, and develop international markets. This is achieved through cross-industry cooperation (e.g., issuance of transportation coupons and holiday discounts). In addition, THSR will continue to offer membership schemes and membership benefits to increase the willingness of people to take the high-speed rail.

(2) Improving the accessibility of public transport in rural areas

Provide additional public bus routes in rural areas and promote demand-responsive public transport that uses both buses and local modes of transport; promote the Happy Bus Project, with the aim of achieving sustainable operations by integrating resources and using multiple subsidies so that residents in rural areas can also enjoy low cost and convenient public transportation services.

(3) Increasing the number of accessible public transport, equipment, and facilities

- Increasing the number of access-free vehicles to provide accessible transport services

Enforce the provisions of the People with Disabilities Rights Protection Act and the Guidelines for the Installation of Access-free Facilities for Public Transport, subsidize local governments to purchase low-floor buses or access-free buses to increase the number of access-free vehicles; promote access-free public transport stations, and improve the surrounding connecting environment to help the elderly, women, children,

and passengers with physical disabilities enjoy access-free transport services.

- Improving access-free facilities and equipment at Taiwan Railway








Taiwan Railway is working to raise the height of platforms at its train stations to make them align with the train ramps and improve its facilities and equipment to offer more reliable, safe, punctual, comfortable, and convenient transport services. In addition, Taiwan Railway is also installing access-free elevators at its train stations in conjunction with the Hualien-Taitung Efficiency Improvement Project and the Six-Year Railway Safety Improvement Plan.

(4) Improving road safety management

In addition to using big data analysis and traffic safety campaigns at the grassroots level, the government is also using technology for traffic enforcement to correct drivers' bad driving habits, enforcing zero tolerance for drunk driving, and calling attention to safety at road intersections.

The government uses campaigns to remind university students to observe safety while riding motorcycles. It is campaigning to allow buses onto school campuses and is working together with the Ministry of Education to encourage colleges and universities to offer traffic safety courses.

2. Major Progress

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE				
 Achieved 2020 target  Failed to achieve 2020 target; slightly behind  Failed to achieve 2020 target				
	Indicator	Target	2020 Actual Value	Progress
9.1.3	The growth percentage of passenger volume of high speed rail.	24.6% (compared to 2015)	13.21%* ¹	
9.2.1	The proportion of rural areas households accessing bus service within 500 meters.	88%	88.33%	
	Additional Indicator ^{*2} Proportion of R&D spending in GDP		3.63% (2020)	
	Additional Indicator ^{*2} Proportion of mobile broadband users in mobile phone market		100% (2020)	

1. Affected by the COVID-19 epidemic, the growth rate of indicator 9.1.3 was 13.2% compared to 2015, which did not meet the expected target.
 2. Taiwan sets targets for SDG9 only in transportation. With reference to the international R&D ratio and mobile broadband users as indicators, these two are added as Additional Indicator. These data are from the 2022 IMD World Competitiveness Annual Report.

Figure 26- Process review on SDG 9

Due to the impact of COVID-19, high-speed rail passenger volume in 2020 increased by 13.2 percent compared to 2015 but did not meet the target of 24.6 percent growth. The percentage of rural area households with access to bus services within 500 meters was 88.3 percent, which met the target. Considering Taiwan's demographic structure, economic profile, and global positioning, the government only set transportation goals for its SDG9. Because there are countries that have used the percentage of R&D expenditure and percentage of broadband subscribers as indicators, the two items were thus added to the indicators. According to the IMD 2020 World Competitiveness Ranking, the percentage of R&D expenditure and the percentage of broadband subscribers were ranked among the highest in the world, coming in at 3rd and 1st, respectively.



Figure 27- Selected Indicators of SDG 9

Source: Taiwan SDGs Follow-Up and Assessment Database; IMD World Competitiveness Annual Report.

X. SDG10: Reduce inequality within and among countries

To eliminate economic discrimination, racial discrimination, discrimination against persons with physical and mental disabilities, gender discrimination, and other forms of discrimination and to reduce income inequality so as to promote social inclusion and equal opportunity, Taiwan's SDG10 aims to reduce inequality within and among countries.

1. Major Policy Directions and Measures

(1) Improving income distribution

- Increasing care for the disadvantaged to reduce their daily burden

Continue to offer social welfare subsidies and expand the allocation

of resources to increase the source of income of disadvantaged families and help them rise from poverty; implement strategies (2018-2024) in response to the low birth rate to reduce the burden of raising children; review the basic wage annually to promote salary growth.

- Strengthening employability and increasing employment opportunities

To enhance workplace competitiveness, assist businesses, and increase employment opportunities, the government is promoting diverse pre-employment training to nurture talent needed by the industries. Toward this end, the government integrates resources from the industry and education sector to offer vocational training programs for youths and the unemployed based on the needs of industries and the labor market.

(2) Promoting social inclusion and eliminating discrimination

- Increasing the employment of indigenous peoples

From 2017 to 2020, the government implemented the third phase of its program to increase employment among the indigenous population. Using three main strategies of enhancing skills needed for employment, creating employment opportunities, and expanding service networks, the government offered vocational courses to meet employment needs, increased their work-related skills, and assisted indigenous job-seekers in obtaining professional licenses.

- Employment referrals for persons with physical and mental disabilities

The government promotes a quota system to ensure the employment of persons with physical and mental disabilities and provides assistance on a case-by-case basis. Based on a job seeker's specific needs, the government provides vocational counseling and assessment, vocational training, employment services, and job redesign services so as to help

them find stable employment. Through inter-agency platforms, the government works to ensure closer collaboration between agencies and increase information transparency. To facilitate collaboration on policies and their implementation, it also encourages local governments to invite representatives from social, health, and education organizations to convene employment transfer and referral meetings once every six months.

- Prevention of employment discrimination

The government has built the Employment Equality Network, an online platform that provides laws, regulations, and other information to increase awareness and disseminate information on gender work equality and the prevention of employment discrimination.

- 113 Hotline

The 113 Hotline provides 24-hour, year-round support for domestic violence victims, as well as protection for the elderly, children, persons with physical and mental disabilities, and sexual assault and harassment victims. The services include counseling, reporting, and referral. The hotline integrates resources across agencies and links to a central database to establish a cross-area emergency contact mechanism that connects local police and social affairs departments.

- Reviewing laws and administrative measures on the Convention on the Rights of Persons with Disabilities (CRPD)







For the laws and administrative measures on the CRPD review list that are yet to be amended, the government will promptly notify the relevant agencies of the response measures and announce them to the public in order to eliminate doubts about the applicability of the laws. The relevant information is also posted on the government's CRPD website to increase public understanding and awareness.

(3)Assisting the development of least-developed countries

- Amending the Customs Import Tariff to provide preferential tariff-free treatment for products from developing countries.
- Promoting technical cooperation in the fields of environment, agriculture, forestry, fishery and animal husbandry, public health and medicine, information and communication, education, and small-and-medium-sized enterprise development.

Technical cooperation programs include the program to help the agricultural sector in Saint Kitts and Nevis better adapt to climate change and use mHealth applications to provide access to health information and services for refugees in Turkey. The programs incorporate the use of online platforms, cross-regional collaboration, data governance, and information disclosure to help friendly countries and developing countries improve the marketing of agricultural products, increase the quality of medical services, and increase disaster preparedness.

2.Major Progress

  Achieved 2020 target  Failed to achieve 2020 target; slightly behind  Failed to achieve 2020 target 				
Indicator	Target	2020 Actual Value	Progress	
10.2.1 The population of indigenous peoples whose income is below 50% of the average indigenous income.	8%	9.82*		
10.4.1 Gini coefficient of per household disposable income.	<0.35	0.34		
10.a.2 The number of foreign technical cooperation projects.	86	93		

Indicator 10.2.1 was not met due to the influence of tribal industrial activity patterns. Indigenous residents are mostly engaged in seasonal, temporary and other atypical employment, so the government will continue to promote measures to promote their employment.

Figure 28- Process review on SDG 10

In 2020, the percentage of the indigenous population whose income was below 50 percent of the average indigenous income was below the initially set

target due to the impact of the type of economic activities in indigenous communities. Local residents were mostly engaged in seasonal, temporary, and atypical work. Moving forward, the government will continue to implement measures to increase the employment of indigenous people. The Gini coefficient of disposable income per household was 0.34, while the number of external technical cooperation projects was 93. Both reached their respective targets.

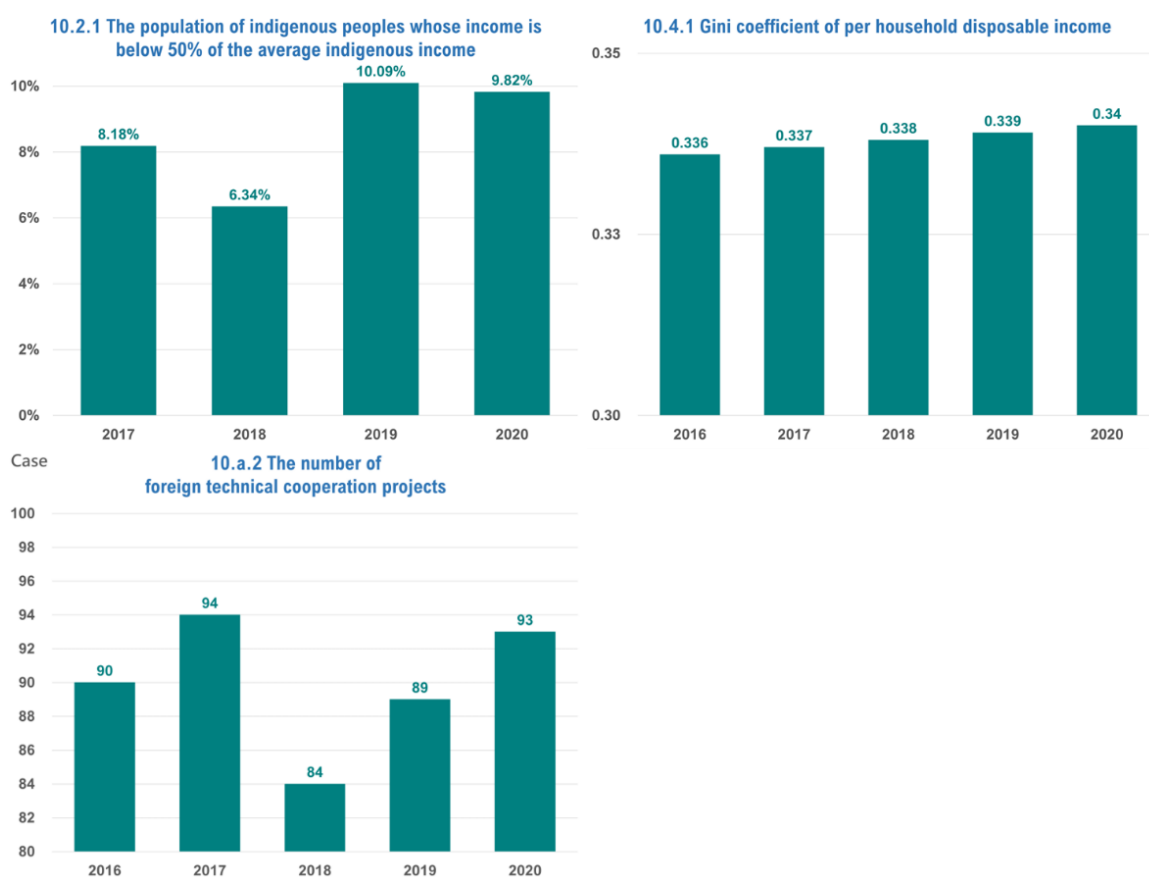


Figure 29- Selected Indicators of SDG 10

Source: Taiwan SDGs Follow-Up and Assessment Database.

XI.SDG11: Make cities and human settlements inclusive, safe, resilient, and sustainable

Rapid urban development in recent years has led to issues such as inadequate housing, infrastructure, and deteriorating air quality. To ensure sustainable urban and rural development, satisfy local development needs, safeguard homeland security, improve the urban environment and transportation infrastructure, and

ensure housing justice, Taiwan's SDG11 is formulated to make cities and human settlements inclusive, safe, resilient, and sustainable.

1. Major Policy Directions and Measures

(1) Promoting social housing and urban renewal

The government has launched the Social Housing Development Plan. Under the plan, 120,000 social housing units are expected to be built, and another 80,000 units will become available for lease and escrow. In addition, the government is also actively promoting relevant measures to facilitate urban renewal.

(2) Improving access-free public transport and facilities

Subsidize local governments to purchase low-floor buses and access-free buses to expand access-free public transport services, increase the height of train platforms to make them align with the train ramps, and build access-free elevators in train stations.

(3) Accelerating national land use planning to improve urban and rural living environments

To create a comfortable and safe living space, the government has implemented extensive national land use and planning. In 2018, the government launched the National Land Use Plan and announced land use planning for 18 municipalities, counties, and cities in 2021. The goal is to establish a new land use development framework to systematically and effectively improve land use planning.

(4) Protecting cultural and natural heritage

To ensure cultural preservation, the government has launched the Important Traditional Performing Arts Preservation Plan, the Important Traditional Craft Preservation Plan, and the Indigenous Area Traditional Sites and Ecological Resources Preservation Plan. In addition, the Paying Homage to the Ocean project focuses on the cleanup of coastal areas along

national marine parks. All these government measures are taken to safeguard cultural and natural heritage.

(5) Implementing pollution and waste reduction measures to maintain air quality; improving sewage treatment systems

Build circular production models and lifestyles, improve recycling and reuse of wastes, continue to conduct air quality analysis, and build a Taiwan emission data system (TEDS) for use in strategy formulation to improve air quality management. Continue to promote household connections with sewerage pipelines.

(6) Reducing loss of lives and public property during disasters

To improve disaster prevention, relief systems, and the relevant legislation, the government has implemented medium-to-long-term disaster prevention plans, continued to develop disaster prevention technologies and applications, improved disaster prevention and relief capabilities, improved response measures, and accelerate recovery and reconstruction.

(7) Strengthening the social safety net to ensure social stability, maintain law and order, and curb violent crimes

- The police authorities should conduct onsite visits if current offenders, wanted criminals, and suspects in violation of the Narcotics Hazard Prevention Act have custody of or are caring for children under 12 years old.
- The police implemented a national crackdown on illegal firearms to reduce violent crimes and enforced the Money Laundering Control Act to track money flowing into high-risk areas.
- The Investigation Bureau shares information from the Financial Intelligence Unit (FIU) with police agencies to work with different government agencies to combat financial crimes and public security

incidents.

- Improving the risk assessment and risk reassessment tools used by social workers for children and youth protection; using a structured decision-making process to assess risks to families, children, and youth to prevent repeated abuse to children.

(8) Improving energy conservation and reducing carbon emissions in buildings

To implement energy conservation in buildings and reduce environmental pollution and its impact, the government amended the Building Technical Regulations in 2004, adding a section on green building standards. In addition to promoting the green building labeling system, the amendment also requires buildings of a certain size or larger to use green building planning and design. The goal is to promote the construction of green buildings and improve energy conservation and carbon reduction in buildings.

