Meeting Minutes of the 5th Meeting of the Presidential Office National Climate Change Committee

Date: Thursday, October 30, 2025, 4:00 PM

Location: Reception Hall, Office of the President

Chair: Convener Lai Ching-te

Recorder: Ministry of Environment (MOENV)

Attendees: Deputy Convener Cheng Li-chiun (鄭麗君), Deputy Convener James C. Liao (廖俊智), Deputy Convener Tung Tzu-hsien (童子賢), Advisor Lee Yuan-tseh (李遠哲) (on leave), Advisor Eugene Chien (簡又新)

Committee Members: Yeh Chun-Hsien (葉俊顯), Wu Cheng-wen (吳誠文) (on leave), Liu Shyh-fang (劉世芳), Chuang Tsui-yun (莊翠雲), Kung Ming-hsin (龔明鑫), Chen Shih-kai (陳世凱), Chen Junne-jih (陳駿季) (on leave), Peng Jin-lung (彭金隆), Paul Peng (彭双浪) (on leave), Lai Po-szu (賴博司) (on leave), Terry Tsao (曹世綸), Tseng Wen-sheng (曾文生), Sophia Cheng (程淑芬), Lydia Hsiao-mei Lin (林筱玫), Shih Shin-min (施信民), Lee Ken-cheng (李根政), Ho Tsung-hsun (何宗勳), Chao Chia-wei (趙家緯), Chen Hui-ping (陳惠萍), Huang Pin-han (黃品涵), Lin Tze-luen (林子倫), Tseng Chung-jen (曾重仁), Lin Tzu-ping (林子平), Lei Ya-chi (雷雅淇)

Non-voting Participants: Secretary-General to the President Pan Men-an (潘孟安) (on leave), Executive Secretary Chang Tun-han (張惇涵) (on leave), Executive Secretary Peng Chi-ming (彭啓明), Deputy Executive Secretary Cheng Chun-sheng (鄭俊昇), Presidential Office Spokesperson Karen Kuo (郭雅慧)

I. Chair's Remarks

Today is the fifth meeting of the National Climate Change Committee

and the formal launch of the second-term committee.

To begin the meeting, on behalf of the government, I want to thank all the members of the first-term committee for their professional contributions and suggestions over the past year or so, helping the government accomplish many key tasks such as setting national carbon reduction targets and integrating the actions of various ministries and agencies, thereby establishing an important foundation for Taiwan's net-zero transition.

The nation's net-zero transition is now poised to enter the accelerated implementation stage. Today, we welcome two new committee members: one is Distinguished Professor Lin Tzu-ping from National Cheng Kung University, and the other is Lei Ya-chi, executive director of the Science Media Center Taiwan and member of the Executive Yuan's youth advisory group.

In response to administrative team changes, Executive Yuan Secretary-General Chang Tun-han and Minister of Environment Peng Chi-ming will now jointly serve as this committee's executive secretaries, while Deputy Secretary-General to the President Cheng Chun-sheng will serve as deputy executive secretary. In addition, due to reassignments, National Development Council (NDC) Minister Yeh Chun-hsien and Minister of Economic Affairs Kung Ming-hsin will now serve as committee members. Thank you all for joining the committee, and I look forward to working together to achieve great things.

In the past few months, Taiwan was struck back-to-back by Typhoon Danas and Typhoon Ragasa, causing severe damage in Yunlin, Chiayi, Tainan, and Hualien. But in the midst of each challenge, we have seen the kindness and resilience of Taiwan's society.

Once again, I want to thank all the front-line personnel for faithfully manning their posts, as well as the superheroes of disaster relief from all walks of life and from around the country. The central government

will continue to cooperate with local governments to complete all recovery tasks.

In addition to damage from wind and floods, the entire island has been unusually hot. High temperatures that continued into October were a very clear warning, and this kind of weather disaster will only become more frequent and severe in the future. From the torrential rains in Asia and heat waves in Europe to the forest fires in the Americas, extreme weather has become the “new normal” around the globe, and it continues to impact the society and economy of every nation.

Meanwhile, the global trade landscape is undergoing a dramatic reorganization, and new tariff barriers and emerging green supply chain requirements present complex challenges for export-oriented Taiwan.

The double pressure of climate and economic changes has also caused social unease and increased uncertainty about the future. But the government’s stance is clear: We will definitely provide support for the public and industry, and we remain committed to transition so that Taiwan can meet challenges, make a successful transition, and steadily engage with the world.

The government will do its utmost to maintain a stable supply of electricity, and ensure that power demands for people’s livelihoods and industry are met. The government will also continue to provide assistance in various forms to industries impacted by the international situation, especially micro-, small-, and medium-sized enterprises, so that we can overcome challenges together.

It is precisely due to the severity of external challenges that we must be more dedicated to internal transition. A Taiwan that is more resilient and more adaptable to climate change is a more economically self-reliant, stronger, and prosperous Taiwan.

Taiwan is now on the path of transition, and is making great strides.

Just last week, the MOENV unveiled a draft Taiwan Circular Economy Roadmap. We expect to officially publish the 2050 Circular Economy Roadmap as early as next year, and are also promoting amendments to laws and regulations governing resource recycling.

Last year, the added value of Taiwan's green technology industries exceeded NT$500 billion, accounting for 2 percent of GDP. Of which, the value added from the circular economy, renewable energy systems, and energy efficiency fields accounted for 73 percent of the green technology industry, demonstrating the key status of those sectors.

These are the concrete results of Taiwan's active promotion of the circular economy and our energy transition policies in recent years, proving that "green growth" is a powerful driving force for overall national development.

We must continue to increase this momentum, allowing the opportunities afforded by the transition to spread throughout society. Therefore, in the accelerated implementation stage, the key issue is achieving government leadership and a unified public to create a new landscape for the net-zero transition.

In addition to drawing on the expertise of all committee members, we can also rely on Advisor Eugene Chien's macro perspective, which he will share with us momentarily, to give us encouragement and reminders, making our public-private sector cooperation better and more thorough.

All of our efforts are aimed at improving people's quality of life and protecting our homeland. Therefore, today's meeting will focus on two major issues:

First, is housing security for the people. A home that is more energy-efficient and resistant to the elements is the foundation of a resilient homeland. In a few moments, the Ministry of the Interior (MOI) will deliver a report on the transition to and prospects for near-zero carbon

buildings, including setting a goal for 35 percent reduction in carbon emissions in the residential sector by 2030, drawing a clearer blueprint for this important project.

Second, is the people's health. We are promoting net-zero policies not only to reduce carbon emissions, but also to have clean air. Later, the MOENV will deliver a report on opportunities for mutual benefit through reducing air pollution under the net-zero pathway, exploring ways to create win-win outcomes.

The road of transition presents many challenges, but we cannot stray from the correct course because of current obstacles.

Moving ahead, the government will continue to work hard and integrate more private sector forces, gradually enhance the ability of various locations throughout Taiwan to face disasters, establish more complete climate adaptation mechanisms, enhance the resilience of cities and towns, and build a "resilience corridor" in Taiwan to respond to various types of challenges.

This is a total war with repercussions for the nation's future; thus it requires the cooperation of government, industry, academia, and all sectors of society. Let us muster all our strength, turn challenges into opportunities, and jointly build a better, stronger, and more resilient Taiwan.

II. Confirmation of the Meeting Agenda

Decision: Meeting agenda confirmed.

III. Confirmation of the Minutes of the 4th Committee Meeting

Decision: Minutes of the 4th Committee Meeting confirmed.

