Meeting Minutes of the 1st Meeting of the Office of the President National Climate Change Committee

Date: Thursday, August 8, 2024, 4:00 p.m.

Location: Reception Hall, Office of the President

Chair: Convener Lai Ching-te

Recorder: Lu Ling-wen, Ministry of Environment

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), Advisor Eugene Chien (簡又新).

Committee Members: Liu Chin-ching (劉鏡清), Wu Cheng-wen (吳誠文), Liu Shyh-fang (劉世芳), Chuang Tsui-yun (莊翠雲), Kuo Jyh-huei (郭智輝), Li Men-yen (李孟諺) (then incumbent), Chen Junne-jih (陳駿季), Peng Jin-lung (彭金隆), Paul Peng (彭双浪) (on leave), Lai Po-szu (賴博司), Terry Tsao (曹世綸), Tseng Wen-sheng (曾文生), Sophia Cheng (程淑芬) (on leave), 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), Su Huey-jen (蘇慧貞), Lin Tze-luen (林子倫) (on leave), Chou Kuei-tien (周桂田), Tseng Chung-jen (曾重仁).

Non-voting Participants: Secretary-General to the President Pan Men-an (潘孟安), Executive Secretary Peng Chi-ming (彭啓明), Deputy Executive Secretary Chang Tun-han (張惇涵), Chief Secretary to the President Chen Yi-ling (陳羿伶), Presidential Office Spokesperson Karen Kuo (郭雅慧).

I. Chair's Remarks

Today is Father's Day, so first I want to wish fathers around the world a happy Father's Day. I also want to thank everyone for taking the time to participate in today's meeting, especially on this holiday.

There are many fathers here today, and Committee Member Huang Pin-han, who recently gave birth and is still in postpartum care,

insisted on attending. Let's give her a warm round of applause.

I also want to thank all our friends watching the live broadcast, who are joining us in showing their concern for the nation's future and development.

To respond to the impacts of global climate change, global infectious diseases, and the challenges posed by shifting global geopolitics, I announced the establishment of three committees at the Presidential Office one month after my inauguration: the National Climate Change Committee, Healthy Taiwan Promotion Committee, and Whole-of-Society Defense Resilience Committee.

I hope these three committees will fulfill three major functions of serving as platforms for social engagement, bridges for communication within society, and engines for policy effectiveness.

This demonstrates the government's determination to forge a social consensus through diversified dialogue and unite the public to address the major challenges of future global and domestic development.

In line with the principle of equity, the members of these three committees are drawn from a diverse range of disciplines, generations, and perspectives.

For example, the National Climate Change Committee includes eight cabinet ministers and commission heads, with Minister of Environment Peng Chi-ming serving as the executive secretary.

National climate governance, however, involves broad and profound issues, requiring the public and private sectors to join forces and work together. As a result, 65% of this committee's members are not government officials. In addition, 28.5% of members are women.

There are six representatives from the industrial sector, and we want to express our gratitude to enterprise representatives Paul Peng, Lai Po-szu, Terry Tsao, Sophia Cheng, Lydia Hsiao-mei Lin, and Taipower Company Chairman Tseng Wen-sheng for their participation. Their involvement will extend Taiwan's strategic

thinking about climate and energy across traditional sectors, fields, and high-tech industries, account for the needs of emerging industries of the new era such as AI and international green finance, and ensure that we look ahead to the future and align with international trends.

The number of our representatives from the civil society sector is equal to that of the industrial sector, with six pioneers of environmental movements representing multiple generations invited to participate: Shih Shin-min, Lee Ken-cheng, Chao Chia-wei, Ho Tsung-hsun, Huang Pin-han, and Chen Hui-ping.

They all represent efforts at the frontlines of environmental movements. We are deeply grateful for your participation and look forward to jointly expanding dialogue with civil society, working together to achieve greater depth and breadth in systemic change.

Of course, we also invited scholars and experts from various disciplines to join. We are very grateful to Lin Tze-luen, Chou Kuei-tien, Tseng Chung-jen, and Su Huey-jen for their participation. Their respective backgrounds in the humanities, science and engineering, environmental health, medicine, and public health will help us gain a more comprehensive understanding of climate change issues.

The committee is meeting for the first time today, and we are beginning by discussing issues that are the focus of particular concern to our society. First, we will hear a report from the Ministry of Environment assessing the impacts of climate change on both the globe and Taiwan. Following that, Chairman Tseng will deliver a report on the transition and challenges related to power supply and demand in Taiwan.

Due to the impacts of extreme weather, more and more experts are warning that each summer from now on is likely to be “one of the coolest summers of the rest of our lives.”

Increasingly, what were once considered “once-in-a-century” droughts and storms are occurring in rapid succession. Over the past eight years under the Democratic Progressive Party (DPP)

administration, the government had to establish two emergency response centers at least 19 times, either in close succession or simultaneously – one to address drought and the other to manage flooding.

Late last month, Typhoon Gaemi brought disastrous rainfall in Chiayi and three other counties and municipalities south of it. Single-day precipitation levels in both the lowlands and mountainous areas were comparable to those brought by Typhoon Morakot in 2009, and in some areas even exceeded Morakot. Statistics from the Ministry of Agriculture indicate that nationwide losses from damage to agricultural property and private facilities are already in the billions of New Taiwan Dollars.