2. Major Progress











11 SUSTAINABLE CITIES AND COMMUNITIES		 Achieved 2020 target	 Failed to achieve 2020 target; slightly behind	 Failed to achieve 2020 target
Indicator	Target	2020 Actual Value	Progress	
11.1.1 Proportion of subsidized rent households and social housing households of potential demand of disadvantaged families households.	28%	31%		
11.2.1 Proportion of wheelchair accessible city bus.	58.2%	67.68%		
11.4.1 Total expenditure per capita for the maintenance and protection of Taiwan's culture and natural heritage. (annual final accounts of government/annual population).	NT143.88	NT177.39		
11.6.1 Municipal waste recycling rate.	60.5%	62.71%		
11.6.3 Air Quality.	<15µg/m ³	14.1µg/m ³		
	a. Annual arithmetic mean concentrations of PM _{2.5}	down to 15 days		
	b. National PM _{2.5} Red Alert Days down to less than 499 days			
11.9.1 Offenses of violent crimes.	<1,499	704		
11.12.1 The Benefit on Energy Saving of Residential and Commercial Sectors in New Buildings.	Cumulative 295,000 mt of CO ₂ e (residential sector)	387,400 mt CO ₂ e		
	Cumulative 205,000 mt of CO ₂ e (commercial sector)	220,300 mt CO ₂ e		

Figure 30- Process review on SDG 11

In 2020, 17,744 social housing units were built while 104,792 households received rent subsidies, accounting for 31 percent of the number of disadvantaged families with potential needs. There were 7,425 accessible buses in cities, accounting for 67.68 percent of the total. Total expenditure per capital for the maintenance and protection of cultural and natural heritage was NT\$177.39. The waste recycling rate was 62.7 percent, and it is maintaining continuous growth. There was a total of 704 cases of violent crimes, down 18.0 percent. From 2016 to 2020, new buildings in the residential and commercial sectors achieved a total of 387,400 tons and 220,300 tons of carbon reduction, respectively. With regard to air quality, the national average PM2.5 concentration was below 14.1 $\mu\text{g}/\text{m}^3$. The EPA air quality monitoring stations reported, in 15 instances, that the average daily PM2.5 concentration was equal to or below 54 $\mu\text{g}/\text{m}^3$, which was well below the current target of 499 instances. All seven indicators met the targets, showing that Taiwan's move toward inclusive, resilient, and sustainable cities and villages was able to maintain an overall quality environment and effectively improve the quality of life of the people.

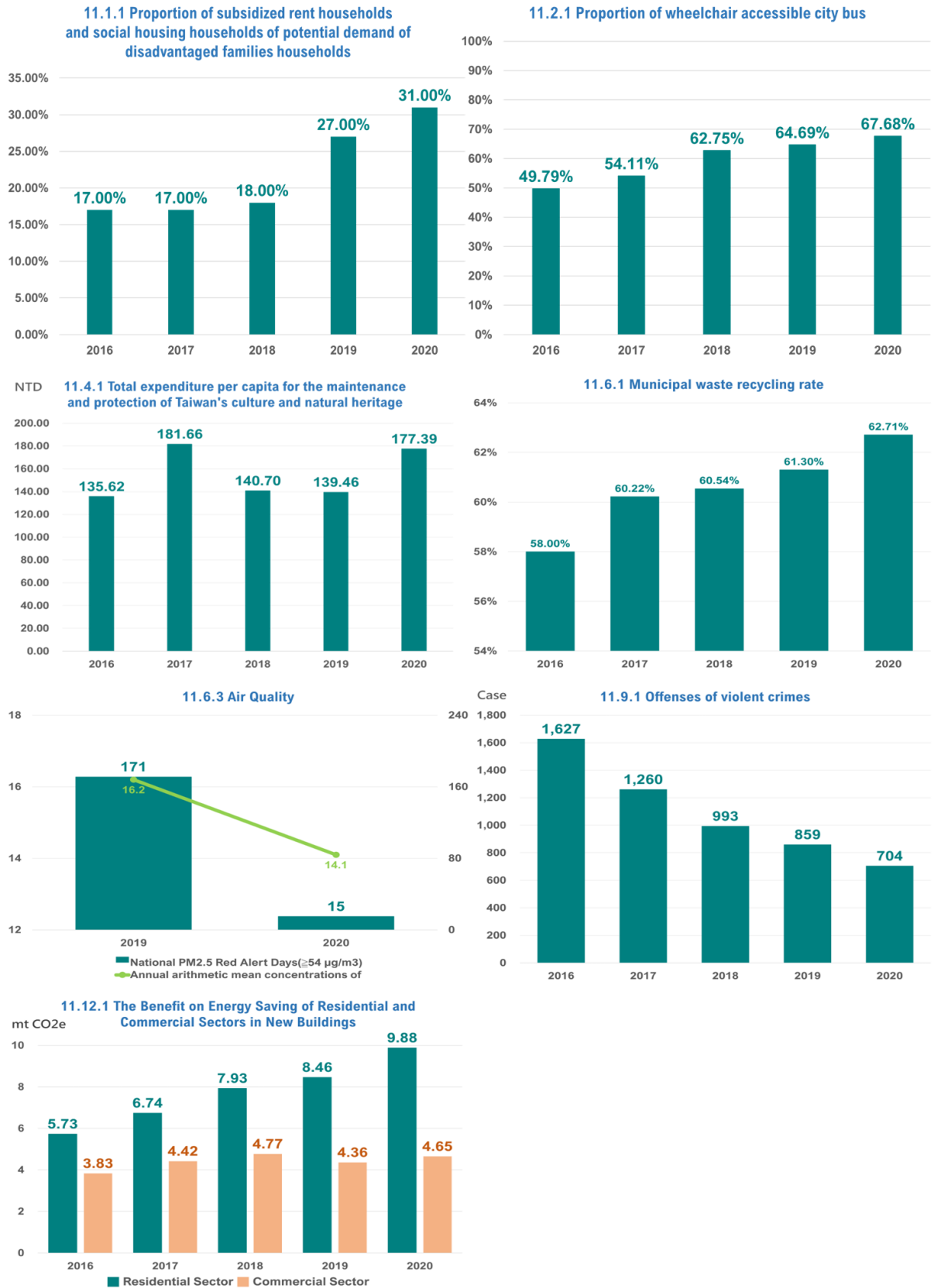


Figure 31- Selected Indicators of SDG 11

Source: Taiwan SDGs Follow-Up and Assessment Database.



SDG 11 Results: Individual Case Study

DEPARTMENT OF PUBLIC WORKS IN TAOYUAN: REUSE OF WASTE GRANULAR MATERIALS FROM PUBLIC CONSTRUCTION PROJECTS

Introduction

In Taoyuan City, waste granular materials are mixed with asphalt concrete for use as road base and road surfaces and for emergency road repairs. This approach, which effectively converts granular waste materials into usable aggregates, will be deployed in future public work projects.

Project Objectives and Practices

In line with the government policy to upgrade industries and foster innovation in the economy, Taoyuan City, in August 2017, organized a team of experts and scholars from the industry, government, and academia to develop new work methods to convert discarded resources into usable materials. Trial runs were conducted in asphalt plants and on steel pellets and cold-mix recycled asphalt concrete, the goal of which is to realize a circular economy.

Results

In its project to use oxidized slag to make asphalt concrete for road pavements on Fengde Road in Bade District in Taoyuan City, the city government used 1,300 tons of steel slags, reducing the carbon footprint by about 8,112 kgCO₂e, which is equivalent to the CO₂ absorption of 740 trees in one year. In addition, due to the low cost of oxidized slag, the project saved the city more than NT\$3.6 million. The project was also awarded the 2018 Taoyuan City Public Works Golden Award on August 20, 2018 and the 18th Public Works Golden Quality Award on December 18, 2018, by the Public Construction Commission.

XII. SDG12: Ensure sustainable consumption and production patterns

To demonstrate the government's determination to move toward a circular economy, realize SDG12, transform industrial development from a linear economy consisting of extraction, manufacturing, use, and discarding waste to a circular economy focused on resource sustainability, and ensure sustainable consumption and production patterns, the government is proactive in implementing the circular economy promotion program. The government is

integrating energy and resources to ensure efficient recycling and reuse, encouraging enterprises to adopt sustainable development measures and disclose information on sustainable development, and promoting green consumption. It has established a waste management system to facilitate the conversion of industrial waste into usable resources. The goal is to create a sustainable tourism environment and gradually realize a green economy and sustainable development.

1. Major Policy Directions and Measures

(1) Integrating energy and resources for effective recycling and reuse

The government has promoted the integration of energy resources between industrial parks and worked to ensure an improved recycling and reuse system to facilitate the integration of energy resources, the synergy between industries, and enhance the reuse rate of regional energy resources. In the petrochemical industry, for instance, the government has launched the High-value Petrochemical Industry Promotion Project to introduce the concept of circular economy to develop environmentally friendly and innovative raw materials and to accelerate the upgrade and transformation of the domestic petrochemical industry.

(2) Refining the carbon footprint labeling system to promote green consumption

To refine and improve the carbon footprint labeling system, the government formulated the Guidelines for the Promotion of Product Carbon Footprint in 2020, specifying the relevant review requirements. Under the guidelines, businesses will be able to obtain declarations from accredited agencies or request agencies to carry out inspections and provide summary reports for use in applying for carbon footprint labeling. This process reduces the cost and shortens the time for the application of carbon footprint labeling, which will help promote the labeling scheme.

(3) Promoting the total circulation of resources to build circular production models and circular lifestyles

The Office of Resource Circulation was established in 2021, which includes five different departments to handle the planning and management of resource circulation policies. The departments are the Policy Planning Department, Industry Resource Circulation Management Department, Organic Resources Department, Inorganic Resources Department, and Metal and Chemical Resources Department. The goal is to maximize resource circulation, minimize waste disposal, and improve efficiency in the use of resources. The government also launched the Resource Circulation Action Plan focused on policy implementation in four areas: production, consumption, waste management, and recycled materials market.

(4) Expanding the reuse of waste materials

- Rolling review of laws and regulations related to the reuse of waste materials

The government continues to review on a rolling basis the related laws and regulations on the reuse of waste materials. It has amended the Regulations on the Control of Industrial Wastes Common among Businesses and the Guidelines for the Self-reuse and Self-treatment of Waste from Businesses in Factories (Sites) to increase the conversion of combustible organic waste from plastics into solid renewable fuel (SRF) for use in boilers and to increase their reuse in factories (sites).

- Continuing to guide domestic industries to promote a circular economy and recognize the achievements of excellent enterprises

To encourage domestic enterprises that promote the reuse of resources and the circular economy, the government formulated the Guidelines for the Selection of Enterprises Outstanding in the Reuse of

Recycled Materials. By selecting and recognizing outstanding businesses, the government hopes to encourage other businesses to improve their technology and promote the use of recycled materials, continuing to use systematic planning and design to properly collect, recycle, and reuse waste materials to create value in a circular economy.

(5) Promoting multi-themed tourism to construct a sustainable tourism development model

The government launched Tourism 2020: Taiwan Sustainable Tourism Development Plan to ensure innovation and sustainability and create a blissful local industry, implementing diversified development to create added value for tourism and providing tourism safety and security to fulfill the social responsibilities of tourism. The government hopes to use the Year of Sustainable Tourism promotion program to assist local communities in building an ecological tourism model for sustainable tourism development.

(6) Promoting green factories to assist businesses in achieving sustainable development

In response to the international trend toward net-zero emissions and the requirements of the international supply chains, the Ministry of Economic Affairs is promoting the green factory labeling system that covers production and manufacturing, environmentally friendly product design, green management, and corporate social responsibility. The ministry will continue to guide industries to examine the quality of factories, improve the efficiency in the use of energy resources, and move toward low-carbon, green, and environmental measures to facilitate green transformation within industries.

2. Major Progress

12 RESPONSIBLE CONSUMPTION AND PRODUCTION		Achieved 2020 target	Failed to achieve 2020 target; slightly behind	Failed to achieve 2020 target	
		Indicator	Target	2020 Actual Value	Progress
12.1.1	The number of passing the cleaner production assessment system of the green factory label.	120	123		
12.2.2	Resource Productivity.	NT69.4/kilo	NT76.9/kilo		
12.4.1	Industrial waste reutilization rate.	79%	84%		
12.5.1	Regional Recycling Rate of Energy and Material.	2%	2% (100,000 mt)		
12.6.1	Number of certified carbon footprint label products.	140	182		
12.7.2	Amount of green procurement by private enterprise groups.	NT260 billion	NT461 billion		

Figure 32- Process review on SDG 12

In promoting recycling and reuse of resources, the number of manufacturers in 2020 that had passed the clean production conformity assessment for green factories was 123, and the rate of recycling and reuse was 84 percent. As a result, a total of 100,000 metric tons of resources were recycled and reused in key locations. In the area of green consumption, a total of 182 carbon footprint labels were issued to certified products, and the amount of green procurement by private enterprises reached NT\$46.1 billion. The five indicators all achieved their set targets. The government is actively promoting the transformation of industries at all levels into green industries while incorporating the concepts of circular economy and sustainable innovation into all economic activities. The goal is to incorporate the concepts into production, consumption, and recycling and reuse, thereby achieving the vision of complete recycling and reuse and zero waste.



Figure 33- Selected Indicators of SDG 12

Source: Taiwan SDGs Follow-Up and Assessment Database.

XIII. SDG13: Implement mitigation and adaptation measures to combat climate change and its impacts

The UN SDG13 aims to take urgent action to combat climate change and its impacts. It includes capacity building to respond to climate-related disasters, recovery, and adaptation, incorporating climate change measures into national

policies, and fulfilling the requirements of the United Nations Framework Convention on Climate Change (UNFCCC).

In line with Taiwan's political and economic situation, Taiwan's SDG13 aims to implement mitigation and adaptation measures to combat climate change and its impacts. It includes improving climate change adaptation capabilities, increasing resilience and reducing vulnerability, implementing greenhouse gas control targets, and improving climate change sustainability education and public literacy.

1. Major Policy Directions and Measures

(1) Working to achieve national greenhouse gas reduction

In 2015, Taiwan promulgated the Greenhouse Gas Reduction and Management Act, which sets long-term reduction targets to be realized in five-year stages using regulatory goals. The National Climate Change Action Guidelines were also formulated to outline the general direction of mitigation and adaptation. In January 2018, the Executive Yuan approved and set the greenhouse gas reduction target for the first stage from 2016 to 2020, which was to reduce GHG emissions to 2 percent lower than the 2005 (base year) emission level. The Executive Yuan also approved the Reduction Action Plan and the Greenhouse Gas Emission Control Action Program, which covered the energy, manufacturing, transportation, residential and commercial, agriculture, and environmental sectors. To reduce greenhouse gas emissions, the 22 municipality, county, and city governments across Taiwan formulated their respective Greenhouse Gas Control Implementation Plan, working in collaboration with the central government to combat climate change. In September 2022, the Executive Yuan approved the greenhouse gas reduction target for the second stage from 2021 to 2025, which was to reduce GHG emissions to 241.011 million metric tons of CO₂e (MtCO₂e), 10 percent below the base year emission level.

To intensify efforts on carbon reduction, embrace the trend toward a low-carbon economy, and build a resilient homeland, the Environmental Protection Administration has proposed amendments to the Greenhouse Gas Reduction and Management Act to change its name to the Climate Change Response Act and include net-zero emissions as the target for 2050. After the amendment, the Act will become the responsibility of a higher government agency in order to tighten climate governance. Other changes will include: adding a special section on climate change adaptation, tightening emission control and offering incentives to encourage emissions reduction, levying carbon fees for dedicated use, strengthening carbon footprint management mechanisms and product labeling, incorporating carbon capture and sequestration into the legislation, and increasing information transparency and public participation.