IV. Keynote Speech

"Government Leadership and a Unified Public in Creating a New Landscape for Net-zero Transition" (omitted)

(Presented by Advisor Eugene Chien)

V. Report Items

1. **Status report on items listed in the 4th committee meeting** (omitted)
   (Presented by Executive Secretary Peng Chi-ming)
2. **Progress report on the Transition to and Prospects for Near-zero Carbon Buildings** (omitted)

   (Presented by Deputy Minister of the Interior Tung Chien-hung)
3. **Progress report on Opportunities for Mutual Benefit through Reducing Air Pollution under the Net-zero Pathway** (omitted)

   (Presented by Minister of Environment Peng Chi-ming)

VI. Discussion Items (in speaking order)

Committee members are invited to comment on report items 2 and 3. Written opinions will be included in the meeting minutes.

(1) Committee Member Remarks (Non-government)

1. Committee Member, Huang Pin-han

The promotion of net-zero buildings should start by addressing the public's urgent needs related to climate change adaptation and disaster resilience. Solar power and energy storage facilities can be promoted by leveraging the resilient communities in the MOI's Resilient Taiwan Program, along with an emphasis on no power outages during disasters, thereby increasing public acceptance and creating policy co-benefits.

The MOI's green-collar talent cultivation should be expanded to include the interior design and decoration industry, energy service companies (ESCOs), and professionals in climate

change adaptation and disaster prevention, along with the establishment of a joint advisory team. Meanwhile, subsidy and incentive programs and resources ought to be coordinated and integrated across agencies to facilitate systematic utilization overall.

According to the recommendations of the International Energy Agency, household electrification is an important means for improving energy efficiency and carbon reduction. It is recommended that the MOI and the Ministry of Economic Affairs (MOEA) explore how to include household electrification measures (e.g., induction hobs and heat pump water heaters) in energy-saving household appliance subsidy or promotion programs, coupled with rooftop photovoltaic (PV) systems, in order to deliver dual benefits for carbon reduction.

The Fata'an Creek barrier lake incident has signaled that we are now at a critical juncture for disaster prevention and relief, as well as climate change adaptation. International trends also emphasize that disaster prevention, mitigation, and climate adaptation should be integrated and promoted in response to increasingly frequent compound disasters. It is recommended that our overall governance framework be subsequently reviewed by the sustainable homeland and adaptive resilience sub-group of this committee, and that a report be submitted to the committee or provided for the government's reference.

2. Committee Member, Lee Ken-cheng

Extreme weather has led to increasingly frequent compound disasters, such as heavy rainfall and landslides. Currently, the responsibilities for climate change adaptation are dispersed among the MOENV, the NDC, and the MOI, as defined under

the Climate Change Response Act and the Spatial Planning Act. Meanwhile, scientific research work is promoted separately under various projects of the National Science and Technology Council (NSTC). It is recommended that the government establish a cross-agency governance platform and operating mechanism for climate change risk adaptation. This is a topic that could be incorporated for discussion in the committee.

Although global nuclear power generation has reached a record high, its share in the overall power mix dropped to a 45-year low. This is due to the falling costs and rapid development of renewable energy. The fact that renewable energy represented 86% of the global increase in power generation capacity during 2024 not only echoes the committee's consensus on continuously promoting green energy but also highlights the importance of energy information disclosure. Nuclear power policies in Japan and Korea are shifting constantly. Therefore, to consider the reinstitution of nuclear energy solely based on individual investment cases may be overly optimistic. We should continue collecting and disclosing full and comprehensive information.

Regarding the PV installation standards in force for buildings, it is recommended that the MOI establish a cross-agency review mechanism on a rolling basis to assess policy results every two years, remove implementation barriers, progressively lower the installation threshold, and disclose information for the public to track and review. Additionally, it is advisable to inventory the rooftop PV system installation potential for residential complexes in different counties and cities, collaborate with local governments to allocate

resources to entities such as management committees and development associations, and strengthen social communication and implementation of rooftop PV systems.

Industrial decarbonization currently remains focused primarily on the power sector. As for combined heat and power (CHP) in the industrial sector, according to a 2023 inventory conducted by the MOENV, there are approximately 55 CHP operators utilizing 113 processes nationwide that consume 8 million metric tons of coal annually, mostly clustered in Kaohsiung and Taoyuan. It is recommended that the MOEA's Industrial Development Administration promptly formulate a CHP decarbonization plan.

Considering the severe impact of air pollution on children's health, it is recommended that the MOENV continue promoting its campus air quality protection network, regularly test air quality in industrial zones, and properly plan air quality maintenance zones for roads adjacent to schools to safeguard schoolchildren's health.

3. Committee Member, Tseng Chung-jen

It is recommended that legislation be introduced to help prioritize local consumption for rooftop PV systems. Furthermore, considering the difference in characteristics between nighttime residential electricity demand and daytime generation periods, measures should be taken to encourage residential PV systems coupled with energy storage equipment to increase the PV utilization rate.

It is recommended that the experience gained from promoting energy self-sufficiency resilience in isolated areas be expanded to urban areas, prioritizing implementation in schools, communities, and activity centers, in order to achieve

the benefits of distributed energy, resilience enhancement, and educational demonstration. For example, National Central University, through its university social responsibility program, established a microgrid and micro-weather station at an elementary school in Fuxing District, Taoyuan City, providing local environmental information and assisting the school in promoting green energy and environmental education.

While an electrification strategy through lithium batteries can be adopted for light vehicles, it is recommended that hydrogen technology development be promoted for heavy vehicles such as buses, trucks, boats, and garbage trucks, and that these vehicles be included in the scope of the hydrogen vehicle subsidy program of the Ministry of Transportation and Communications (MOTC) to facilitate industrial development and carbon reduction.

We affirm the MOENV's alignment with the European Union on $PM_{0.1}$ monitoring. It is recommended that, in addition to the current fixed-point monitoring, technology such as drone-mounted sensors be utilized, combined with model simulations, to conduct research on 3D concentration distribution in order to better understand particulate matter dispersion.

4. Committee Member, Ho Tsung-hsun

Our nation faces the phenomenon of information asymmetry resulting from disinformation and cognitive warfare. For instance, some citizens still have misconceptions regarding the energy structure of the nuclear-free homeland policy and the proportion of cross-border air pollution sources. Furthermore, recent misinformation concerning the case

involving PV panels at Tainan's Wushantou Reservoir has severely undermined the confidence of renewable energy operators. It is recommended that the government establish a comprehensive information disclosure platform and establish a "citizen scientist" mechanism to combat disinformation. By integrating diverse channels like instant messaging apps, the government can clarify misinformation and rectify public discourse in a timely manner.

The MOI has announced carbon credits for the residential and commercial sectors and science parks, but the responsibilities of local governments remain unclear. It is recommended that in the future, when the government promotes carbon reduction and sets allowances, it should clearly map out specific five-year targets for each county and city. Also, supervision by civil society groups should be leveraged to ensure effective implementation at the local level.

Considering the relatively limited access to care resources by disadvantaged families and the severe impact of air pollution on their lives and health, it is recommended that the government formulate dedicated programs to assist marginalized, disadvantaged families with improving their residential and living environments.

5. Committee Member, Lin Tze-luen

It is advisable to mandate through regulations the enhancement of carbon reduction performance in architectural design and building materials. Standards for architectural design should be differentiated based on regional climatic conditions across Taiwan. Building materials, in turn, should integrate the circular economy and sustainable materials to foster a domestic industry. These types of materials are also a

focus in the second edition of the sustainable economic activities guidelines from the Financial Supervisory Commission (FSC), which should be incorporated into the overall policy planning.

Taiwan Power Company (Taipower) has achieved significant results in air pollution reduction, but pollution from transportation remains a social concern. The electrification and decarbonization of vehicles not only contribute to carbon reduction but also offer the benefits of air quality improvement and health promotion. It is advisable to incorporate the above into policy pillars so that different departments can promote them in a synergistic way.

The vision behind President Lai's establishment of the three committees—the National Climate Change Committee, the Healthy Taiwan Promotion Committee, and the Whole-of-Society Defense Resilience Committee—aligns with climate and energy security and social resilience emphasized in international trends (e.g., COP30). It is recommended that in the future, the three committees strengthen dialogue and collaboration on issues such as health, energy resilience, and energy storage for better policy synergy.

6. Committee Member, Shih Shin-min

The MOI should strengthen the promotion of lifespan extension for old buildings. Many old residences can remain in use after repair and seismic retrofitting. However, the frequent demolition of schools' Japanese-era dormitories for development has resulted in the loss of established vegetation, cultural ambiance, and historical heritage. The conversion of green spaces into buildings not only violates decarbonization principles but also increases disaster risk, waste, and carbon

emissions. The reduction of green spaces and disturbance to nature should be minimized in alignment with sustainable development and decarbonization targets. Furthermore, to mitigate the impact of ground-mounted PV systems on the natural environment, priority should be given to installation of rooftop and wall-mounted PV systems on existing buildings, so as to balance environmental protection and energy development.

Air pollution prevention and control should be more closely aligned with everyday life. Attention should be paid to activities that counteract air pollution reduction policies, such as barbecue during the Mid-Autumn Festival, open-air burning of joss paper during the Ghost Festival, and festive firecrackers. Furthermore, since stationary pollution sources primarily originate from the use of fossil fuels, it is recommended that the energy and manufacturing sectors be encouraged to integrate conventional pollutant reduction with carbon reduction measures, improve the efficiency of pollution control equipment, and promote technologies for desulfurization, denitrification, and carbon capture to achieve synergistic emissions reduction benefits.

According to practices in the United States, environmental impact assessments and public participation ought to be stressed in applications for reinstating nuclear power plants. However, the current Regulations on the Application for Operating License of Nuclear Reactor Facilities only require newly established power plants to report on the status of matters related to impact assessment results, leaving a regulatory gap for reinstatement applications. During the public comment period for amendments to the aforementioned regulations, I proposed incorporating documents

demonstrating compliance with environmental protection and ecological conservation regulations into the amended Article 16, but the proposal was rejected with the response that such matters fall under the jurisdiction of the MOENV. Given the whole-of-government principle, it is recommended that the competent authorities review and properly address the relevant regulations.

We should seek integrity and accuracy of information regarding global energy or electricity development trends to prevent any misinterpretation.

7. Committee Member, Chen Hui-ping

Taiwan's early efforts to promote the incentive program for building-integrated photovoltaics (BIPV) yielded limited results. Recently, countries like Japan and Korea have been promoting near-zero carbon buildings through more systematic strategies, such as combining floor area ratio incentives, relaxing height restrictions, increasing housing loan limits, and offering local tax concessions. It is recommended that the MOI integrate incentives, taxation, financing, and subsidy mechanisms to form a systematic transformation strategy, focusing on renewables that do not compete for land (such as BIPV) and encouraging integration with old buildings' renovations, thereby positively linking green energy promotion with building improvements, and driving domestic industrial development and international expansion.

The government has achieved significant results in air pollution improvement, but policy surveys show that 60–70% of the public still believes that air pollution has not improved. This indicates a gap between policy outcomes and public

perception, which warrants serious attention. The World Economic Forum points out that misinformation and disinformation are among the current critical risks. It is recommended that government information dissemination should not be limited to policy communication, but employ diverse tools and strategies to enable the public to clearly understand and tangibly feel the effectiveness of government policies. The energy information platform has been established and can be further integrated with AI and data visualization to strengthen information dissemination and interaction, maximizing the platform's utility and fostering social consensus.

Climate disaster risks are becoming increasingly evident. The barrier lake incident in Hualien coincided with my participation in Climate Week NYC, which struck me deeply. I realized that there is a need for Taiwan to actively confront the inequitable challenges posed by climate change and disasters and to engage in global dialogue and action. It is recommended that the government, in promoting the net-zero transition and climate action, simultaneously strengthen social infrastructure, ensuring universal health and safety and realizing the goal of caring for both the planet and the people through policy implementation rooted in a people-centric philosophy.

8. Committee Member, Terry Tsao

The experience of hosting Energy Taiwan & Net-Zero Taiwan, featuring carbon reduction, deep energy saving, green finance, as well as diverse energy creation and green energy solutions such as solar, wind, energy storage, geothermal, hydrogen, ocean energy, and biomass energy, was shared. Furthermore,

referencing the letter from the host country of COP30, it should be noted that the next phase of nationally determined contributions (NDCs) requires acceleration of the energy transition. The energy transition is a core mission, so the growth of renewables (mainly wind and solar) must continue to pick up the pace. Diversified energy creation and green energy development are key to energy risk diversification and strengthening of national resilience. It is recommended that the government, while keeping all energy options open, prioritize achieving both goals of decarbonization and a stable energy supply.

In the face of the current uncertainty and delays in Taiwan's green energy development, there is palpable anxiety regarding such development among three energy-related parties. First, high-tech manufacturers have doubts regarding the progress of green power development and the stability of supply. Second, green energy professionals feel uneasy due to the unclear prospects for industrial development. Third, government agencies are seeing policy implementation affected by inaccurate information. Taiwan is an export-oriented country, and its ICT and semiconductor supply chains are highly dependent on international markets, particularly the US market. Taiwan's advanced manufacturing, smart manufacturing, and green manufacturing are key to maintaining its global competitiveness. Although the US government may hold shifting views on renewable energy policy, corporate demand and commitments to green power remain unchanged. Green power is no longer merely a matter of corporate social responsibility, but an essential foundation for corporate competitiveness and supply chain survival.

To address anxiety from the industrial sector and maintain

technological competitiveness, the government should ensure a sufficient supply of green power overall. It is recommended that green energy planning be characterized by clear timelines, cross-agency coordination mechanisms, and transparent, consistent review processes, and that the government explore establishing national-level green energy and energy storage zones to enable industries to grasp the development trajectory. Meanwhile, disputes over individual cases should be avoided to prevent public misperception and policy hindrance. It is hoped that the president, from the perspective of the nation, will articulate to the industrial sector and society the direction and determination for green energy development, so as to foster consensus and bolster social confidence.

9. Committee Member, Lin Tzu-ping

While the government has steadily advanced climate change mitigation efforts, there is still room for improvement in its adaptation efforts. Besides storms and flood disasters, the impact of heat is becoming increasingly severe. Taipei is the second fastest warming city in Asia in recent years. Projections indicate that from the middle to the end of this century, the average temperature in July will rise by 1.4°C to 3.1°C. This poses a significant threat to vulnerable populations such as outdoor workers, the elderly, pregnant women, children, and patients with chronic illnesses.

The government in recent years has promoted multiple heat adaptation programs. For instance, the MOENV established a high temperature response alliance and hosted exhibitions in northern, central, and southern Taiwan to raise public awareness and industry involvement, while collaborating with other agencies to cultivate green-collar talent. The MOI is

promoting green buildings, and aside from the existing building energy efficiency rating label and the low embodied-carbon building rating system, it emphasizes indicators for greening, water retention, and urban heat island reduction to support long-term heat adaptation. The Ministry of Labor (MOL), meanwhile, has revised its guidelines for preventing heat hazards in high-temperature operations. The MOTC is currently deliberating on classifying extreme heat as a disaster-level weather event.