On March 30, 2022, the National Development Commission (NDC), together with the Ministry of Economic Affairs, Ministry of Science and Technology, Ministry of Transportation and Communications, Ministry of the Interior, and Environmental Protection Administration officially announced the General Explanation on the 2050 Net Zero Emission Pathway, which is focused on four major transformations and two major areas of governance. The four major transformations include energy transformation, lifestyle transformation, social transformation, and industrial transformation. The two major areas of governance include: scientific and technological research and climate law. In addition, there are also 12 strategies, namely: wind and solar power, hydrogen energy, forward-looking energy, power systems and storage, electricity, carbon capture and sequester, electric and carbon-free transportation systems, waste recycling and zero waste, natural carbon sinks, net-zero green living, green finance, and just transition. Action plans will be developed on key areas of energy, industry, and lifestyle transformation policies. In addition, the government will continue to promote international cooperation, develop net-zero technologies and applications, and expand the public dialogue. The net-zero

pathway will be reviewed on a rolling basis to meet future development needs.

(2) Increase the capacity for climate change adaptation, increase resilience and minimize vulnerability

Referring to the Greenhouse Gas Reduction and Management Act and the experiences of the National Development Council, the Environmental Protection Administration, and 16 other government ministries and agencies jointly developed the National Climate Change Adaptation Action Plan (2018-2022), which was approved and took effect on September 9, 2019. A total of 125 adaptation action plans were proposed, and 71 priority action plans were selected by each agency based on their own priorities. Through collaboration between ministries and agencies and rolling performance reviews, the government expects to smoothly implement adaptation work to achieve sustainable development for society, the economy, and the environment.

(3) Promote education on climate change and sustainable development to develop public literacy

- Promote climate change education and sustainable campuses

Under the Curriculum Guidelines of 12-Year Basic Education, the government developed teaching samples for environmental education focused on climate change; the content was uploaded to the Green School online platform of the Ministry of Education. In 2020, the government started to promote capacity building. Climate education teams in each county and city encourage teachers to use the Green School platform to add value to their teaching.







The goal is to encourage expeditionary learning in school campuses, establish a cooperation mechanism whereby the central government offers demonstration initiatives while the local governments implement them,

taking into account local conditions, develop innovative technologies in line with the demonstration circular school campuses, and assist schools receiving subsidies build a sustainable campus in line with the UN SDG of sustainable campuses.

- Promoting behavior change to implement low carbon measures in local communities

To increase awareness of climate change and promote mitigation efforts, the Environmental Protection Administration has launched the Low Carbon Sustainable Homeland Certification and Assessment Program, which consists of 86 action items in six major areas. The goal is to increase interaction between communities, enhance advocacy through practical actions, and guide participating agencies to implement low-carbon measures to understand the importance of energy conservation and carbon reduction. The EPA also created an online platform for dialog, using visual and interactive charts and graphs to present government policies and solicit online feedback. The goal is to enable the public to better understand the progress of the government's efforts toward greenhouse gas reduction.

2.Major Progress

  Achieved 2020 target  Failed to achieve 2020 target; slightly behind  Failed to achieve 2020 target 				
Indicator	Target	2020 Actual Value	Progress	
13.2.1 Achieve the greenhouse gas periodic regulatory goals.	2% reduction	1.12% reduction ¹		
13.3.2 Promote public behavior changes and implement local low carbon actions.	30% ²	100%		

1. Because the 2020 statistical cycle is not reached, the data are for 2019. In 2019, our total greenhouse gas emissions have decreased by 1.12% compared with the base year (2005), and we expect that emissions will continue to decline in 2020.
 2. The goal of indicator 13.3.2 is to counsel low-carbon communities to maintain rating effectiveness · The ratio is calculated as "(the number of low-carbon community qualifications divided by the number of applications for extension of low-carbon community certification) multiplied by 100", and this ratio should reach 30%.

Figure 34- Process review on SDG 13

On the issue of climate change, the government is working to increase awareness and literacy among the general public. The percentage of low carbon communities that have successfully renewed their low carbon certification has reached 99.2 percent. In the area of greenhouse gas reduction, greenhouse gas emissions in 2019 totaled 287.060 MtCO₂e. Deducting the amount of 21.440 MtCO₂e absorbed by carbon sinks, the net emissions were 265.620 MtCO₂e, down 1.12 percent from the 2005 base year. It was expected that emissions would continue to decline in 2020, approaching the stage 1 GHG target of a 2 percent reduction from the base year. In its efforts to promote greening, increase the use of gas, and reduce coal, the government will continue to move toward low-carbon power generation and provide low-carbon electricity services so as to reduce carbon emissions from the use of electricity in different industry sectors.

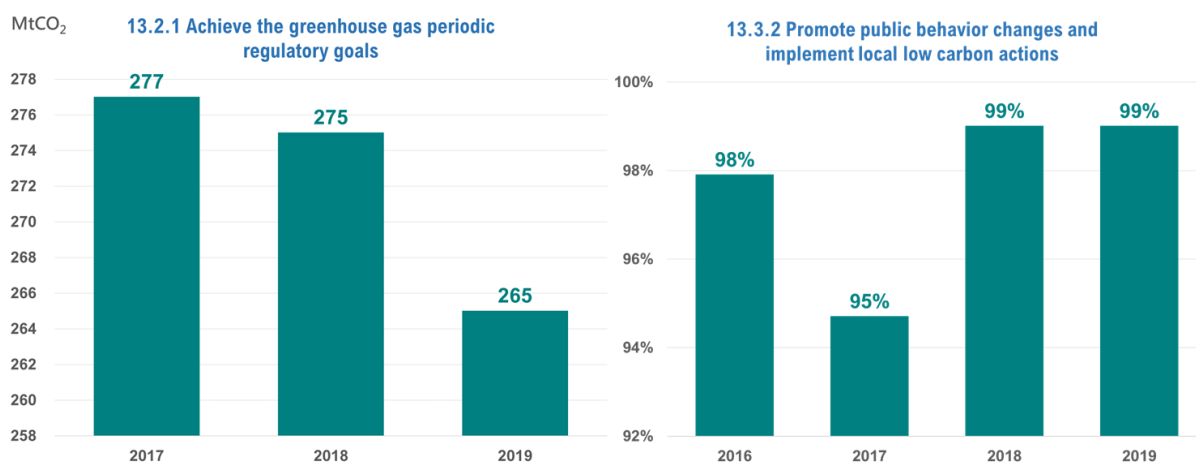


Figure 35- Selected Indicators of SDG 13

Source: Taiwan SDGs Follow-Up and Assessment Database.

XIV. SDG14: Conserve and sustainably use marine ecosystems to preserve biodiversity and prevent the degradation of the marine environment

To promote marine environmental conservation and the sustainable development of marine resources, Taiwan has set its SDG14 to conserve and sustainably use marine ecosystems to preserve biodiversity and prevent the degradation of the marine environment. It has incorporated policies relating to

agricultural development, environmental protection, and marine conservation. The government aims to reduce marine pollution, ameliorate the effects of ocean acidification, acquire basic marine information, and protect marine and coastal ecosystems. Relevant measures include: conducting surveys of fisheries resources to facilitate the sustainable use of resources, effectively preventing unreported and unregulated (IUU) fishing, and improving legislation for marine conservation. Doing so will help the government maintain order in marine operations, protect the marine environment, and ensure the sustainable development of marine resources.

1. Major Policy Directions and Measures

(1) Monitor and reduce marine pollution

The water quality monitoring stations in waters nearby Taiwan monitor the amount of dissolved oxygen, cadmium, lead, mercury, copper, zinc, ammonia nitrogen, and average pH values to understand the trend in the change in water quality and evaluate the effectiveness of pollution remediation measures. The data serve as an important reference for marine pollution prevention and control strategies. Government agencies and private organizations are working together to remove marine debris and ensure a clean coastal environment and marine resources.

(2) Monitor fish harvests and eliminate IUU fishing

To protect marine fishery resources and expand international participation and cooperation, the Council of Agriculture and the Ocean Affairs Council are implementing the Coastal and Offshore Fisheries Enforcement Collaboration Program to jointly combat illegal, unreported, and unregulated (IUU) fishing.

The Fisheries Agency under the Council of Agriculture assists fishing vessels in installing reporting devices, uses technology to monitor the movement of fishing vessels, monitors and takes measures to revitalize artificial reefs, and safeguards the quality of fishing grounds. It also guides local governments in developing conservation areas for aquatic plant and animal breeding and uses scientific data to formulate regulations to protect species with economic value in order to ensure the sustainable use of resources.

(3) Designate and manage marine and protected coastal areas

The government has built a mechanism to assess the conservation efforts at marine protected areas, identify potential areas to be designated as new protected areas, plan for the proper management of coastal protected areas, safeguard the eco-environment, and maintain biodiversity. As of December 2021, the government has designated 46 marine protected areas with a total area of 31,718.13 square kilometers. These include areas where specific fishing gears and fishing methods are prohibited and areas where fishing is banned. The area of the territorial sea extending 12 nautical miles from the shore is 64,473 square kilometers, accounting for 49.2 percent of the protected area.

The Construction and Planning Agency under the Ministry of the Interior regularly carries out an inventory of the protected coastal areas designated by law and reviews the appropriateness of management measures. The agency uses the protected coastal areas designated under the first phase of the Coastal Area Management Plan as the focus of its efforts to assess whether it is necessary to formulate protection plans. The agency also collects data to assess potential protected areas and designate potential protected areas under the second phase of the Coastal Area Management Plan.

(4) Implement existing regional and international frameworks stipulated under the United Nations Convention on the Law of the Sea (UNCLOS)

In line with the international trend toward conservation and management, the government has codified into domestic laws measures for the conservation of marine living resources formulated by international organizations. Using the Ocean Basic Act as the basis, the government has proposed drafts of the Ocean Protection Act and Ocean Territory Management Act and amended the Marine Pollution Control Act. The goal is to enforce regional and international frameworks stipulated under the United Nations Convention on the Law of the Sea (UNCLOS) in line with international trends.

2. Major Progress










  Achieved 2020 target  Failed to achieve 2020 target; slightly behind  Failed to achieve 2020 target 			
Indicator	Target	2020 Actual Value	Progress
14.1.2 The achievement rate for DO, Cd, Pb, Hg, Cu, Zn and Ammonia nitrogen from coastal water monitoring stations.	99.5%	99.9%	
14.3.1 The average ocean pH from the selected sampling sites.	Class A: 99% Class B: 96%	100% 99.8%	
14.4.2 Effectively supervise and manage harvesting, and eliminate overfishing, illegal, unreported and unregulated (IUU) fishing.	10% reduction	20.4% reduction	
14.5.1 The percentage of MPAs in national waters.	47.8%	48.7%	
14.c.1 Implement an international law through legislation, policies, institutional framework, ocean-related documents, etc., to respond to the United Nations Convention on the Law of the Sea (UNCLOS) and become a country that protects and sustainably uses marine resources.	implement the international law	Completed	

Figure 36- Process review on SDG 14

In monitoring and reducing marine pollution, the analysis of the 2020 marine monitoring data shows that in the 105 coastal monitoring stations, the pass rates for levels of dissolved oxygen, Cd, Pb, Hg, Cu, Zn, and ammonia nitrogen were 99.9 percent of the time. For the average ocean pH, the pass rate

was 100 percent for Category A⁴ marine environments and 99.8 percent for Category B⁵ marine environments.

The government is also actively monitoring to prevent and eliminate IUU fishing. In 2019, 137 cases of illegal fishing were filed, while 109 cases were filed in 2020. This shows a decline in the destruction of marine ecology. In the area of marine resources conservation, marine protected areas in 2020 accounted for 48.73 percent of Taiwan's 12-nautical mile territorial waters. The above five indicators achieved their targets. Through legislation, policy implementation, institutional frameworks, and drafting of marine-related documents, Taiwan is taking concrete steps in response to the UNCLOS, protecting and using marine resources in a sustainable manner.



Figure 37- Selected Indicators of SDG 14

Source: Taiwan SDGs Follow-Up and Assessment Database.

⁴ Category A marine environment refers to Class 1 aquaculture water (for use in the cultivation of red porgy and seaweed), Class 2 aquaculture water (for use in the cultivation of milkfish, common mullet, and gracilar seaweed), industrial water (water used for cooling), and water for use in swimming pools and environmental conservation.

⁵ Category B marine environment refers to Class 2 aquaculture water (for use in the cultivation of milkfish, common mullet, and gracilar seaweed) industrial water (water used for cooling), and water for use in swimming pools and environmental conservation.

XV. SDG15: Conserve and sustainably use terrestrial ecosystems to ensure the persistence of biodiversity and prevent land degradation

Taiwan has a diverse geography, including plains, streams, and mountains. It is rich in plant and animal resources, which are important for resource conservation and academic research. With consideration of the uniqueness of its environmental resources and the nature of the UN SDG15, Taiwan has formulated its own SDG15, which aims to conserve and sustainably use terrestrial ecosystems to ensure the persistence of biodiversity and prevent land degradation. Toward this end, measures taken by the government include: continuously monitoring forest cover and green cover in the mountains, implementing sustainable forest management, preventing illegal logging, and restoring damaged forests. The Red List Index (RLI) is used as one of the bases for assessing the results of national conservation efforts, while legislation and resources have also been invested in preventing and controlling the entry of invasive species to ensure biodiversity and prevent land degradation.

1. Major Policy Directions and Measures

(1) Protect, maintain, and promote the sustainable use of terrestrial and inland water ecosystems

The government's efforts to protect, restore, and sustainably use terrestrial and inland freshwater ecosystems, in particular forests, wetlands, foothills, and drylands, are in line with the obligations stipulated in international agreements. The total forest area in Taiwan is approximately 2,197,000 hectares, with a forest cover of 60.71 percent. The designated protected areas cover an area of approximately 730,000 hectares and include wildlife refuges, major wildlife habitats, nature reserves, nature protected areas, national parks, and international and national wetlands of importance. The government is piloting the Forestry Bureau Green List (FBGL) for terrestrial protected areas, setting up a Green List Assessment Committee, holding working meetings, and drawing up review standards and procedures.

- (2) Implement sustainable forest management, eliminate illegal logging, and restore damaged forests

In Taiwan, forests principally belong to the state. In 2004, forest areas were further divided into different categories to facilitate management, with nature reserves and national security areas accounting for a total of 1.2 million hectares. Management objectives were formulated to maintain biodiversity, protect water and land resources, and eliminate logging for economic gains. The government will continue to strengthen protection and prevent illegal logging, protecting the forests and establishing standards for the sustainable management of forests.

- (3) Establish an assessment framework for wildlife conservation based on the Red List Index

Using the International Union for Conservation of Nature (IUCN) as a basis, the government has established a framework to identify and assess the local threatened species and to collect extensive data to assess local wildlife against the Red List categories. The Red List Index (RLI) is used to assess the results of national conservation efforts. In addition, the government is working on expanding research on rare and endangered species and indicator animal and plant species, as well as carrying out in situ and ex situ conservation and restoration. The goal is to maintain the integrity of the ecosystem and the diversity of species.

- (4) Take measures to prevent and manage invasive alien species to reduce their impact

In 2011, Taiwan passed an action plan to curb and manage invasive species. In accordance with the Wildlife Conservation Act, Animal Protection Act, Plant Protection and Quarantine Act, Statute for the Prevention and Control of Infectious Animal Diseases, and the Fisheries Act, government agencies divided their work to prevent and eliminate invasive species and regulate the import and export thereof.

2. Major Progress

15 LIFE ON LAND		☺ Achieved 2020 target	☹ Failed to achieve 2020 target; slightly behind	☹ Failed to achieve 2020 target
Indicator	Target	2020 Actual Value	Progress	
15.1.3 Proportion of watershed managed and monitored for biodiversity.	• The rate of the second river situation investigation reach 30%	30%		
	• The implementation rate of ecological inspection on water management projects over NTD\$ 50 million reach 80%	100%		☺
15.3.1 Area of land degradation.	• Significant area of stratum subsidence ≤ 235 km ²	105.6 km ²		☺
	• Salt area ≤ 181.5 km ²	181.5 km ²		
15.5.1 Red list index of terrestrial vertebrate.	Red list index ≥ 0.8759	0.8759		☺
15.9.1 Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the strategic Plan for Biodiversity 2011-2020.	22 local governments have integrated biodiversity into their governance programs	22		☺

Figure 38- Selected Indicators of SDG 15

To maintain biodiversity, the government has completed the second round of surveys on the conditions of seven rivers: Tamsui River, Chongkang River, Chuoshui River, Putzi River, Peinan River, Hualien River, and Lanyang River. In 2020, the government carried out 10 flood control projects, each with costs exceeding NT\$50 million, all of which underwent ecological assessment. In 2020, the total land area with significant land subsidence was 105.6 square kilometers, down from 203.7 square kilometers in 2019. The area of saline land continued to be under 181.5 square kilometers. The Red List Index of terrestrial vertebrates was maintained at 0.8759. The four indicators achieved their targets. In the future, the government will continue to implement policies and measures to safeguard its diverse ecological environment.

Chapter 3. Results of Taiwan's Efforts toward SDGs

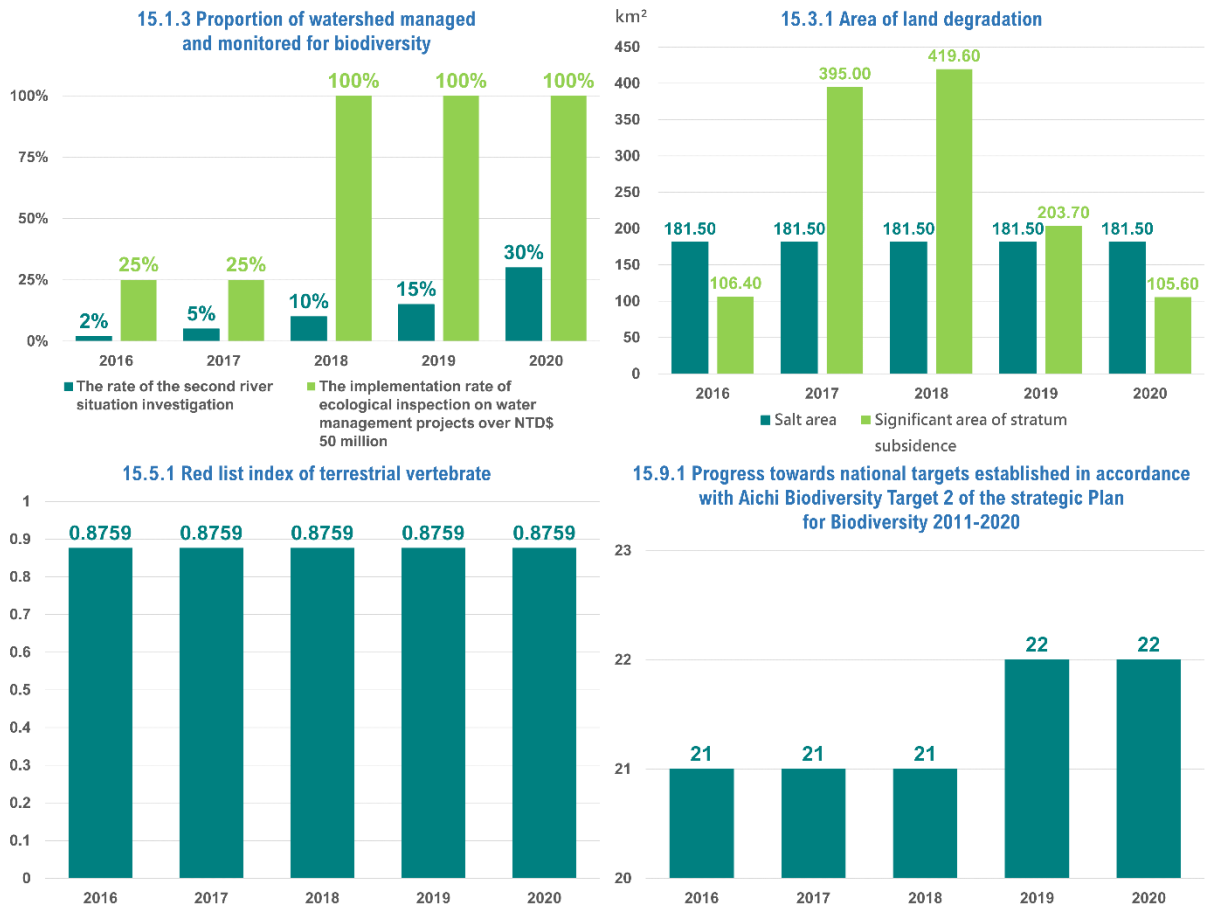


Figure 39-Selected Indicators of SDG 15

Source: Taiwan SDGs Follow-Up and Assessment Database.



SDG 15 Results: Individual Case Study

COUNCIL OF AGRICULTURE: AN ECO-FRIENDLY SCHEME FOR THE TREATMENT AND MANAGEMENT OF STATE-OWNED FORESTS

Introduction

The Forestry Bureau under the Council of Agriculture is Taiwan's competent authority on forestry. It is in charge of nature conservation and responsible for safeguarding the environment and biodiversity of state-owned forests. Based on the characteristics of the ecology and environment of state-owned forests and the nature of the ongoing treatment and management projects, the bureau formulated an eco-friendly scheme for the treatment and management of state-owned forests to ensure sustainable eco-development.

Project Objectives and Practices

Due to climate change and Taiwan's special geological conditions, the Forestry Bureau focuses on areas severely affected by disasters and those that may endanger people's lives. It is carrying out treatment and management projects focused on minimizing the project scale while maximizing its eco-friendliness. The goal is to achieve gradual habitat restoration, safeguard the eco-environment, and implement eco-check mechanisms for public projects. Through a grading system for the eco-friendly mechanisms, projects are carried out based on the ecological sensitivity of the local environment so as to result in minimum disturbance and accelerate the restoration of habitats and biodiversity that had been damaged by natural disasters. The results are in line with the core objectives of national sustainable development.

Using an eco-friendly mindset, the bureau continues to promote integrated watershed management, increase forest coverage, implement sustainable forest management, and increase the green cover in mountain areas. During the process, the bureau focuses on interaction with local communities, public participation, and information transparency. Information dissemination is achieved through online news media, dialogs, and other platforms to facilitate communication with stakeholders.

Results

At the hillside areas of state-owned forests and reservoir watershed areas, eco-audits of wild stream treatment and management projects have achieved significant results. Information transparency also adds to the eco-friendliness of the projects, which helps achieve the goals of conservation, disaster prevention, and mitigation. The bureau's approach can serve as a model for other government agencies and the private sector when carrying out geotechnical projects.

XVI. SDG16: Promote peaceful and inclusive societies, provide access to justice for all and build efficient, accountable inclusive institutions

In line with UN SDG16, Taiwan's SDG16 aims to promote peaceful and inclusive societies, provide access to justice for all and build efficient, accountable inclusive institutions. The goal is to foster a peaceful and inclusive society, strengthen the social safety net and improve children and youth protection, ensure an open, transparent, and equal justice system, and build credible and inclusive institutions through open access to government data and public policy networks.

1. Major Policy Directions and Measures

(1) Continue to review and amend the law to correct deficiencies

Enforce the newly amended Money Laundering Control Act and continue to review and amend laws to correct deficiencies identified during the third round of mutual evaluations at the Asia/Pacific Group on Money Laundering (APG).

(2) Maintain the fine performance in children and youth protection services

In 2019, the government started to implement the Structured Decision-making Model (SDM). By assessing the risks associated with each case, the frequency and extent of services could be determined so that resources for children and youth protection can be allocated more efficiently. In addition, the government is implementing a regional healthcare integration plan and collaboration across different protection networks so as to integrate the available protection services.








(3) Increase anti-corruption capability and increase the conviction rate for graft and corruption

In 2020, the conviction rate for graft and corruption reached the target of 73 percent. The government will continue to be meticulous to ensure quality investigation and achieve the annual conviction rate target.

(4) Open up government information to promote transparency and participation

The government continues to open government information and promote online participation in public policies to increase transparency in governance, public access, and participation.

2. Major Progress

  Achieved 2020 target  Failed to achieve 2020 target; slightly behind  Failed to achieve 2020 target 			
Indicator	Target	2020 Actual Value	Progress
16.1.3 Enforcing the anti-money laundering (AML) policy and reducing the sources of illegal money.	Passed the third round of mutual evaluation of the Asia-Pacific Group on Money Laundering (APG)	Achieved	
16.5.1 The downloads of Government Open Data.	6 million downloads	15.34 million downloads	
16.6.1 The increasing ratio of participation supporters on the Participation Platform.	20% increase (compared to 2016)	18.8% increase*	

Note: Indicator 16.6.1- Due to the suspension of public seconding during the national election on January 11, 2020, the number of seconding votes has been affected. According to the user survey of the "Public Policy Online Participation Platform" in September 2020, the overall satisfaction of the participating platform reached 87.7%, and 82.4% of users would recommend the participating platform, which shows that users definitely participate in the platform's services.

Figure 40- Process review on SDG 16

In June 2019, the Asia/Pacific Group on Money Laundering (APG) released its preliminary report on the third round of mutual evaluation and awarded Taiwan the best rating of "regular follow-up." This indicates that Taiwan has been recognized for its efforts in preventing money laundering and suppressing the financing of terrorist acts.

As of 2020, the Government Open Data platform achieved 15.34 million cumulative downloads, exceeding its target of 6 million. The government has also continued to open up high-value information, including COVID-19 related data, air quality data, and the actual registered price of real estate, so as to provide value-added applications for the public. In 2020, the number of people who seconded ideas proposed on the Public Policy Network online platform

was 413,588, an increase of 18.8 percent compared to 2016 but falling short of the 20 percent growth target. This is because of the national election on January 11, 2020, which temporarily suspended online participation. However, according to a survey of users of the Public Policy Participation Online Platform in September 2020, the overall satisfaction rate of platform participation was 87.7 percent, and 82.4 percent of the respondents would recommend participating in the platform. The figures indicate that users were positive about participating in the platform.

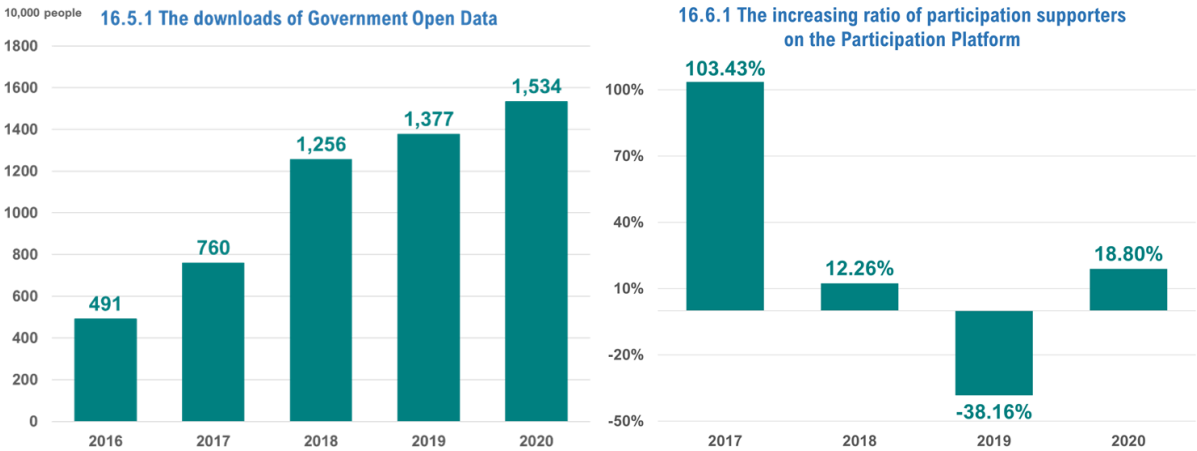


Figure 41- Selected Indicators of SDG 16
 Source: Taiwan SDGs Follow-Up and Assessment Database.

XVII.SDG17: Establish diversified partnerships and work together to advance the vision of sustainability

The government actively engages in building close partnerships with other countries and continues to promote international cooperation programs. In addition to pursuing sustainable development, the government also assists other countries in achieving their sustainable development goals, working together to build a sustainable future for future generations.

1. Major Policy Directions and Measures

(1) Assist in training foreign medical personnel

Training on medical care and health management was provided through the Taiwan International Healthcare Training Center (TIHTC) to share advanced medical and healthcare knowledge and experience and assist in the training of foreign medical personnel.

(2) Provide tariff exemptions and assistance to least developed countries (LDC)

The government has expanded the preferential schemes of zero-tariff and quota exemption toward LDCs and streamlined operational procedures. It has also listed environmental protection as a priority in the promotion of Official Development Assistance (ODA). In addition, the government will continue to engage in international technical cooperation in agriculture, forestry, fishery and animal husbandry, public health and medical care, information and communication, education, and small and medium-sized enterprise development.

(3) Foster global partnerships for sustainable development through multilateral cooperation







Promoted the International Environmental Partnership with the U.S. Environmental Protection Agency (EPA) to build technical assistance and promote collaboration between public and private sectors and civil organizations so as to improve environmental management and pollution prevention in developing countries.

(4) Provide personnel training for developing countries

Worked together with Southeast Asian countries to select university lecturers and government officials to come to Taiwan for training or to pursue academic degrees; increased contact with major universities in

Southeast and South Asia to disseminate information on international programs and scholarships offered by universities on Taiwan; subsidized university lecturers from Southeast and South Asian countries to come to Taiwan to pursue master's or doctoral degrees, and actively nurtured relevant talents to support countries in implementing their respective national SDGs.

2. Major Progress

17 PARTNERSHIPS FOR THE GOALS				
 Achieved 2020 target  Failed to achieve 2020 target; slightly behind  Failed to achieve 2020 target				
Indicator	Target	2020 Actual Value	Progress	
17.2.1 Number of trained foreign medical personnel.	Achieved the project goal of "Taiwan International Medical and Health Personnel Training Center"	166		
17.6.1 Percentage of tariff items applied to imports from least developed countries with zero-tariff.	75%	32.1%*		
17.10.1 Number of participants in collaborative elite training programs with developing countries.	1,456	1,456		

Note: Indicator 17.6.1 did not reach the target, mainly because the government considered the need to ensure the profits of the national industry. In the future, it will continue to prudently evaluate the possible impact and discuss the promotion process.