Heat adaptation should not be limited to advocacy or short-term actions, but should be elevated to the statutory level, establishing an institutional framework for long-term review by enhancing regulations, increasing incentives, and removing barriers. It is recommended that the Executive Yuan's Office of Disaster Management consider incorporating extreme heat as a designated disaster category under the Disaster Prevention and Protection Act, establishing a cross-agency coordination and response mechanism. The MOI should review the Spatial Planning Act and the Building Technical Regulations, relaxing restrictions on shading, ventilation, and greening designs. It should also draw on the supporting measures for rooftop PV to increase incentives, reduce resistance, and enhance urban environmental resilience and pedestrian friendliness. The Ministry of Health and Welfare (MOHW) should reinforce heat-resistant designs for children's playgrounds and shading planning for local public facilities, ensuring the safety of vulnerable populations. The MOL can refer to Italy's practice of issuing maps showing heat warnings for outdoor workers as a basis for construction site management and local disaster prevention.

10. Committee Member, Sophia Cheng

It is recommended to provide corporate tax incentives to accelerate the carbon reduction transformation of existing buildings. Energy efficiency for buildings should be progressively institutionalized and publicly disclosed, allowing tenants to select buildings based on energy performance, thus forming a market-driven monitoring mechanism. Furthermore, as many low-carbon building materials lack emissions data, it is advisable to establish a carbon inventory database that aligns with international standards, providing emissions data on domestic buildings and public works materials to promote green procurement and carbon reduction in public construction.

Despite calls from around the world that oppose environmental, social, and governance efforts, climate investment in Asia continues to grow, particularly with active commitment from countries in Southeast Asia and sovereign wealth funds, and the Asia Investor Group on Climate Change now boasts over 80 members. Taiwan's industrial capital expenditure is highly concentrated in the semiconductor and AI fields, while funding and supporting mechanisms for innovation and entrepreneurship fall short. It is recommended that the government encourage venture capital funds and corporations to co-invest in climate entrepreneurship and startup funds, with a focus on emerging industries with long-term potential, scaling up investment momentum in future industries.

Various domestic sectors are actively promoting climate education and talent cultivation, such as the youth climate action competition hosted by Cathay Financial Holdings at the Taiwan COP5 and the high school climate camps co-

organized by universities. It is recommended that education on climate action, impact investing, and financial literacy be incorporated into the high school curriculum to bridge the gap between education and application. Furthermore, to address the challenges of an aging society, the cultivation of green-collar talent should encompass, in addition to youth, communities, individuals seeking re-employment, and women populations, enabling a sustainable maximization of human capital.

Taking Tainan's Dingshan Citizen Power Plant as an example, an enterprise funded installation of solar equipment and procured the electricity generated to support the local community. However, a typhoon damaged the equipment, rendering the system inoperable, and that discouraged corporations from participating in the program. To ensure the sustainable development of citizen power plants, it is recommended that the government inventory available sites, designate or match entities for tracking or management, and establish a transparent, long-term support mechanism to increase corporate willingness to participate in community-based renewable energy projects.

11. Committee Member, Lydia Hsiao-mei Lin

A data governance system is a crucial foundation for Taiwan's alignment with international standards and the promotion of public participation. Currently, data collection and compilation methods vary among different agencies, and interpretation methods differ, necessitating multiple alignment and standardization efforts during integration. The Ministry of Digital Affairs has developed guidelines for AI-ready data interpretation framework indicators and the Data

Management Technical Architecture Guidance. Moving forward, it is essential to strengthen cross-domain data governance demonstration and public participation, establishing data interoperability and authorization management mechanisms to ensure data quality and consistency.

The MOENV held a hackathon event this year, spurring the government to open various data platforms, particularly the energy information platform, for wider application by numerous teams, which demonstrates progress. However, certain data sources lack alignment or adequate interpretation, leading to a gap in public understanding. It is recommended that the concept of agile governance be introduced into the data framework, incorporating adaptation, inspection, and transparency. Over the next two to three years, efforts should be made toward strengthening data verification to ensure that formats and content updates conform to the new governance framework, setting the basis for scientific application of and decision-making with Taiwan's energy data, along with alignment with international standards.

The MOI promotes the Global Real Estate Sustainability Benchmark and Climate Bonds Initiative certifications, empowering large enterprises to spearhead advancement in green buildings and sustainable investment. Also, corporations are incentivized through climate bonds to commit greater capital investment during the early stages of development.

Building information modeling technology has been introduced to current public construction projects of a certain scale. Yet there is a lack of data related to carbon emissions. It is recommended that carbon information regarding building

materials, equipment, and construction methods be gradually integrated, and that such data be aligned with the data governance system, in order to facilitate the long-term tracking of carbon reduction performance towards net-zero goals.

12. Committee Member, Chao Chia-wei

Recently, several climate and energy activities, such as the "March for Climate, Building a Resilient Taiwan" parade, were held domestically, demonstrating the urgent need for climate change issues to be jointly promoted by all sectors of society. It is recommended that relevant government agencies continue to pay attention and actively respond to societal appeals. Furthermore, it is suggested that the progress and approval schedule of Taiwan's 2035 NDC 3.0 be publicly explained during the post-meeting press conference to ensure compliance with the international submission deadline and demonstrate Taiwan's determination to implement climate action.

"Information integrity in climate change matters" was included in the COP30 Action Agenda to ensure the completeness of climate information and combat disinformation; this is pertinent to the recent solar power misinformation incident in Taiwan. Although climate skepticism is rarely observed in Taiwan, the public remains doubtful about climate solutions such as electric vehicles, solar power, and wind power. It is recommended that the functionality of the Climate Info Hub be strengthened for timely updates of international data to prevent climate-related disinformation.

Emissions from the transport sector have already contributed

more air pollution than those from power plants and industrial sources. Although the MOTC plans to achieve a 50% penetration rate for electric taxis by 2030, the lack of relevant annual budget allocated may hinder policy implementation. Furthermore, the market share of electric scooters stands at only about 7%, which is lower than that of electric cars. There is still room for improvement on the related promotion measures and efficiency standards. While the successful implementation of NDC 3.0 is expected to significantly improve air quality, this is contingent upon the share of renewable energy reaching 36%. Should key projects such as amendments to rooftop solar PV regulations, Offshore Wind Phase 3-3, and floating demo projects fail to be carried out as scheduled, the achievement of renewable energy targets will be affected, undermining the effectiveness of emissions reduction and air quality improvement.

The NDC holds primary responsibility for just transition undertakings and is set to propose the National Just Transition Action Plan by the end of this year, with the Just Transition Committee being in charge of the detailed planning. It is recommended that relevant meetings to strengthen the efforts of various agencies toward promoting a just transition be convened. A just transition sub-group has been established under this committee as well, and can deliberate on related issues as needed in line with policy implementation for a more comprehensive national action plan.

13. Committee Member, Lei Ya-chi

The Fata'an Creek barrier lake incident highlights the uncertainty risks arising from the interplay of compound disasters and human activity amid climate change. It also

reflects the insufficient public understanding of risk information, where the mindset that humanity can conquer nature persists. Although Taiwan's capabilities in scientific research and monitoring are maturing, there are still challenges in integrating and translating the findings into policy governance, public communication, and concrete actions. It is recommended that the committee coordinate, and through a high-level framework, promote cross-agency collaboration and social communication, strengthen communication about risks, and enhance overall societal resilience.

It is recommended that an inter-agency mechanism to integrate climate and disaster prevention data on the basis of scientific governance be established. Data concerning meteorology, hydrology, geology, disaster prevention, and scientific research is dispersed across different agencies, including the MOENV, the Ministry of Agriculture (MOA), the MOTC, the MOEA, and the NSTC, resulting in complex data jurisdiction. Collaboration should be strengthened through data governance so that scientific data not only serves as something for experts to communicate on, but also becomes a crucial medium to promote social understanding and consensus-building.

In terms of communication, a scientific governance approach that is iterative, audience-segmented, and multi-strategic should be adopted. Much like the continuous public briefings during the pandemic, air pollution improvement must also be made perceptible to the public through transparent communication. It is recommended that an accessible, searchable, and transparent information platform be established to counter misinformation and disinformation, and

that communication expertise from various fields be leveraged to promote social engagement and participation.

As central figures in climate adaptation, young people should transition from being an affected group to becoming active drivers of change. Studies indicate that climate anxiety and uncertainty about the future have a profound impact on youth. While the government's promotion of green-collar talent training is a welcome development, the mechanisms for participation should be continuously expanded, enabling young people to put their skills to good use in industry practice, policy design, and local governance, serving as a pivotal force in driving an orderly transition and enhancing societal resilience.

14. Committee Member, Tseng Wen-sheng

According to Taiwan's overall electricity consumption report for this year, the summer peak load exhibited a negative growth, primarily attributable to the increased rainfall from late July to early August. However, electricity consumption in October reached a record high, underscoring how important information disclosure is to accurate public knowledge of energy consumption.

Taipower was one of the entities hit hardest by Typhoon Danas. The storm prompted acceleration of disaster prevention and grid resilience efforts, with priority given to restoring power to communities located near power plants and areas with high concentrations of solar PV installations. The capital region, due to its intensive electricity consumption and lack of power sources, is the most vulnerable area on the grid. A justifiable installation of rooftop solar PV systems on buildings will effectively reduce summer daytime peak loads, diversify

power sources, and strengthen regional power supply resilience.

The Nuclear Safety Commission amended and promulgated the Regulations on the Application for Operating License of Nuclear Reactor Facilities on October 8 this year. Taipower will submit a nuclear power plant re-operation plan in accordance with the law, ensuring that equipment and staffing are maintained at operational standards. Drawing on the experience of Nuclear Power Plant No. 1, Taipower will conduct internal safety inspections and invite support from original equipment manufacturers and international professional associations, ensuring a thorough safety review and enabling the public to understand that Taipower is advancing relevant efforts in a responsible manner.

In view of the significant influence of misinformation and disinformation on the progress of the energy transition, Taipower will continue to disclose accurate power system information to enhance public understanding. Over the past decade, Taipower has reduced its air pollutant emissions by 70% and will continue refining its efforts, working alongside other state-owned enterprises to jointly improve the nation's air quality.

(2) Government Representative Remarks

1. Committee Member, Liu Shyh-fan

The MOI is scheduled to promulgate Standards for Installation of Solar Photovoltaic Power Generation Facilities in Buildings by the end of this December. The current progress of installing rooftop solar PV systems on public buildings and facilities within industrial zones has been positive. Moving forward, the public sector will spearhead relevant efforts,

gradually extending installation to private buildings, while strengthening social communication and consensus-building. Overall energy resilience is based on the principles of decentralization and community-based operations, aiming to reduce the risk of large-scale power outages caused by events like the collapse of transmission towers during Typhoon Danas.

The MOI has secured a special budget of NT$5 billion to implement a three-year plan to extend the lifespan of old buildings, with a focus on seismic reinforcement, energy efficiency retrofitting, and residential safety enhancement for existing buildings. The plan integrates efforts with the MOHW to improve living environments for the elderly and those with mobility impairments. In addition, the FSC has been requested to streamline subsidy procedures to facilitate applications from the elderly. Apart from contributing to energy conservation and carbon reduction, it also addresses social care and housing equity.

Regarding the promotion of disaster prevention and resilient communities, the National Fire Agency (NFA) of the MOI operates under the principles of safety first, energy conservation, and carbon reduction, taking into consideration the need for energy autonomy. At the current stage, deployment of mobile diesel generators to 184 disaster-prone areas with high islanding effect is prioritized to ensure a secure power supply during disasters. Moving forward, the NFA will collaborate with Taipower to evaluate the introduction of solar PV systems, small hydropower, or other distributed power facilities to gradually establish energy resilience at the community level.

Recent events including Typhoon Danas and the Fata’an

Creek incident demonstrate that national spatial planning ought to integrate the topographical and geomorphological changes caused by climate change into rolling reviews and adjustments. The MOI will deliberate on combining climate change countermeasures to establish a cross-agency cooperation platform, with net-zero emissions and near-zero carbon buildings as pillars, serving as the foundation for the future integration of national spatial and climate governance.

2. Executive Secretary, Peng Chi-ming

This year, Taiwan faced unprecedented climate impacts, including extremely strong winds brought by Typhoon Danas, followed by continuous torrential rains approaching the severity of Typhoon Morakot, and barrier lake incidents caused by torrential downpours, resulting in compound impacts involving solar panels, asbestos tiles, and large amounts of waste. Under such circumstances, climate change adaptation should not just be limited to research and planning. Last year (2024), the MOENV established the high temperature response alliance. With the government as a platform, civil society entities were invited to jointly simulate extreme heat scenarios and developed the Cool Map, establishing over 3,000 cooling shelters across the six municipalities of Taiwan. Additionally, big data has been utilized to identify vulnerable elderly populations, and a high temperature response exhibition was curated in a collaboration of industry, government, and academia, attracting over 40,000 participants. In the future, these efforts will continue to expand to encompass other adaptation categories.

The frequent emergence of misinformation concerning solar power sites recently has led to disturbances in policy

implementation. Despite the government's continued clarifications, we need the assistance of members of society to proactively clarify false information when it is encountered and thus support the right policies through action and mitigate the impact of disinformation.

Green-collar talent is a key focus in our undertaking. Currently, approximately 1,800 people have been trained in this area, with youth and working professionals each accounting for half. In the future, efforts will continue scaling up and include a wider range of expertise. Regarding the elderly population, a comprehensive review will be conducted to determine the feasibility of providing subsidies to encourage experienced individuals to participate in learning and promoting climate action.

3. Committee Member, Ye Jun-xian

Regarding the establishment of a communication and coordination platform for climate change legislation and policy communication, the NDC will conduct discussions through the Executive Yuan's National Council for Sustainable Development (NCSD). Furthermore, relevant meetings of the Just Transition Committee will be convened to deliberate on the direction of implementing a just transition.

Regarding the drafting and amendment of regulations related to decarbonization of buildings, these measures have been incorporated into the flagship action plan for near-zero carbon buildings carbon reduction for the residential and commercial sectors under Taiwan's Comprehensive Carbon Reduction Action Plan. This plan includes energy efficiency assessment and labeling for buildings, as well as energy-saving design standards for new buildings. The legislative process to specify

building performance assessment, carbon emissions verification, and the labeling system should be accelerated, and the development of energy storage equipment and wall-mounted solar facilities should be encouraged.

Regarding the issues of isolated area grid and power resilience, it is suggested to promote the deployment of microgrids, integrating power generation, energy storage, and energy management systems, capable of either operating independently or in connection with the Taipower grid (such as the disaster-proof microgrid pilot project in Wulai's Fushan area), to enhance power supply stability and disaster prevention capabilities. Furthermore, local cooperation can be promoted through incentives and cross-ministerial resource integration, starting with remote district offices or schools as demonstration sites, followed by gradual expansion.

The NDC has launched a Startup Bloom Program to provide financial support for the growth of innovation and entrepreneurship. In addition to competitions, training and mentorship mechanisms are available, along with a system to fund startups. As of today, over four thousand startup teams have registered. In the future, the Startup Island Taiwan offices in Tokyo and Silicon Valley will be leveraged to assist outstanding teams to connect with international venture capital for continual incubation of domestic innovation and startup development.

4. Committee Member, Chuang Tsui-yun

In collaboration with the MOEA, the Ministry of Finance (MOF) amended the Industrial Innovation Statute in May this year. The amendment incorporates corporate investments in equipment, hardware, software, technology, or technical

services related to energy conservation and carbon reduction within the scope of profit-seeking enterprise income tax credits. This measure intends to encourage enterprises to accelerate their investments in energy conservation and carbon reduction.