Figure 42- Process review on SDG 17

In 2020, training was provided to 166 foreign medical personnel, meeting the TIHTC target. A total of 2,929 import items enjoyed preferential tariffs, accounting for 32.1 percent of the total number of taxable items in the customs import tariff list, which was short of the 75 percent target. This was because the government considered the need to safeguard the interests of local industries. In the future, the government will continue to carefully assess the potential impact of preferential import tariffs and formulate a timetable for their implementation. In collaborating with developing countries to provide human resource training, training was provided to a total of 1,456 personnel from Southeast Asia and South Asian countries. The number was up 100 compared with 2019, and the set target was met.



Figure 43-Selected Indicators of SDG 17

Source: Taiwan SDGs Follow-Up and Assessment Database.

XVIII.SDG18: Gradually move toward a nuclear-free homeland as stipulated in the Basic Environment Act

Article 23 of the Basic Environment Act states: “The government shall establish plans to gradually achieve the goal of becoming a nuclear-free country. The government shall also strengthen nuclear safety management and control, protections against radiation, and the management of radioactive materials and monitoring of environmental radiation to safeguard the public from the dangers of radiation exposure.” This stipulation demonstrates Taiwan’s vision of becoming nuclear-free and serves as a legal basis for nuclear plant decommissioning and subsequent nuclear safety and radiation control. The law also indirectly guides the formulation of regulations on nuclear waste treatment and disposal in order to achieve the goal of realizing a non-nuclear homeland and

sustainable development. For this reason, Taiwan's SDG18 aims to gradually move toward a nuclear-free homeland as stipulated in the Basic Environment Act. Major policy directions, measures, and progress are as follows:

1.Planning for the decommissioning of the nuclear power plants in accordance with law

(1)Major policies

- In accordance with Article 16 of the Enforcement Rules for the Implementation of Nuclear Reactor Facilities Regulation Act, decommissioning shall be completed within 25 years after obtaining the decommissioning permit issued by the competent authority.
- Decommissioning of Nuclear Plant 1 started in 2019, while the decommissioning permits of Nuclear Plant 2 and Nuclear Plant 3 are expected to be obtained in 2023 and 2025, respectively, after completing the environmental impact assessment (EIA).

(2)Progress

- Decommissioning of Nuclear Plant 1: Decommissioning work officially started on November 20, 2019, with tower removal completed in 2020. Removal of the gas turbine and the plant building was completed in 2021, and the temporary storage facility for outgoing items also received TAF certification.
- Preparations for decommissioning Nuclear Plant 2: The decommissioning plan was approved on October 20, 2020, and the EIA was to be submitted for review on July 31, 2022. The EIA is expected to be approved by the end of 2022, and the decommissioning permit is expected to be obtained in March 2023.

- Preparations for decommissioning Nuclear Plant 3: The decommissioning plan was completed on July 26, 2021, and the EIA is now in its second phase; dialogs with stakeholders have started. The decommissioning permit is expected to be obtained by May 2025.

2.Continue to select potential sites for final waste disposal in accordance with the Act Governing Sites for the Establishment of Low-Level Radioactive Waste (LLW) Final Disposal Facility and facilitate the relocation of the current storage site in Lanyu.

(1)Major policies

The current plan is for low-level radioactive waste to be stored in the low-level nuclear waste temporary storage repository. Dialogs with local government will continue as site selection for the final disposal sites is underway. In addition, the government is looking at the feasibility of using medium-term storage facilities as it continues to look for final waste disposal sites.

(2)Progress

- Conducted at least 400 rounds of dialogs each year during the site selection process. In March 2019, a consensus was reached for a medium-term plan for the storage of LLW, and dialogs with relevant stakeholders were carried out.
- Continued to refer to relevant International Atomic Energy Agency (IAEA) guidelines to develop LLW disposal technologies, borrowing from international experience to change cavern disposal of LLW to near-surface disposal facilities.

- Prepared for the relocation of nuclear waste from Lanyu Island, including the design and construction of transport vessels, dredging of piers, nuclear waste transportation plans, and site restoration plans after relocation.

3.Preparing to select sites for the final disposal of high-level radioactive waste to assist in decommissioning

(1)Major policies

- In the initial stage, high-level radioactive waste (used nuclear fuel) will be stored in dry casts on a temporary basis before final disposal.
- According to successful international site selection experience, appropriate laws and regulations will be formulated to establish an impartial organization, plan open participation procedures, and screen and select sites based on objective standards.

(2)Progress

- The government has developed technical capacity by referring to IAEA standards and international site selection experiences. The plan for the final disposal of high-level radioactive waste has now entered the site screening and approval stage.
- The government is promoting the legislation of the site selection process for the final disposal facility of high-level radioactive waste. Once drafted, the legislation will serve as the legal basis for geological surveys.

4.Improving the safety measures of the nuclear facilities

(1)Major policies

Continue to hold nuclear power safety drills and formulate strategic guidelines in response to specific major incidents (SMI); the guidelines are to be used by power plant personnel during training and drills. Operations related to emergency response will also be reviewed regularly.

2.Progress

- Conducted at least three national critical infrastructure protection (CIP) drills each year. The drills covered communications security, natural disasters, active sabotage, and other emergency situations.
- Faced with COVID-19, disease prevention and control are undoubtedly important. In addition, at least three emergency drills were conducted at the nuclear power plants every year to enhance response efficiency.

5.Promoting dialog on nuclear waste disposal with the society-at-large to increase awareness of the government's policy to realize a nuclear-free homeland

(1)Major policies

Collect information from Taiwan and abroad on public participation in nuclear waste disposal issues, compile government and private opinions, hold focus groups and public dialogs, conduct opinion polls, and translate and make public relevant information. Information campaigns are also carried out through focus groups, public dialogs, and awareness campaigns on campuses, the Internet, and Facebook.

(2)Progress

- Conducted more than 20 rounds of dialogs with stakeholders, including experts and scholars, civil groups, communities nearby the nuclear power plants, and the youth, on issues relating to the proposed LLW disposal sites.
- Conducted at least 600 rounds of dialogs per year with residents nearby the nuclear power plants scheduled for decommissioning (Nuclear Plant 1 and No. 2) and residents nearby the final disposal sites (Taitung and Kinmen) so as to foster goodwill with local residents and improve communication with the locals.
- In May 2022, the government completed the inspection of decommissioning operations and dry storage facilities for Nuclear Plant 1, as well as parallel environmental monitoring operations in nearby areas. Through public participation in environmental radiation monitoring and third-party verification of samples and analysis results along with information disclosure, the government hopes to increase public confidence in its efforts to ensure safety.

Chapter 4. New Challenges: Challenges and Strategies for Sustainable Development Post-Pandemic

4.1 International Trends

Due to COVID-19 and climate change, Taiwan is faced with new challenges in its pursuit of sustainable development. The challenges include changes in the global economic and trade landscape post-pandemic, rapid digitalization, and the international trend toward net-zero emission. It is thus necessary for the government to view these challenges as opportunities for transformation.

I. COVID-19 is becoming a normal part of our daily lives

After the United Nations proposed the 2030 Agenda and Sustainable Development Goals (SDGs) in 2015, 2020 was supposed to be a critical juncture as the world approached the final 10 years before 2030. However, COVID-19 caught the world unprepared. Countries faced severe challenges as the number of confirmed cases and deaths climbed globally. The global political and economic situation has also undergone changes.

According to the International Monetary Fund (IMF)⁶, in the medium term, COVID-19 is likely to exacerbate income inequality. While the disadvantaged groups already had difficult access to education and employment opportunities, the pandemic resulted in increased use of automation and robotics, making low-skilled, low-paid workers more easily replaceable. Thus, the uneven distribution of income is likely to worsen. The Asian Development Bank (ADB) also reported⁷ that despite causing deaths and economic loss, the pandemic also brought opportunities to rebuild a better future. According to the ADB, countries should

⁶ IMF (2021), "Policy Advice to Asia in the COVID-19 Era," IMF Departmental Paper, March 5.

⁷ ADB (2020), "Asian Development Outlook (ADO) 2021: Financing A Green And Inclusive Recovery," Asian Development Outlook, April.

make green investments and invest in society (e.g., public health, education, and vocational training) so as to foster economic growth in a more sustainable, resilient, and inclusive manner.

COVID-19 offers the world an opportunity to examine whether sustainable development policies could continue to drive development post-pandemic. Faced with new global economic and trade landscapes, supply and demand within the global supply have changed drastically. For this reason, sustainable development policies must be in line with current trends, be able to respond to challenges, ensure national security, and use the development of smart digital technologies to ensure national economic prosperity and realize sustainable development.

II. COVID-19 has accelerated global digitalization

In recent years, developing digital economies to drive innovative growth and digital transformation has become a global consensus, and policy forums and conferences convened by the OECD, World Bank, European Union, and APEC have mostly focused on the development of the digital economy. Digital trade, the flow of data across national borders, digital taxation, digital currency, anti-trust regulation, and information security have become the primary contents of the digital economy. According to estimates by the McKinsey Global Institute (MGI), for every 1 percent increase in industry digitalization, there would be a corresponding 0.7 percent increase in productivity. Faced with the trend of adopting a digital economy, countries are working to create a robust digital economy environment, build industry ecosystems, accelerate innovation, and optimize industry structures. In the future, smart production and services will be developed.

COVID-19 has highlighted the potential of digital technology applications as a response. Digital applications are able to simultaneously slow down the spread of the disease and reduce the economic loss caused by prevention and control

policies. In addition, digital applications have facilitated the remote control of production processes, remote teaching, and working from home. As a result, businesses had to adjust their business models and embrace digital transformation to open up new business opportunities.

Looking ahead, although the share of the digital economy within the global GDP will continue to increase, global digital economy development will place greater emphasis on meeting social development needs. The development will become people-centric, with an emphasis on inclusion and sustainable growth. Digital development post-pandemic requires the development of more inclusive digital services, narrowing of the digital divide, increase in the participation rights of the elderly, the poor, the under-educated, and women, and the expansion of digital inclusion. Doing so would increase Taiwan's resilience and enable future generations to enjoy the fruits of sustainable development.

III. The international trend toward net zero

To mitigate the impact of climate change, the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC COP21) adopted the Paris Agreement in December 2015, reaffirming the goal of holding the increase in the global average temperature to below 2°C above pre-industrial levels. The Agreement also invites the 197 parties to communicate their nationally determined contributions (NDCs) toward setting greenhouse gas emission reduction targets post-2020. The UN also stressed the need for countries to actively curb GHG emissions and prevent runaway climate change in order to achieve the SDGs.

It has been scientifically proven that the adverse impacts of climate change are severe and urgent, and this has attracted the attention of the international community, multinational companies, and local organizations. As a result, they have issued declarations and taken action to achieve net-zero emissions by 2050.

According to the IMF⁸, a well-designed carbon pricing scheme and labor market policies, achieved by reallocating capital and retraining the workforce, will facilitate the development of a decarbonized energy sector and other green industries, which in turn will benefit global action against climate change. In addition to carbon reduction, countries have also formulated plans to achieve net zero, which has been regarded as a new driver for their future economies. For instance, the United Kingdom regards net zero transformation as a green industrial revolution, while Japan has formulated the Green Growth Strategy through Achieving Carbon Neutrality in 2050. Countries are working toward climate change adaptation and low carbon transformation by accelerating the implementation of the Paris Agreement, implementing carbon pricing strategies, and moving toward low carbon energy.

However, according to *Net Zero by 2050: A Roadmap for the Global Energy Sector*, published by the International Energy Agency (IEA), carbon reduction by 2030 will come primarily from existing technologies, and by 2050, nearly half of the reductions will come from technologies that are still currently in the demonstration or prototype stage. In other words, achieving net-zero emissions by 2050 will be a serious challenge for every country because most of the innovative technologies needed are still under development.

However, Taiwan sees this as both an opportunity and an advantage. Taiwan has a strong manufacturing industry, a global advantage in the semiconductor and ICT industries, and robust supply chains in the technology and communication sector. By identifying emerging technologies that have solid foundations and potential for growth and strengthening R&D to guide green transformation, a new wave of economic growth could be achieved. The drive toward net zero by 2050 is a national goal; it affects not only national competitiveness but also

⁸ IMF (2021), "Policy Advice to Asia in the COVID-19 Era," IMF Special Series on COVID-19, April 28.

environmental sustainability. Only by achieving this goal can Taiwan lay the foundation for long-term stability and create a better future for generations to come. Responding to this challenge requires efforts from the government and, in particular, from the industry and academia. Collaboration is key to Taiwan's future success.

IV. Low birth rates and aging populations worldwide

According to World Population Prospects 2022, published by the United Nations, the rate of world population growth is slowing down. In 2020, the rate dropped to below 1 percent, and the world population is projected to reach a peak of around 10.4 billion during the 2080s. The percentage of the elderly above the age of 65 will continue to increase, reaching a peak of 16 percent by 2050. On the other hand, global fertility is projected to decline further to 2.1 births per woman by 2050. The figures show that low births and aging populations are becoming the trend. The report indicates that the relationship between population trends and sustainable development is multi-dimensional; population trends affect social security, health care, and employment. Therefore, forward-looking response measures are required.

According to the ROC Population Projections (2022-2070) published by the National Development Council, the number of young people aged 0-14 will continue to decline in the future, while the elderly population aged 65 or older will exceed 20 percent in 2025, turning Taiwan into a super-aged society. Due to the above demographic changes, the working-age population will decrease, transportation needs will change, and new demands for medical care and social security, among other sustainable development issues, will emerge. There is a need to respond accordingly.

4.2 Challenges and Strategies for Sustainable Development

As COVID-19 gradually becomes part of our everyday lives, in the face of rapid digitalization due to the pandemic and the international trend toward net-zero emissions, and taking into account Taiwan's natural resources, population, and industrial structure, Taiwan faces multiple challenges in its efforts toward sustainable development moving forward. These challenges include the urgent need to accelerate the digital transformation of industries to increase economic resilience, social inclusion issues brought about by the low birth rate and the aging population, increased environmental burden due to a dense population, and the needs of climate change.

As explained in Chapter 2, Section 1, Taiwan's sustainable development efforts are jointly promoted by the 17 SDGs working groups under the NCSD, the Task Force for the Promotion of a Nuclear-Free Homeland, and the Task Force on Climate Change and Net Zero Emissions Transition. The progress of their efforts is regularly tracked. To meet challenges as Taiwan marches toward inclusive, green, and sustainable development, the following is a self-review of the issues facing the working groups and the strategies to address them so as to pursue a sustainable homeland and build a better future for generations to come.

I. Digital Innovation and Inclusive Green Growth

In recent years, developing digital economies to drive innovative growth and digital transformation has become a global consensus. COVID-19 has highlighted the potential of digital technology applications in response to the pandemic, driving companies to adjust their business models and undergo digital transformation to explore new business opportunities. However, digitalization has also brought about challenges due to changes in employment structure, social inequality, and issues regarding the applicability of existing ethical norms and legislation.

In general, the development of the global digital economy will focus more on meeting the needs of societies, being people-centric, and stressing the importance of inclusion and sustainable growth. In addition to promoting expansionary policies, the government must accelerate structural reforms to create a better environment for investment and innovation, improve investment efficiency and the capacity to innovate, and promote the digital transformation of industries and social innovation, so as to develop new drivers for growth and achieve inclusive, sustainable, and high-quality economic growth.

1. Accelerating digital transformation and innovation to strengthen industry resilience in response to the next normal

(1) Challenges

COVID-19 has accelerated the demand for digitalization, expanded the deployment of digital infrastructure, and increased its resilience. Digital technology development trends affect generations of users, transcend national boundaries, involve multiple disciplines, and affect both the real and virtual worlds. As the global landscape changes, innovative activities brought about by the digital economy will become critical to national competitiveness. Digitalization within industries has developed very rapidly post-pandemic.