The National Property Administration (NPA), MOF is promoting the Carbon Sink Afforestation Program, in which approximately 93.64 hectares of state-owned land have been released in areas like Chihshang Township, Taitung County, and Sanshing Township, Yilan County, for afforestation by the private sector. National Chung Hsing University is commissioned to select operators to plant carbon-sequestering tree species recommended by the MOA. Afforesters may apply for greenhouse gas reduction credits, with a certain percentage reserved for the use of the government. Approximately 25 hectares of afforestation have been completed to date, with the application for BSI certification submitted. This practice revitalizes idle state-owned land, promotes industry participation in afforestation, and increases forest coverage and carbon sink capacity. The NPA will continue to promote the practice in the future.

5. Committee Member, Kung Ming-hsin

Taipower has submitted a status assessment report for its nuclear power plants. The MOEA will proceed with the assessment according to procedure. Upon approval, Taipower will submit a re-operation plan and a self-assessment report. Nuclear operation helps stabilize the power supply, particularly supporting the baseload during night peaks and system resilience. Nonetheless, the restart time for nuclear power is estimated at 3.5 to 4 years. Hence, it will be difficult to meet the rapidly growing power demand from the AI

industry in the short term, necessitating continued reliance on gas-fired power generation at present. Even if the Maanshan Nuclear Power Plant restarts in four years, its annual capacity of approximately 15 billion kWh would account for only 5% of the nation's power consumption. Viewing nuclear energy as the primary solution for decarbonization may be an overestimation of its impact. Thus, renewable energy should remain the focus in relevant efforts. The installed capacity of solar PV has reached 15 GW, and offshore wind is projected to reach 5.3 GW by 2026. The related implementation targets remain unchanged and will continue to be pursued.

The annual solar PV installation capacity demand in the United States is approximately 30 GW, while the domestic production capacity stands at only 2 GW, leading to substantial import demands. The US prohibits the import of Chinese-manufactured solar panels or modules through origin-washing, and it is negotiating on cooperation with Taiwanese manufacturers. This presents opportunities for panel and module suppliers from Taiwan to expand their markets.

During Typhoon Danas, the damage rate for solar panels in the Tainan and Chiayi regions was approximately 1% (about 120,000 panels), which is lower than the 6% damage rate for rooftops. Cleanup has been completed in an active manner. Over 400 offshore wind turbines installed across Taiwan remain operational after undergoing multiple trials by typhoons and earthquakes, demonstrating good equipment resilience. Regarding the Wushantou Reservoir controversy, the MOEA will continue to provide clarifications and maintain a firm stance in response. Furthermore, the Executive Yuan has approved the allocation of NT$100 billion

over the next four years to assist local governments in river remediation and flood control.

Regarding a committee member's recommendation to promote industrial decarbonization, the plan is to encourage the use of liquefied natural gas where pipelines are accessible in the CHP system. As for the industrial zones without pipeline access, stationary fuel cells will be utilized. A special budget has been allocated to promote power infrastructure in islanded areas. Out of several hundred islanded areas nationwide, the MOI has assisted in the inventory and identified over 50 locations with actual infrastructure needs. Deliberations on the sites will be held with local authorities. Furthermore, hydrogen-powered vehicles and hydrogen refueling stations are expected to be operational as early as December of this year.

6. Committee Member, Chen Shih-kai

Extreme weather events have gradually become the norm. Therefore, such events must be considered as a norm in the planning of future transportation engineering, and the disaster resistance and resilience of the transportation system should be continuously strengthened.

Transportation vehicles account for a high proportion of carbon emissions and PM2.5 pollution. In addition to the ongoing collaboration with the MOENV to promote phased vehicle emission standards, the MOTC is actively promoting vehicle electrification and decarbonization. The market share of electric buses has reached 38.5%, exceeding the annual target of 35%. Chunghwa Post's delivery motorcycles are expected to achieve 50% electrification this year. Furthermore, the TPASS policy that encourages the public to reduce the use

of private vehicles and increase use of public transportation has yielded good results. The MOTC is also currently working on the integration of TPASS data into the development of a green transportation service platform to serve as a reference for enterprises and individuals in calculating their carbon footprints.

Regarding port area pollution prevention and control, vessels are required to reduce their speed upon entry. The current achievement rate is 93.2%. The main reason for the rate failing to reach 100% is the difficulty of vessels safely reducing speed during high winds and waves. The utilization rate of wharves equipped with shore power is nearly 100%. Expansion efforts are continuing in order to reduce air pollutant emissions during berthing.

The Central Weather Administration, MOTC, expects to finalize the notice for public comment on the Draft Amendment to the Meteorological Act by the end of this year. The revisions include incorporating extreme heat as hazardous weather to establish the legal basis for future responses to heat disasters.

The MOTC and the MOEA will collaborate to promote hydrogen fuel cell buses, aligning the supply and demand between hydrogen fuel suppliers and vehicle users. The hydrogen bus targets have been included in a flagship action plan for commercial vehicle electrification and decarbonization. Although funding was not secured in time for the 2026 budget, the ministries will continue to seek funding and ensure its inclusion in the 2027 budget to demonstrate the operation of hydrogen fuel cell buses.

7. Committee Member, Peng Jin-lung

To assist financial institutions in accelerating the channeling of capital into sustainable economic activities, the FSC, in conjunction with relevant ministries such as the MOENV and the MOI, has formulated the reference guidelines for the recognition of sustainable economic activities. The first edition of the guidelines included the construction and real estate sectors. The second edition added three items, i.e., low-carbon building labeling, the intelligent building label, and green building material label. Furthermore, 18 briefing sessions were held to explain the key points in the guidelines and gather feedback from industries such as the construction sector.

The third edition will expand the scope of industries and conduct rolling reviews of existing content. For instance, in response to the MOI's promotion of near-zero carbon building regulations, the FSC is evaluating how to align these with relevant standards in the guidelines and enable financial institutions to make investment and financing decisions accordingly. Also, construction industry operators can transition to carbon reduction and secure financial support by meeting the standards and obtaining the labels. The FSC will continue to collaborate with various ministries and agencies to refine and optimize relevant guidelines in the future.

(3) Deputy Convener Remarks

1. Deputy Convener, Tung Tzu-hsien

The progress of carbon reduction efforts related to climate change, both globally and in Taiwan, is a matter of concern. According to COP28 targets, emissions must be reduced by 43% by 2030 to limit warming within 1.5°C. However, global

warming reached 1.48°C between 2023 and 2024, nearly exhausting the available buffer. Since the Paris Agreement in 2015, global carbon emissions have increased instead of decreased, indicating an overall lag in progress. Taiwan has seen good economic performance in recent years. To maintain its long-term competitiveness, regulations, the talent pool, and infrastructure must be actively strengthened, along with advancements of energy mix and pollution reduction, so as to keep pace with trends.

Both hydropower and solar power generation are limited by natural conditions. Taiwan's installed capacity of hydropower is approximately 4.7 GW. Theoretically, the annual output could exceed 40 billion kWh, though the actual power generated in recent years amounts to only 7 to 8 billion kWh, resulting in an efficiency of about 17%. The installed capacity of solar power is approximately 14 GW. Theoretically, maximum output is about 120 billion kWh, though the actual power generated is only 15 billion kWh, resulting in an efficiency of about 12%. In contrast, the efficiency of nuclear power generation can reach 90–95%. Given its baseload stability, nuclear power should serve as a critical pillar for power supply and carbon reduction.

Transportation and power generation are critical to carbon reduction as they account for approximately 70% of national GHG emissions. Domestically, there are approximately 100,000 battery electric vehicles and 11,000 plug-in hybrid electric vehicles, accounting for approximately 1.2% of total automobiles, nearly a ten-fold disparity compared to the 13.6% of new EVs registered in the European Union. If progress in electrification remains insufficient, and if power generation continues to rely on fossil fuels, the overall

effectiveness of carbon reduction will be limited.

The global energy mix shows a limited increase in the proportion of renewable energy. In 2024, hydropower accounted for about 14.2% of global electricity, while solar and wind combined accounted for about 15.2%. Taiwan, with its limited land area and mountainous terrain, is unfavorable for large-scale onshore wind and solar power development. Furthermore, with its potential limited by both topographical and technical constraints, geothermal accounts for less than 0.3%. Although Taiwan continues to promote carbon reduction, the progress is notably lagging. It is imperative to face these realistic constraints and adopt a "nuclear-renewable coexistence" strategy to replace fossil fuels. When global warming reaches 2°C, the polar permafrost will release a large amount of greenhouse gases, triggering an irreversible climate crisis. Given that current global warming has already reached 1.48°C, the situation is critical, necessitating continuous promotion of all types of low-carbon and zero-carbon energy sources to mitigate the impacts of climate change.

2. Deputy Convener, James C. Liao

The results of air pollution amelioration have not gained widespread public recognition. To address this, potential causes should be analyzed from different regions and dimensions. While improvement is significant in some areas, changes are limited in others. Presenting simply average values tends to obscure disparities. Therefore, the root causes of the problem should be ascertained, and policy effectiveness should be examined from a holistic perspective, rather than allowing localized data to represent the whole picture.

Regarding information dissemination, the greatest concern is

not entirely false information, but half-truths or incomplete information. Although such messages are not fake, they can cause misunderstanding by revealing only partial facts. It is recommended that when communicating with the public, relevant agencies provide comprehensive information and avoid using one-sided statements or oversimplified slogans to address complex issues.

During my recent visit to the US, Stanford University expressed high concern regarding Taiwan's energy security and is studying the issues of energy security, industrial resilience, and natural disasters in Taiwan, demonstrating the attention that the international academic community has for Taiwan's energy risks. It was also noted that Taiwan has unique conditions. Although the experiences of other countries may be learned from, appropriating them directly may be difficult. The international community generally affirms Taiwan's efforts in promoting net-zero carbon reduction, reflecting that Taiwan's progress and determination have garnered attention.

To accurately reflect the status of energy supply and demand, it is recommended that external communication should take actual power generated as an indicator rather than only installed capacity. The annual power generation in Taiwan is about 280 billion kWh. If only the transition towards electrification is taken into consideration, the power demand in 2050 will reach at least 500 billion kWh. At present, our annual solar power generation stands at approximately 15.3 billion kWh, and when combined with wind power the total is about 25.8 billion kWh. Even with the additional 30 billion kWh that would be gained by restarting the Kuosheng and Maanshan nuclear power plants, there would still be a

significant gap with the overall demand. The current debate on nuclear power versus green energy is of little significance. Greater significance lies in the development of new forms of energy and diversifying our energy mix.

3. Deputy Convener, Cheng Li-chiun

The MOENV has completed the social communication procedures for the NDC 3.0 draft and submitted it to the Executive Yuan for deliberation. It is expected to be approved prior to COP30. Taiwan's comprehensive net-zero transition action plan adopts a systematic governance framework comprising 20 flagship carbon reduction projects and 80 autonomous carbon reduction plans. The recommendations from the committee members will continue to be incorporated in rolling reviews.

Eight of the aforementioned 20 flagship projects are energy-related projects, serving as the core of the overall net-zero transition. Renewable energy is not only key to achieving net-zero targets, but also vital for power supply stability, energy resilience, and economic development, making it a critical policy that the government must promote with full force. The nuclear energy issue involves procedural and temporal uncertainties, which will be handled according to current principles and procedures. In recent years, in response to RE100 and supply chain requirements, the industry has an urgent need for renewable energy. Despite the limited availability of land and marine resources in Taiwan, the energy transition must continue to be advanced with the understanding that "every little bit counts."

- Regarding solar power, the government is pursuing a parallel strategy of rooting out corruption and streamlining

procedures. By means of government-to-government collaboration and a map-overlaying inventory approach, priority is given to developing suitable land to minimize disputes. Approximately 20 GW in the project pipeline has been secured, and the target for achievement is November 2026. Rooftop solar systems are being promoted both in the public and private sectors. Government ministries and agencies are undergoing expanded inventory and increasing installation proportions for public buildings. As for private buildings, besides regulations for new constructions, the MOEA incentives are available to encourage installation for buildings that fall below the regulatory threshold. The MOEA is also deliberating the relaxation of floor area ratio requirements in industrial parks and science parks to facilitate the deployment of energy storage facilities. A solar panel recycling system is currently being established, and plans for early replacement of inefficient equipment are being formulated to enhance the overall power generation efficiency.

- Regarding offshore wind power, the MOTC, the MOA, the MOEA, and the Ministry of National Defense are jointly taking inventory of available marine area. Geospatial information is utilized to enhance the predictability of foreign investment and stabilize the environment for domestic and foreign cooperation and investment.
- Emerging energy sources such as geothermal and ocean energy have currently yielded limited contributions. However, due to their long-term potential, they will be included in the flagship projects for continued evaluation and promotion. Given that the first source of energy is conserving energy, the target is to save 20.6 billion kWh of

electricity over the next four years while advancing deployment of technological energy storage.

On the erroneous argument in the society that energy transition leads to air pollution, the reality is that emissions from power generation in Taiwan have dropped by 67% from 2016 to 2024. The government will strengthen information disclosure and social communication, provide accurate data, and call on industry and civil society to jointly support the continuing development of green energy.

Regarding climate adaptation and disaster resilience, a special project meeting will be convened at a later date. The MOENV has integrated data on meteorology, soil and water conservation, forestry, and national land use to establish an evidence-based governance database, which will serve as the guiding basis for planning and budgeting. Its aim is to strengthen the disaster prevention system and national land resilience.

Concerning the just transition, the NDC will convene a committee meeting and report on the progress to the Executive Yuan's NCSD. Furthermore, the Executive Yuan is deliberating amendments to the Act Governing the Allocation of Government Revenues and Expenditures, aiming to take innovative approaches to adjust the mechanism for centrally distributed tax revenues and specifically defining local basic expenditures and jurisdictional responsibilities. In the future, the central government will seek to leverage centrally distributed tax revenues to strengthen local governments' responsibilities and executive capabilities in environmental governance and net-zero promotion.

(4) Advisor, Eugene Chien

Taiwan, as an islanded location in terms of energy, has long maintained stable power supply without experiencing severe power shortages, and for this its performance has been recognized internationally. However, the current energy self-sufficiency rate in Taiwan is only about 4%, meaning that the challenge of high reliance on imports will persist into the future. To ensure energy security and sustainable supply, it is necessary to continue to expand the energy mix, and all feasible energy sources should be taken into consideration. While renewable energy is certainly crucial, no energy options should be excluded given the extreme energy scarcity.

The promotion of energy transition should be accompanied by the strengthening of public education on energy and resources. Drawing from Israel's experience in educating its citizens on water conservation from childhood, Taiwan also ought to cultivate concepts of energy conservation and resource appreciation throughout the stages of its education. Currently, most citizens lack knowledge of their own household usage of electricity and water, as well as their sources. Hence, it is difficult for citizens to be aware of the scarcity of energy and water, resulting in insufficient social support. The two key challenges posed by climate change are energy and water. The water supply in Taiwan primarily comes from rivers rather than reservoirs, with agricultural water use accounting for about 70%. This highlights the need for society to better understand the resource structure to facilitate policy consensus.

Before the energy structure stabilizes, all feasible power sources should be maintained and used efficiently. Nuclear

energy, to give an example, currently possesses the potential to generate approximately 15 billion kWh of electricity annually. If it could be restarted within three to five years, it would help stabilize the power supply. According to Arun Majumdar, a US Department of Energy official, the US plans to triple nuclear power generation by 2050, and is prioritizing service-life extension of existing power plants, with some plants potentially operating for up to 80 years, demonstrating that life extension and restarting are both feasible and efficient measures.