However, multiple challenges exist due to drastic changes in the global economy, which resulted in the restructuring of the global supply chain. These include the ongoing war between Russia and Ukraine, the zero COVID policy and lockdown in China, stress from global inflation, and the tightening of monetary policies in major countries. These developments have affected global supply chains and economic and trade activities, undermined stability in international financial markets, and directly and indirectly affected Taiwan's economic growth. Because stability in the labor market has been affected, recovery in the tourism industry and progress in the deployment of renewable energy are issues facing the government going forward.

(2) Strategies in response

A. Accelerate digital transformation and innovation

The government is promoting the six strategic industries, the Asia Silicon Valley 2.0 Promotion Plan, and Three Major Programs for Investing in Taiwan. The Forward-looking Infrastructure Development Plan and the Smart Taiwan Development Plan (2021-2025) will continue, as well as programs to cultivate and attract talent. These programs are aimed to drive the local economy and industries toward innovation and transformation in order to maintain the critical role of Taiwan in the global supply chain.

B. Increase the resilience of industries

The government continues to expand global trade, increase cooperation in different areas with other democratic partners, and assist local industries in diversifying development within the global value chain. In addition, the government borrows from experiences in other countries to increase the flexibility of industrial production, actively participate in the standardization of international intermediate input products, increase the substitutability of intermediate inputs, and strengthen the resilience of Taiwan's foreign trade.

C. Continue to increase employment and reduce unemployment

In 2022, the domestic pandemic prevention and control strategies use a Taiwan model that also takes into account national economic development and people's livelihood, which in turn lowers the adverse impacts on industries and employment.

In addition to building a sound financial and investment environment, promoting economic and industrial development, and increasing employment opportunities, the government will update the contents of pre-employment training based on shifts in the industrial structure and advancements in technology. This will help the unemployed, and the underprivileged learn skills that meet the needs of the industry and increase their employability. In addition, the government is actively promoting employment assistance and incentives to increase employment and reduce unemployment.

D. Mitigating the impact of the pandemic on tourism, transportation, and the renewable energy sector

The local tourism industry has been affected by the pandemic and its subsequent border control. In response, the government has extended the implementation of relief and revitalization measures for the tourism industry to stabilize employment, encourage digital transformation, and adopt multi-faceted business models. In anticipation of future market recovery, the government continues to provide consultation and training to industry personnel. The government offers a series of training courses on service transformation and digital marketing to help industry professionals develop expertise to become better prepared for industry upgrades and transformation and increase their overall competitiveness.

In the area of renewable energy, the supply chains of the solar energy and offshore wind power sectors have been adversely affected by the pandemic. This has led to rising costs of raw material prices, labor shortage, and difficulties in access to vessels and equipment needed for wind farm construction, all of which delayed deployment. In response, the government will rely on the communication platform between the central and local government and the operators to continue

to monitor progress and assist in eliminating obstacles. In addition, it will also examine renewable energy development in Taiwan and adjust development strategies accordingly and in a timely manner to ensure the timely deployment of renewable energy installations.

2.Assisting SMEs to achieve digital transformation, green transformation, and inclusive growth

(1)Challenges

Due to the international trend toward net zero, multinational companies have also put forward net-zero targets in response. As local businesses play an important role in the international supply chain, they are also under pressure to reduce emissions. However, local businesses, in particular the SMEs, are not adequately equipped to do so and therefore require assistance. In addition, SMEs lack capital, manpower, and R&D capabilities, making it difficult for them to achieve digital transformation and thus capitalize on the remote business opportunities post-pandemic.

(2)Strategies in response

A. Assist SMEs in developing talent and engaging in precision marketing

To assist in the cultivation of talent for digital transformation, the government uses third-party solutions from digital learning platforms built by start-up companies to enable SMEs and micro companies to use the cloud to learn to use AI for data analysis and marketing. To improve marketing, the government encourages businesses to join the sharing economy platform to work together, refer customers to one another, and share feedback. The platform also offers a customer relationship management (CRM) system based on consumer data to achieve precision marketing.

B. Support for start-ups to assist SMEs in implementing digital transformation

The government borrows from experiences in other countries to assist SMEs in collaborating with start-ups to achieve digital transformation. For instance, the European Union (EU), using the EIC Accelerator, extends funding to SMEs to help them develop digital tools. Ireland offers subsidies to businesses to encourage collaboration with start-ups to develop new solutions, while Finland uses hackathons to match start-ups with SMEs.

C. Help businesses build capacity in carbon inventory to help increase their capacity for carbon reduction

The government has organized carbon inventory and carbon footprint seminars and established a digital service platform to help businesses build capacity in carbon inventory. Other measures include consultation with experts and diagnosis to help enterprises gradually build capacity, formulating appropriate carbon inventory and reduction strategies, and providing guidance to help businesses develop innovative technologies, green designs, processes, operations, service models, and new products.

D. Using subsidies and other financial measures to encourage SMEs to make green investments

In addition to complementary measures such as formulating carbon reduction guidelines, developing digital calculation tools, consultation, and subsidies for equipment procurements, countries have offered green certification programs to assist in the transformation of SMEs. For instance, the UK grants green certification and incentives for companies that have achieved carbon reduction targets, while

Norway has its own environmental certification scheme in place for SMEs. The Netherlands offers subsidies for SMEs to carry out innovative research to increase energy efficiency, and the UK has a venture capital fund in support of green start-ups. Other countries are also offering preferential interest rates and public procurement incentives. For instance, Japan is offering low-interest loans for investments in energy-saving by SMEs and is using green public procurement to stimulate the industry to develop green products and services.

- E. Assist companies to in integrating digitalization and greening. Examples include smart solutions such as microgrids for SMEs

3.Increasing green investment and green consumption to promote green growth

(1)Challenges

To achieve net zero, the United States, Japan, the United Kingdom, and other countries have adopted green growth strategies to realize a virtuous cycle of carbon reduction and economic growth. Taiwan has announced its intention to be in step with the international community and move toward net zero. Moving forward, it is, therefore, necessary to convert the pressure to reduce emissions into a new driving force for economic growth.

(2)Strategies in response

- A. Accelerate the deployment of green infrastructure: Increase investment in green infrastructure and reduce the emission of public construction projects. For instance, the Forward-looking Infrastructure Development Plan 2.0 will require construction designs to incorporate the concepts of sustainable transformation, green revitalization, and eco-auditing, and the public construction budget has stipulated that all emerging projects must be linked to the net-zero emission target.

- B. Increasing green investment: Imposing carbon tax to incentivize companies to expand green investment; issuing green bonds and refining the sustainability classification criteria to attract green investments; providing low-interest financing for investments in renewable energy.
- C. Encourage green consumption: Subsidizing the purchase of electric cars and motorcycles; increasing the number of green buildings; providing additional incentives such as preferential tax rates or subsidies in addition to building bulk incentives; amendments to the Greenhouse Gas Reduction and Management Act to tighten carbon footprint management and product labeling; extending the responsibility of product manufacturers and providing consumers with low-carbon options to encourage manufacturers to produce low-carbon products.

4.Improving the legal framework for anti-money laundering and increasing the transparency of government administration

(1)Challenges

Taiwan is free and democratic with dynamic financial and trade development. Because of the different payment tools available for consumers, some industries have become susceptible to money laundering. In recent years, virtual assets have become new investment targets for the public. Yet these virtual asset services are primarily non-face-to-face transactions with a high degree of anonymity. Transactions make use of the Internet to transfer products, services, and payments. As a result, large amounts of assets may be transferred immediately without any institutional control and without leaving any cross-border transaction records. By their very nature, these transactions could easily become an emerging money laundering tool, which in turn could affect the order of financial transactions.

On January 25, 2022, Transparency International released its 2021 Corruption Perceptions Index, and Taiwan ranked 25th. Despite an improved ranking, Taiwan must remain vigilant of the threat that corruption poses to its sustainable development.

(2) Strategies in response

A. Improve national money laundering laws and regulations

The government announced the Regulations Governing Anti-Money Laundering and Countering the Financing of Terrorism for Enterprises Handling Virtual Currency Platform or Transaction to increase oversight of high-risk businesses such as those involving virtual assets. To prevent corrupt individuals from taking chances, the government has developed a comprehensive anti-corruption criminal code and will continue to amend the relevant laws. For instance, the government will tighten regulations against bribery from and of foreign public officials, trading of influence, and obstruction of justice. It will also amend the relevant statute of limitations.

B. Promote public participation through transparent government information

Improving transparency in government administration and public participation in public policy issues have become international trends. The opening up of government information will enable the flow of information across government agencies, improve governance efficiency, satisfy the needs of the public, and thus allow for increased oversight from the public.

5. Applying innovative technologies to provide integrated public transportation services and improve traffic enforcement

(1) Challenges

In the past, improvements in the quality of public transportation services were primarily focused on vehicles and infrastructure. With the development of information and communication technologies, it is now important to provide innovative and integrated public transportation services and experiences through the integration and application of new technologies. In addition, the number of road traffic deaths and injuries has been increasing in recent years. To reduce the number of deaths and injuries, correct bad driving habits and reduce traffic violations, and identify traffic problems in communities to reduce traffic incidents, it is necessary to apply innovative technologies and big data to improve traffic enforcement.

(2) Strategies in response

A. Promote Mobility as a Service (MaaS)

MaaS offers users a cost-efficient transport service solution that combines public transportation, such as mass rapid transit, light rail, buses, and ferries, with other modes of transport, such as taxis, ride-sharing, and transit parking. MaaS is a cost-efficient transport solution, which not only brings more profit to transportation operators but also gives users added-value public transport services.

B. Build the Road Safety Information Platform and use innovative technologies for traffic enforcement

By connecting big data from the competent authorities, the Road Traffic Safety Performance Indicators can be used to determine the causes and nature of road accidents in each county and city, and automated license plate recognition systems can be used to enforce

speed limits. In addition, aerial cameras are also deployed to investigate and analyze traffic accidents.

6. Achieving just digital transformation

(1) Challenges

Digital technology has been used to effectively combat the spread of COVID-19 and mitigate its economic and social impacts. This includes, for instance, the use of AI for contact tracing, distance learning, and work from home. However, the process has also highlighted the digital divide that is exacerbating inequalities in education and employment. The digitalization of the global economy will certainly accelerate post-pandemic, and the OECD (2021)⁹ also echoed that the lack of digital skills and digital infrastructure will exacerbate existing inequalities. The United Nations Development Programme (UNDP) released the Digital Strategy 2022-2025, which points out that the use of digital technologies can help reduce inequality, foster inclusiveness, and address climate change. The strategy calls for the creation of a more inclusive and resilient digital ecosystem to ensure a fair digital future for all.

For this reason, Taiwan needs to achieve digital transformation to take advantage of zero-touch business opportunities. Faced with a low birth rate and an aging population, Taiwan needs to rely on digitalization to minimize the impact of a reduced labor force. To achieve sustainable development, digital transformations must be equitable and further enhanced to reduce the digital divide.

(2) Strategies in response

In the future, digital transformations will focus on AI development, Internet of Things, 5G, and other emerging technologies. The OECD

⁹ OECD (2021), "Economic Policy Reforms 2021 Going for Growth: Shaping a Vibrant Recovery." April 2021.

(2021)¹⁰ recommends that digital device connectivity should be improved, in particular, the deployment of digital infrastructure in rural areas. For the data required to carry out intelligent analysis, there is a need for fair access and increased data flow and sharing. In the use of digital technology, there is a need to enhance the digital skills of disadvantaged groups and retrain grassroots workers. In addition, the general public must be protected against the adverse effects of digitalization through personal data protection. In other words, the use of digital services should be secure. Thus the security of digital networks must be improved.

II. Demographic Changes and Social Inclusion

Taiwan became an aged society in 2018, with the elderly population accounting for over 14 percent of the total population. It is expected to become a super-aged society, with more than 20 percent of the population over 65 by 2025. Population aging will bring emerging issues, such as decreased productivity, decreased tax revenue, significant increases in medical care expenses, changing transportation needs, environmental barriers restricting the daily activities of the elderly, and a heavy burden on the national medical care and pension systems. In the long term, these challenges hinder national development, and thus require an early response from the government.

In addition, smart technology, a low birth rate, and an aging population will result in different forms of economic and social inequality. Although these are also challenges faced by many countries, the situation in Taiwan is less severe than that of other advanced countries. Taiwan will continue to strengthen healthcare and pandemic prevention and control, as well as improve the social safety net and social care system in order to drive innovation and productivity and ensure a balanced distribution of resources.

¹⁰ OECD (2021), "Development Co-operation Report 2021: Shaping a Just Digital Transformation." December 2021.

1. Mitigating the impact of low birth rate and population aging on labor supply and increasing labor productivity

(1) Challenges

Population size and age structure affect overall economic and social development. Due to the low birth rate and population aging, the burden on the working population will increase significantly, and spending will decrease. As labor demands in the industries continue to increase, a decrease in the working population and its continuous aging will result in labor shortages.

(2) Strategies in response

A. Increase the fertility rate to curb the rate of population decline and aging

The government has accelerated the implementation of the Measures to Counter the Falling Fertility Rate (2018-2024). The measures are aimed at increasing the fertility rate, helping employees balance employment and family, reducing the burden of childcare on families, and improving the quality of care for infants and children. A multi-pronged approach is used to build an environment conducive to raising children, thus encouraging couples to have children.

B. Cultivate and attract talent to increase workforce productivity and labor force participation rate

Increase the number of universities taking part in the university-industry collaborative education program to develop local digital talent; expand the recruitment of foreign professionals to include overseas-Chinese and foreign students, and amend regulations for the recruitment and retention of foreign technical personnel; create a friendly workplace environment conducive to the enforcement of the Middle-aged and Elderly Employment Promotion Act; promote employee-friendly

family assistance measures; and encourage the employment of middle-aged and elderly women to increase labor force participation rate.

C. Build a learning society to promote willing and lifelong learning for all

Faced with a declining birth rate, population aging, the advancement of digital technology, and the need for sustainable development, Taiwan's formal education system needs to develop students' abilities for autonomous learning and lifelong learning. In addition, there is also a need to create an environment that facilitates lifelong learning by expanding education within the community, providing added learning opportunities for the elderly, promoting learning within the family, and providing smart services. This will help increase participation in community development and employment, improve the quality of human resources, and ensure their efficient use.

2. Use best efforts to ensure that no one is left behind and to safeguard the rights of different genders, disadvantaged groups, and indigenous peoples

(1) Challenges

Due to population aging and declining births, the working population will gradually decrease in the future, which will also put added financial pressure on the working population. If the fertility rate continues to decline and the speed of population aging increases, family structures will also change, which may directly or indirectly lead to an increase in the poor, elderly population. This will lead to a number of socio-economic issues, such as gender inequality, inadequate care for disadvantaged groups, and overlooked aboriginal rights.

In addition, COVID-19 also has a profound impact on education. The pandemic has accelerated the use of digital technology in education and has adversely affected the quality of learning, in particular among disadvantaged students. According to studies conducted by UNICEF, Europe, and the United States, the pandemic has caused students to stagnate and fall behind in their studies.

(2) Strategies in response

A. Achieving gender equality

Toward this end, the policy objectives are to provide gender-equitable health care and to implement gender-sensitive environmental, energy, and technological development. Both the central government and local governments should work together under a mechanism to guide and assess gender equality. Recognizing that families will have different needs at different stages, the government has revised its strategy in response to declining births and is offering preschool services, job-friendly workplaces, child-rearing support, and other relevant measures to create a friendly environment for child-rearing.

B. Taking care of disadvantaged groups and safeguarding the rights to education of disadvantaged students

To ensure a basic standard of living for all, the government, apart from providing assistance in accordance with the Public Assistance Act, offers additional in-kind payments to help economically disadvantaged families maintain their basic living needs. Social welfare subsidies are also adjusted every four years in conjunction with the consumer price index to take care of the disadvantaged. In addition, to encourage low-to-middle income families to participate in poverty alleviation programs, the Public Assistance Act stipulates that for low-to-middle

income families receiving subsidies, the increase in income and savings resulting from the measures within a certain period and the amount shall not be included in the calculation of total household income and household assets, so as to prevent them from being disqualified as low-income households.

The government pays close attention to the performance and changes in the academic performance of students at the compulsory education level, in particular, the performance of disadvantaged students and those from remote areas. It provides the necessary learning support and resources as early as possible. The government also provides support to disadvantaged students at different levels of schooling based on their respective needs. These include financial support, assistance during learning and in pursuing further education, schooling, student loans, and more convenient access to education in rural areas. The goal is to enable students to study in peace and realize fair and just educational opportunities for all.

C. Promote long-term care for indigenous peoples

To look after long-term care for the indigenous people, the government has set up cultural health stations in indigenous communities and urban indigenous communities. The goal is to let the indigenous people take care of fellow indigenous people and develop indigenous organizations within local communities. This will ensure that the indigenous elderly receive care and services consistent with local indigenous culture and practices. The government hopes that such an approach can help reduce health conditions and their time in bed, which in turn can reduce the burden on family members and long-term care.

3.Caring for the health and well-being of all

(1)Challenges

Due to declining births and a growing elderly population, Taiwan is expected to become a super-aged society by 2025. The demand for financial security, elderly care, and long-term care will increase as a result of changes in the family structure and an increasing number of disabled and demented people. Therefore, the government is faced with new challenges, which include ways to curb population decline, reduce child and neonatal mortality, and reduce road traffic injuries and deaths. Another challenge is taking care of the elderly and improving the long-term care service system to look after the health and well-being of different generations.

(2)Strategies in response

A. Taking care of children's health and well-being

Oversee all-round and integrated health care and implement preventive health care for children, such as improving medical care for perinatal-period and preterm infants, promoting the quality of pediatric emergency care, and integrating resources; provide home care for children with low or very low birth weight and improve health care during pregnancy; promote the retrospective analysis of causes of death of children and continue to review and improve the analysis methods and procedures, and expand participation to more counties and cities, so as to reduce the mortality rate of newborns and children under 5 years old.

B. Reducing the number of injuries and deaths due to road accidents

The number of road accidents involving the elderly has increased over the years. In response, the government has formulated a plan to reduce the number of road accidents involving the elderly. Local

governments have been requested to help promote the safety guidelines for the use of electric mobility scooters by the elderly and traffic safety guidelines for the elderly, along with the county and city governments and the Ministry of Health and Welfare. In addition, the government is also increasing traffic safety awareness among the elderly, using campaigns to reach out to the elderly in local communities.

C. Reduce the number of elderly suffering from chronic diseases and improve long-term care services

Reducing the number of elderly suffering from chronic diseases can alleviate the burden of the working population and conserve long-term care resources. In the future, the government will continue to take measures to prevent and control front-end risk factors, focus on preventative care, early detection and intervention, and improve the quality of medical care. The goal is to achieve UN SDG goal of reducing by one-third premature mortality from non-communicable diseases by 2030 through prevention and treatment.

The government will continue to promote the Ten-year Long-term Care Plan 2.0 to provide diverse, continuous institutional care to assist families, households, and communities. The care, which will reduce the burden of family members caring for the elderly, serves as a bridge between primary preventive care, which helps to delay the onset of disabilities, and hospice at-home services. In addition, the government is promoting an overall community care model and establishing a multi-tiered service network to facilitate public access to nearby long-term care services.

4. Implementing transport justice in rural areas and providing an inclusive, access-free transportation environment

(1) Challenges

As Taiwan gradually becomes a super-aged society, the population suffering from frailty, chronic diseases, and disabilities will increase. This will result in an increasing need for long-term care, medical treatment, and rehabilitation. For this reason, providing barrier-free transportation to ensure equal access to transportation services has become a priority.

(2) Strategies in response

A. Provide quality services for passengers with physical and mental disabilities

Taiwan Railway has provided an accessible environment for elderly passengers and those with mobility impairment to make it more convenient for them to commute, visit doctors, and travel. In line with government regulations, it has not only implemented projects to raise platform heights to make them align with train ramps but is also installing access-free elevators at its train stations. More importantly, it has enhanced the training of its service staff to provide better services to passengers with physical and mental disabilities.

B. Providing innovative transportation services in rural areas

Innovative transportation services are provided in rural areas by using technology platforms to link resources and services. Service centers provide ride matching services that allow passengers to register and reserve rides. This approach makes efficient use of vehicles that would otherwise remain idle.

III. Just transition to net-zero emissions in response to climate change and the need for national land conservation

The United Nations Intergovernmental Panel on Climate Change (IPCC) has released the second part of the Sixth Assessment Report (AR6), *Climate Change 2022: Impacts, Adaptation, and Vulnerability*. The report highlights the need to link mitigation and adaptation measures to achieve climate resilience development (CRD) in line with SDGs and the Paris Agreement. Over the next decade, the choices and actions that the world takes will be key in realizing climate resilience development.

1. Increase the resilience of the national land and increase adaptation capabilities

(1) Challenges

Due to global climate change and socio-economic development in Taiwan in recent years, the natural environment has been facing many problems and challenges. With a dense population, limited natural resources, and rapid expansion of socio-economic activities, there is increased stress on the environment. In the future, there will be a need to develop strategies to conserve the national land, preserve biodiversity in forests and along the coastal areas, and ensure cultural diversity. Strategies need to be developed to improve the quality of the environment and increase resilience.

Taiwan is one of the countries worst affected by multiple natural disasters. Climate change has increased the frequency and intensity of extreme weather events, posing severe threats to the ecosystem, infrastructure, and economic growth. In accordance with the National Climate Change Action Guidelines, the government in recent years has taken actions to reduce greenhouse gas emissions, prevent pollution, and maintain environmental quality. Despite achieving set milestones, there remains room for improvement compared to international standards.

The IPCC released AR6 in March 2022. The report states that preserving biodiversity and ecosystems is the foundation of climate-resilient development. The report also recognizes nature-based solutions (NBS) as a tool to help support the environment and mitigate the effects of climate change. In their reports on nationally determined contributions (NDC), countries have included NBS in their adaptation and reduction plans. In Taiwan, the NBS approach should also be incorporated into domestic adaptation efforts.

(2) Strategies in response

A. Improve climate change adaptation measures

(A) Take inventories of climate risks and formulate priority adaptation measures

Adaptation measures cover four major areas: assessment and management of climate change risks, capacity building, adaptation to key climate change risks (including extreme rainfall, high temperatures, drought, and rising sea levels), and adaptation in natural systems.

The Environmental Protection Administration has proposed amendments to the Greenhouse Gas Reduction and Management Act to change its name to the Climate Change Response Act, which will focus on both adaptation and mitigation. A special section on climate change adaptation will be added to guide adaptation, which will include provisions to build basic adaptation capabilities, align scientific projections, determine a framework for implementation, and incorporate the efforts of local governments.

(B)Capacity building in the sciences and in service provision

Build capacity in climate research and adaptation, compile scientific data for use in local climate change projections, simulate scenarios and formulate risk, formulate adaptation methodologies compatible with local needs, and build knowledge learning and sharing systems; improve adaptation capacities across government agencies and at all levels of government; increase adaptation capacity and build policy tools that are practical and can be implemented, and carry out efficient climate risk management across government agencies and at all levels of government.

Develop adaptation technologies and strategies that account for both sustainable development and net-zero emission. Adaptation actions and practices should not only mitigate risks and build capacity, but they should also account for the impact on the ecosystems, carbon reduction, and sustainable development goals.

(C)Improve the marine monitoring network and enhance coastal protection

To protect the marine ecology and ensure sustainable development of resources, the government promotes and encourages marine research to predict and understand the short-, medium- and long-term development trends of the marine environment, including temperature, nutrients, ocean currents, and biological resources. It provides timely projects and reports to the marine industry to enable the industry, to respond and plan the future use of marine space to reduce the loss of resources.

To increase coastal protection, natural coastal areas and potential protected areas designated under the Coastal Zone Management Plan are prioritized and listed as zones that require special attention in coastal management. Different protection and management strategies will then be proposed accordingly.

B. Develop land planning strategies and build a green network for ecological conservation

In line with global climate change research and Taiwan's climate change policy, the government has selected, based on the advancements in climate change science and adaptation research, adaptation issues related to land use planning to conduct a risk assessment and analysis to develop adaptation strategies for spatial development. Using historical data from land use surveys conducted by the Ministry of the Interior, the government has conducted value-added research on land use change and carbon sink capacity estimates. The results will be used as references for future land planning.

The National Ecology Green Network focuses on the sustainable development of the environment and human activities in low-altitude mountains, plains, and coastal areas. By considering the needs of different stakeholders, the project aims to use integrated strategies to resolve habitat fragmentation and environmental challenges caused by human activities, restore major habitats in forests and coastal areas, and increase environmental resilience. The strategies include: restoring vegetation and building eco-corridors, building animal-friendly pathways, linking pathways along lakes and rivers, environmentally friendly production, developing resilience in local communities, and payments for ecosystem services.

C. Focus on both mitigation and adaptation, deployment of ecosystem service assessment, and nature-based solutions (NBS)

(A) Incorporating nature-based solutions in infrastructure
Incorporating nature-based solutions in infrastructure

Following the path of the forward-looking infrastructure projects, the government selects appropriate projects from the water environment and urban and rural construction projects as pilot cases to deploy ecosystem service assessment and nature-based solutions (NBS) and, at the same time, conduct training and awareness campaigns. In the future, guidelines for localized implementation will be developed to serve as a reference for the relevant competent authorities.

(B) Nature-based solutions (NBS) to create a flood-bearing and resilient water environment

In response to the increased frequency and intensity of rainfall, an asymmetric management model will be adopted. In other words, corresponding adaptation measures will be implemented based on the level of flood risk in each watershed. The government is using NBS to increase land resilience against floods and its disaster recovery capacity.

2. Promoting the path to net-zero by 2050 and moving toward net zero together with the world

(1) Challenges

In response to the trend toward net zero, pressure on supply chains to cut emissions, and the adverse impact of extreme weather events, countries have announced their commitment and have taken actions to achieve net

zero. In addition to carbon reduction, countries have identified net zero as a new driver for economic growth. Taiwan should observe the carbon reduction pathways formulated by other countries and identify emerging technologies that have the potential to lead a green transformation. The government has encouraged R&D to drive a new wave of economic growth.

Given that the impact of climate change on the younger generation is more direct and long-term, achieving net zero by 2050 will be a large-scale transformation project that transcends generations, disciplines, and international boundaries. In line with the trend toward net zero and the environmental, social, and economic transformation laid out in the Paris Agreement, Taiwan should contemplate protecting the rights and interests of future generations while pursuing economic gains and affluence. To meet future development needs, it is necessary to expand public dialog and review current pathways on a rolling basis through international cooperation and R&D of net zero technologies and applications. The government should also focus on cross-generational justice and cross-discipline governance to ensure sustainable development. It should work together with the international community to build resilience and turn climate risks into opportunities for green transformation.

(2) Strategies in response

A. Energy transition

(A) Create a zero-carbon energy system and increase energy resilience

Maximize the use of renewable energy by expanding the deployment of solar and wind power, together with the use of forward-looking geothermal and ocean energy; construct a zero-carbon power system by deploying hydrogen power generation and using carbon capture, use, and storage (CCUS); expand the grid infrastructure and renewable energy storage to increase resilience. By 2050, the

dependence on imported energy is expected to be reduced to less than 50 percent, thus increasing energy security and self-reliance.

(B) Energy transition and just transition

Review the different factors that affect electricity prices. The electricity prices are determined by a review board to ensure reasonable fees and that users pay a fee corresponding to the amount of electricity used.

The current formula for calculating electricity prices has a mechanism to internalize external costs in order to provide incentives for businesses to use green electricity, conserve energy and cut emissions, and contribute to the realization of net zero. Using this mechanism, tariffs and fees, such as the Renewable Energy Development Fund, air pollution fee, and motor vehicle fuel fee, are internalized and reflected in the price of electricity. According to the proposed draft amendment of the Climate Change Response Act, a carbon fee will be levied in phases on direct and indirect sources of emissions based on the amount of GHG emissions, and the amount of emission from the electricity consumption may be deducted from the amount of direct emission from the sources of electricity generation. The formula for electricity prices will be calculated based on an inventory of existing external costs to avoid imposing duplicate carbon costs on the public.

Taiwan liberalized its electricity market in 2017. This included the opening up of the renewable energy sector and allowing electricity retailing enterprises to join the electricity market. In addition, the government created an online electricity tariff information disclosure platform, which discloses to the public decisions of the electricity

price review board and costs of electricity generation to ensure transparency.

In achieving the energy transition required for net zero, special attention needs to be paid to energy poverty in order to facilitate a just transition. Measures implemented by the government include: subsidizing the energy expenditure of disadvantaged households, deploying corporate resources to help disadvantaged households obtain energy-saving equipment, and using efforts from businesses and public interest groups and government subsidies to continuously promote community renewable energy projects to provide stable green energy in rural areas.

B. Industry transformation

(A) Improve industrial processes and energy conversion

The government will continue to deploy green energy to provide sufficient green power and drive the growth of the green energy industry chain and the local supply chain. It will assist local industries in meeting the needs of supply chains and global green initiatives by integrating the strengths of the ICT industry to develop more efficient, lower carbon, and smarter processes. In addition, the government will be forward-looking in deploying technology. It will continue to accelerate the commercialization of local technologies to target global net-zero transformation opportunities.

(B) Promote circular industries to improve waste treatment methods

At present, incinerators and landfills are the primary methods of waste disposal in Taiwan. However, such disposal methods often require large amounts of energy, damage the environment, and emit

toxic substances. Resources are also often not efficiently utilized. The processes also cause greenhouse gas emissions and exacerbate climate change.

In the future, energy and resource recycling and reuse can be achieved through the recycling and reuse of materials, use of alternative raw materials, conversion of waste into energy, converting landfills into renewable energy sites, recycling and reuse of waste vehicle parts and components, converting food waste into biomass energy, and recycling cell phones. To achieve comprehensive tracking of the flow of wastes, the government proposed amendments to the Waste Disposal Act to accelerate waste recycling, increase the responsibility of the source, reduce the risk of disposal, tighten control of industrial waste, and ensure that the export of hazardous industrial waste from Taiwan can be properly handled.

C. Lifestyle transformation

The government has carried out nationwide dialogs, including dialogs with the manufacturing sector and the general public, in particular the youths, in order to raise awareness and achieve consensus on climate change and net-zero transformation. This, in turn, will lead to behavioral changes from the public, starting from food, clothing, housing, and transportation, to lifestyle changes to realize low carbon living. At the same time, the government provides incentives for manufacturers to build low-carbon business models and create green supply chains.