The decline in the global share of nuclear power is mainly due to the huge investment and high political risks associated with new power plants, so most countries prioritize extending the service life of existing power plants as the primary approach for stabilizing power supply. In the wake of the Fukushima accident, nuclear power generation saw a temporary decline but has gradually rebounded in recent years, with countries like the US and France adopting restart and extension strategies for both safety and efficiency. Nuclear energy is characterized as a stable baseload, whereas renewable energy is constrained by weather and land availability. Nuclear and renewable energies should complement each other. A diverse energy mix should be adopted to ensure a stable and sustainable power supply. Future energy policy implementation must adhere to the principles of information disclosure and sufficient communication. Social consensus should be fostered through transparent dialogue to ensure the long-term, stable advancement of policies.

(5) Convener, Lai Ching-te

Responses to committee members' concerns

The government, civil society, and industry should work together to strengthen information disclosure and facilitate accurate communication, proactively explaining policy outcomes and clarifying misinformation to prevent issues from being politicized or used to mislead. This would enable society to fully comprehend the effectiveness of governance.

Local governments play a pivotal role in advancing carbon reduction and adaptation. It is necessary to clearly stipulate carbon reduction responsibility quotas for each city and county and to put heat adaptation measures into practice. Only through the concerted actions of the central and local governments can we enhance governance effectiveness and boost national resilience.

Consolidated response

I would like to extend my appreciation to Advisor Chien for his speech, the reports from the MOI and the MOENV, and all the advisors and committee members for the valuable input. It is imperative for Taiwan to achieve its national goal of transition to net-zero emissions by 2050, and the residential and commercial sectors are an indispensable part of this effort. What we want to achieve is not merely energy conservation and carbon reduction in buildings, but creating a sustainable homeland for all citizens that is safe, comfortable, and offers dignified living even amidst the impact of extreme weather events. Hence, the promotion of near-zero carbon buildings must be elevated from the previous level of demonstration and promotion to the level of a goal-oriented national core strategy.

To that end, I've assigned three core tasks to my administrative

team. The first task is to start with our basic existing buildings to reassure the public. This undertaking will be led by the public sector and will serve as a model. Central government agencies and state-owned enterprises nationwide are requested to complete energy efficiency inventory and improvement planning for buildings under their management by the end of 2028, which work will set a benchmark for the country. Meanwhile, we must leverage market forces to encourage response from the private sector. I request that the MOI evaluate the inclusion of building energy efficiency labeling as mandatory information disclosure for real estate rental and sale transactions, which will allow the market to highlight the value of quality buildings and drive a virtuous cycle of voluntary renewal.

I would like to also emphasize that the ultimate aim of all technical and market innovations is to care for people. Therefore, I request that the MOI, MOEA, and MOHW engage in cross-ministerial collaboration to integrate building safety, energy conservation, and long-term care services, ensuring that every renovation and renewal project improves the residential quality for citizens across all age groups.

The second task is to map out a clear blueprint for Taiwan's construction industry to lead innovation. I request that the MOI coordinate with relevant agencies to expedite the inventory of low-carbon building materials, innovative construction methods, and smart building technologies. Furthermore, the ministries should deliberate and formulate phased targets and mandatory standards for 2030 and 2035. In the meantime, a comprehensive scheme covering both regulations and incentives must be put forward to guide businesses towards innovation and collective upgrading.

The third task is to elevate our perspective from individual buildings to an overall homeland security framework. I request that

the MOI advance “point-to-area” systemic planning, expanding from renovation of individual buildings to comprehensive community renewal, and ultimately elevating to the strategic level of urban planning and national land security. Furthermore, we must extensively establish urban green belts and ecological corridors to cool our cities and soften the impacts on our homeland, comprehensively enhancing the overall climate resilience of the urban and rural areas in Taiwan. These three tasks will lay the critical foundation for residential quality and national land resilience in Taiwan.

Near-zero carbon buildings, promoted by the MOI, create a significant synergistic effect with the MOENV’s air quality improvements, thereby promoting national health. On the basis of environmental sustainability, I hereby issue two directives concerning the health of our citizens. First, we will establish a more comprehensive national health and air quality safeguard mechanism. I request that the MOENV and MOHW formulate an inter-ministerial national strategy for air pollution and disease prevention that incorporates the concept of preventive medicine into the core of environmental policy.

Meanwhile, we will deepen science-based and evidence-based governance decision-making models, enhance the sharing of health and environmental data, refine risk assessment mechanisms, and prioritize their application in identifying and protecting high-risk populations. Previously, air quality improvement efforts focused primarily on reducing large emission sources. The reports today indicate that factors including automobiles/motorcycles, urban governance, daily life factors, and personal habits may all impact the health of our citizenry. I request that the MOENV and MOHW continue to strengthen social communication and education.

Second, we will work to have excellent air quality on campus. I

request that the MOENV collaborate with the Ministry of Education, the MOEA, and the NSTC, as well as others, to jointly promote the campus air quality protection strategy. Outside of campuses, strict controls must be imposed on nearby pollution sources. Also, collaboration with local governments is needed to scale up the designation of air quality maintenance zones. On campus, we must establish SOPs covering monitoring, reporting, and response, ensuring that schools can always activate the most effective protection at the earliest time.

Finally, I request that the administrative team integrate the valuable suggestions provided in today's meeting into concrete, feasible policies. Let us work together to move Taiwan towards a sustainable future of security and prosperity. Thank you all.

VII. Extempore Motions: None

VIII. Chair's Closing Statement

In the meeting today, our discussion ranged from the resilience of home to the health of people, and then to our national security. This once again proves that the net-zero transition is the Project of Hope that our generation is building for the next generation. Every decision made today is aimed at making our homes safer, our environment healthier, and securing more choices and possibilities for the future of children. From a global perspective, climate and economic changes worldwide are creating huge waves like never before, which are a serious test for all nations. Our government will shoulder responsibility and unite all forces to ensure that the ship named Taiwan not only braves the waves and forges ahead but also navigates steadily and enduringly towards the future.

The three structural supports of our vessel are "climate change response," representing environmental sustainability; "Healthy Taiwan," representing the well-being of the people; and "societal

resilience," representing national security. In response to the challenges of climate change, these three pillars are inseparable and must be considered holistically and function collectively. Therefore, our efforts to boost climate resilience also strengthen the foundations of our national security and health. Only by pooling our ideas and transforming collective action from the government to the private sector can we build a resilient homeland capable of meeting any manner of challenge. This was my original intention in establishing these three committees, and our discussion today further corroborates the validity and urgency of this direction.

Moving forward, the National Climate Change Committee will collaborate with the Whole-of-Society Defense Resilience Committee to discuss the interconnected issues of extreme climate disasters, energy security, and the resilience of our land and urban and rural areas, addressing all types of challenges through the collective wisdom of society. Likewise, since net zero and air pollution amelioration contribute to the health of our citizens, I request that this committee continue collaborating with the Healthy Taiwan Promotion Committee to conduct cooperative discussions so as to deliver even more significant outcomes.

I would like to emphasize that on this path of transition, while the government leads the way, we also need social consensus, industrial vitality, and participation by all. All members of industry and society are invited to fulfill their respective duties and support each other in solidarity to move forward, as we are all in the same boat. The day after tomorrow, civil society groups will hold a march titled March for Climate, Building a Resilient Taiwan. We welcome more citizens to pay attention to climate change issues. Let us unite our efforts and, with the wind full in our sails, collectively build a Taiwan that prospers with the planet and makes its people proud. Thank you.

IX. Meeting End Time: 8:20 p.m.