(A) Cultivate zero-waste, low-carbon dietary habits

Promote a lifestyle of “using services” instead of “owning things.” The government is encouraging the public to develop a habit of zero-

waste, low-carbon dietary habits by reducing food waste at the source. This also includes efficient production and distribution and encouraging farmers to use regenerative farming methods.

(B) Promote initiatives to convert new and old buildings into net-zero buildings

Adopt strategies such as passive building design, use of high-efficiency household appliances, use of intelligent control systems and development of highly energy-efficient systems, integration of multiple energy sources, and use of carbon-absorbing building materials to construct buildings that achieve net-zero energy consumption.

(C) Build a low-carbon, shared transportation network

Develop green public transportation, provide convenient public transportation, and encourage the use of public transportation; provide incentives to build an efficient rail network around the island to provide quality and fast intercity travel; promote intelligent transportation sharing and ridesharing, and encourage enterprises to restrict the use of private transportation and promote ridesharing; encourage the use of public transportation and reduce the use of private transportation.

Develop upstream and downstream industries for electric vehicles; set targets for the future market shares of motorcycles, minibuses, and buses based on the maturity of the technology used; integrate technological development and infrastructure of energy storage, charging stations, and safe charging measures in buildings; create employment within the EV sector and identify opportunities for key technologies to enter the international market, and provide stable support for domestic electric vehicles and their associated charging needs.

D. Social transformation

Use public dialogs to identify potential impacts of the net-zero pathway, as well as the potential conflicts between the energy sector, industries, daily living, research, and legislation; consider the relevance and interaction of all carbon reduction measures and determine the priority of each; and formulate cross-industry sector implementation plans and supporting measures to ensure social justice.

In achieving a just transition, the goal is to leave no one behind. The government will strive to balance policy objectives, ensure fairness in the distribution of resources and benefits, and be inclusive. It will mobilize government agencies and call for public participation, and at the same time, allocate responsibility and ensure the balance and fairness of the policy objectives so that all stakeholders will have the opportunity to participate in planning and oversight so as to avoid the sense of relative deprivation during the transformation process.

E. Foundation for governance

(A) Technological development

i. Research and development of net-zero technologies

In order to achieve net zero by 2050, the government has focused on the development of green technologies in the areas of sustainable energy, low carbon technology, and recycling. In the area of sustainable energy, the technologies include energy storage, grid system integration, hydrogen energy, and other new energy technologies. For low carbon technologies, they include low-carbon processes, green buildings, and green transportation. In the area of recycling, the technologies include those that improve the recycling and reuse of resources.

For carbon capture, use, and storage (CCUS) and other carbon negative technologies, the priority is to invest in carbon capture technologies with long-term carbon reduction or breakthrough potential and to develop and verify carbon sequestration technologies such as geological sequestration, ocean sequestration, and mineral sequestration. Sandbox demonstration sites will be selected for demonstration and monitoring to provide scientific evidence for use as the basis for dialogs with the public.

- ii. Increase the use and protection of natural carbon sinks in the forest, soil, and the ocean

The government has proposed three major strategies to protect carbon sinks: increase forest area, strengthen forest management, and increase the use of domestically produced timber. While enhancing the performance of forest carbon sinks, the government also takes into account the value of other forest ecosystems and their economic contributions to the industry sector. The government is actively conducting an inventory of carbon sinks in the different eco-habitats and, at the same time, developing carbon sink technologies and providing incentives to develop more carbon sinks in order to increase the potential of forests, soil, and oceans to act as carbon sinks. By assessing the benefits of using agricultural lands as carbon sinks, in addition to their value in food production, the government plans to develop new green business opportunities to increase the farmers' income.

Soil is the most important carbon sink in the world. Only by maintaining soil health can soil effectively sequester carbon. In the agricultural sector, the government will guide farmers on the proper use of fertilizers and continue to provide incentives and subsidies for farmers to use domestic bio-fertilizers so as to preserve soil strength and reduce

the use of chemical fertilizers. In addition, the government is integrating green sustainable resilient remediation (GSRR), innovative remediation technologies, and the establishment of an environmental technology verification system to remove restrictions on sites where the soil and groundwater are polluted and restore the use of such sites.

As opposed to “green carbon” in forests, marine carbon sinks are known as “blue carbon.” These include coastal ecosystems such as mangroves, salt marshes, and seagrass beds. In some coastal habitats with high productivity, their carbon storage capacity is no less than that of forests. To maintain the marine carbon sink ecosystem, the government continues to protect and manage marine reserves, monitor marine ecology and biodiversity, investigate changes in seawater quality, and understand the impact of environmental changes due to climate change, so as to formulate relevant habitat management policies.

(B) Climate legislation

- i. Strengthen the legislative framework to improve climate legislation

In order to align with international regulations and provide a basis for local carbon reduction efforts, the government reviewed the relevant basic laws and planned to amend the current Greenhouse Gas Reduction and Management Act to change its name to Climate Change Response Act. Relevant laws on renewable energy, energy management, transportation, and buildings will also be amended to improve the legislative framework.

ii. Steady implementation of carbon pricing

A carbon fee will be levied in gradual phases based on the type of emission source. The amount collected will be dedicated for use in GHG reduction, the development of low-carbon and negative emission technologies, and the development of a low-carbon economy. The government will also progressively promote carbon trading, continue to encourage businesses to adopt voluntary reduction and hand out carbon credits, and build a trading platform so as to give value to carbon reduction to encourage businesses to accelerate transformation.

iii. Implement green finance to guide net-zero transformations

To increase awareness in the financial sector and businesses on climate change and sustainable development, the government launched Green Financing 2.0 to guide enterprises and investors to pay attention to the environmental, social, and governance (ESG) issues to encourage investors and the industry to pursue a virtuous cycle of green and sustainable development.

3.Partner with stakeholders to address climate change

(1)Challenges

Agenda 21 points out that in the pursuit of sustainable development, the main challenge facing the global community is how to achieve consensus across all sectors of society. Such a consensus will rely on the participation of all, building partnerships, and maintaining good communication.

Taiwan has gradually developed multiple channels of public participation in environmental policy issues and strengthened public-private partnerships. However, there remains room for improvement. In addition, due to political constraints, Taiwan is neither a party to the UNFCCC nor is

it included in the relevant frameworks. As a result, it is difficult for Taiwan to respond to the international call to combat climate change and engage with international trends. In the future, Taiwan will continue to expand international partnerships and actively participate in international matters related to climate change.

(2) Strategies in response

A. Public-private collaboration to develop climate resilient communities

In response to climate change, Taiwan focuses on local communities to expand public participation and increase public awareness of the risk associated with extreme weather events caused by climate change. The government is integrating existing foundations and results on disaster prevention within communities to create a climate-resilient community sharing platform and work with local governments to establish offices in townships, cities, and districts to promote community adaptation measures and build resilient communities. In addition, the government encourages private organizations to participate in government decision-making and is building local consultation platforms to expand the mechanisms for public participation.

B. Increase communication with indigenous residents

Environmental conservation within the vicinity of national parks and the surrounding communities depends on successful communication and coordination with the local indigenous population. The national park administrations will encourage participation from the indigenous population to jointly manage relevant activities and promote a joint-management mechanism. The government will assist in local

industry development, train indigenous staff members, promote ecotourism, and preserve indigenous cultures. The government will seek to balance traditional indigenous culture with climate change actions by amending laws or piloting relevant projects so as to establish a good partnership to ensure the sustainability of national parks. The government will also continue to conduct a comprehensive review of the national (nature) park conservation program and the program committee assessment process, as well as improve coordination and communication with the local residents.

C. Expand international partnerships

Although Taiwan is not a party to the UNFCCC, it has continued to work on climate issues in line with the spirit of the Convention and has demonstrated its ability and willingness to participate in international cooperation. Taiwan has for many years assisted developing countries in their mitigation and adaptation efforts. In recent years, Taiwan has, through bilateral and multi-lateral platforms, further achieved tangible results in assisting developing countries in environmental governance, disaster warning and prevention, promoting energy efficiency, and exporting green technologies. Building on existing foundations, Taiwan will continue to expand cooperation with its allies and other like-minded countries so as to meet international expectations and improve its international image.

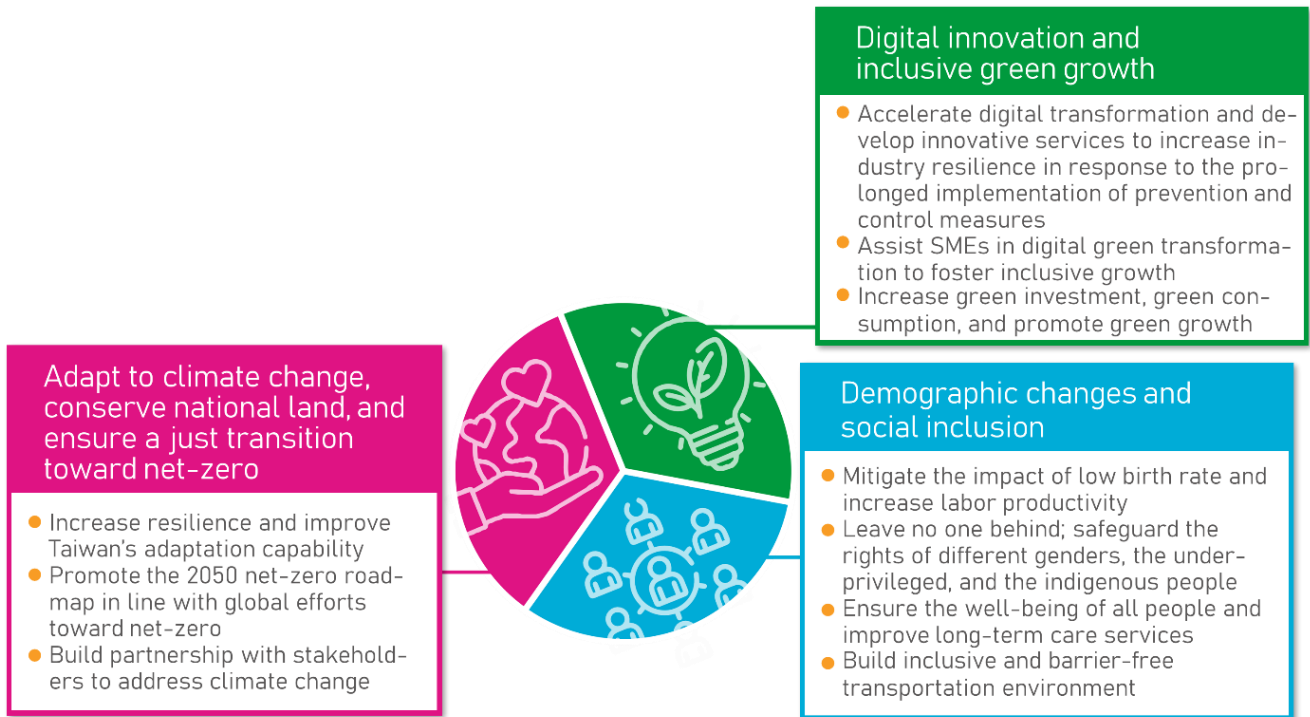


Figure 44- Challenges and strategies to achieve sustainable development in Taiwan

Chapter 5. Future Prospects

While the pandemic has severely hampered global efforts toward SDGs, Taiwan has continued to advance its efforts and is moving closer to its 2030 target. Faced with accelerating climate change, the shift towards net zero emissions, and the need to meet current requirements without compromising the well-being of future generations, Taiwan's efforts moving forward will be focused on SDG13, which is to achieve net zero by 2050. Taiwan will continue to be proactive in reducing GHG emissions and, in the process, achieve synergy by linking its efforts to other SDGs. These include clean energy (SDG7), sustainable cities (SDG11), sustainable transportation (SDG9), green production and consumption (SDG12), and biodiversity (SDG14 and 15). In addition, the government will take into account the impact of net-zero transformation on other economic and social SDGs. It will adopt strategies based on green growth and just transformation, leaving no one behind so that all can move together toward sustainability.

Promoting sustainable development and zero transformation is a cross-disciplinary and cross-agency project which requires public-private collaboration and cooperation between the central and local governments.

- Within the government, policies of the central government must be linked to the SDGs. Future public construction budgets will prioritize projects that facilitate net-zero transformation and sustainable development. Since local governments are key to implementing and realizing sustainable development goals, the central government has requested local governments to submit voluntary local reviews (VLRs) on their sustainability efforts to facilitate mainstreaming and localization of the SDGs. In the future, the government hopes to use dialogs to strengthen the link between the VNR and VLRs and increase collaboration to improve VLRs, so as to improve the compatibility and consistency between the VNR and VLRs.

- In guiding businesses to promote sustainable development, the government will develop a taxonomy of sustainable activities (e.g., expanding the categories of industries and economic activities and reviewing the technical screening criteria on a rolling basis). It will encourage the financial sector to channel capital to economic activities that focus on sustainability and carbon reduction and will assist businesses and the financial sector in identifying the scope of sustainable activities. Incorporating the taxonomy into the assessment process for financing will help increase awareness of businesses and investors on environmental, social, and governance (ESG) issues and promote a virtuous cycle in pursuit of green and sustainable development. In addition, the government will refer to international standards, such as the Climate Relevant Financial Disclosure Framework (TCFD) and the standards issued by the Sustainability Accounting Standards Board (SASB), to increase information disclosure in corporate sustainability reports. In addition, the government is planning to issue sustainable development bonds, social responsibility bonds, and green bonds and use market mechanisms to guide capital investment and encourage enterprises to focus on sustainable issues on their own initiative.
- In the private sector, the government has organized the Presidential Hackathon to call for innovation and solutions, using public-private collaboration to promote sustainable development. In 2021, the theme was Sustainability 2.0: Resilient Island, and in 2022, the theme, based on the national development blueprint, is Climate Action: Practicing Net Zero. The three main areas of focus include Living and Working Well (social SDG), Sustainable Development (economic SDGs), and Balanced Taiwan (environment SDG). Through collaboration between

developers, data matching, and increased participation and feedback, the government hopes to convert ideas into concrete solutions to improve the quality of decision-making and foster development in the economy, society, and the environment to create a blissful and peaceful Taiwan.

The government is also working on expanding partnerships. The UN High-Level Dialog on Energy convened on September 24, 2021, invited states and non-state actors and received commitments from member states and other stakeholders in the form of Energy Compacts. The Energy Compacts encourage all governments, private sectors, financial institutions, and civil society to develop and implement voluntary commitments to achieve globally affordable and clean energy (SDG7). Taiwan has actively developed its green energy sector in recent years. In 2021, the government encouraged local governments, businesses, and NGOs to take part in the Energy Compacts, thus forming a global partnership to enhance its contribution to SDG7.

Taiwan is not a member of the United Nations. However, it will gladly commit to the UN SDGs, participate in international actions to ensure global sustainable development, and fulfill its responsibilities as a member of the global village. In the future, Taiwan will submit a Voluntary Country Review every four years in accordance with the UN 2030 Agenda and will share with other countries its experience and its efforts toward UN SDGs. Taiwan also hopes that the international community will provide a stage for Taiwan to join hands with other countries in the pursuit of sustainable development of the world and all its people.



561.84



462.95



2020年
2021年
2022年



45

657.65