Extreme precipitation caused by global extreme weather, as well as heat waves and other such disasters pose formidable challenges to all countries.

A sudden natural disaster is like an acute cold, while climate change is more like a chronic disease. But no matter which type of problem we're facing, we all have a responsibility to continue strengthening Taiwan's ability to adapt to the risks associated with extreme weather, and to continually make our nation more sustainable and more resilient.

Of course, I realize that the stability of Taiwan's power supply is a matter of concern not only to us in Taiwan. It's also important to international supply chains. There has recently been widespread discussion regarding the issue of nuclear power.

Twenty-plus years ago, back when I was a member of the Legislative Yuan, working across party lines I co-sponsored a draft version of the Basic Environment Act. The Act has come to be known as Taiwan's "environmental constitution," and it is the first law in Taiwan to incorporate the concept of a "nuclear-free homeland." Article 23 of the Act reads that the government shall formulate a plan to progressively achieve the goal of a nuclear-free homeland.

Although the DPP was the ruling party at that time within the

executive branch, we did not have a legislative majority. The fact that we were able to get the Basic Environment Act passed by reaching a consensus between the ruling and opposition parties is proof that the concept of a nuclear-free homeland is not just an ideological stance of the DPP. Sustainable development is a goal that we all agree upon, regardless of party affiliation, and one that we're all working together to achieve.

I hope that through this committee, everyone can realize that energy issues are complex and not simply a black-and-white matter of being for or against nuclear energy. Every strategic national policy decision is bound to present multiple-choice questions complicated by the fact that more than one right answer may be possible. That's the only way we can address issues honestly, propose solutions pragmatically, and resolve problems practically.

Therefore, I want to say to every one of you, that to have differing positions is typical in a democracy. Having diverse opinions is, in fact, the best thing about democracy.

I hope that the committee's discussions will impress upon the 23 million people of Taiwan that we can all have our different viewpoints, but we only have one Taiwan. We can all have our different stances, but we still have one goal that we all agree upon, and that is our nation's sustainable development.

Our shared mission is to think flexibly and brainstorm among a broad range of people, with the goal of formulating strategies for the nation's sustainable development so that Taiwan society can forge a consensus. Once again, I want to thank everyone for your willingness to take on such an important task. I'll soon ask each of you to actively share your thoughts, professional expertise, and experience with us, to help us resolve problems and to help Taiwan keep moving forward. Thank you.

II. Issuance of Appointment Letters and Group Photo (Omitted)

III. Confirmation of the Meeting Agenda

Decision: To confirm the agenda of this meeting.

IV. Report Items (Omitted)

1. **Assessing the impacts of climate change on both the globe and Taiwan**

   (Presented by Minister of Environment Peng Chi-ming)

2. **The transition and challenges related to power supply and demand in Taiwan**

   (Presented by Taipower Company Chairman Tseng Wen-sheng)

V. Discussion Items (In Speaking Order)

1. **Committee members are invited to comment on Report Items 1 and 2; written opinions will be included in the meeting minutes.**

(1) Committee Member Remarks

1. Committee Member, Lai Po-szu

(1) The members of the Manufactures United General Association of Industrial Park of R.O.C are deeply rooted in Taiwan. For us, stable power supply remains the most important issue. We especially thank the Energy Administration of the Ministry of Economic Affairs for its recent efforts to actively promote energy-saving initiatives in industrial parks, encouraging companies to adopt ESCO energy-saving equipment for motors, air conditioners, and lighting systems. This has helped reduce electricity consumption and carbon emissions.

(2) The Manufactures United General Association of Industrial Park of R.O.C established the Industrial Park Low-Carbon Transition Project Office on August 1, 2023. Over the past year, the office has organized nearly 180 policy advocacy events across 91 industrial parks nationwide. However, most manufacturers have only a partial understanding of carbon reduction issues. Therefore, we kindly request the government’s assistance in supporting small and medium-sized enterprises within industrial parks and providing clear policy directions regarding overall power supply,

global warming, and climate change. This will aid our association in further policy promotion.

2. Committee Member, Terry Tsao

(1) The semiconductor industry currently faces four major challenges: geopolitical issues, supply chain resilience management, talent sustainability, and climate change and green energy. The International Semiconductor Industry Association has also established the Semiconductor Climate Consortium (SCC) and the Energy Collaborative, which serve as platforms for dialogue among industry stakeholders. The following is a summary of the industry's opinions.

- To maintain the stable development and international competitiveness of Taiwan's semiconductor supply chain, the use of renewable energy must be prioritized. We hope the government can ensure that the semiconductor industry remains deeply rooted in Taiwan and that it diversifies risks globally without impacts from geopolitical factors. Additionally, we hope the government will continue to develop renewable energy infrastructure.
- According to data released by the International Energy Agency, nearly 30% of electricity around the globe comes from renewable energy sources, indicating that Taiwan still has room for growth. We look forward to the second energy transition, focusing on achieving a stable power supply and developing diverse renewable energy sources.
- Wind and solar power are the two main pillars of renewable energy development. However, their implementation faces challenges related to their localization and site availability. Further promotion efforts are still required.
- The semiconductor industry has accelerated its carbon reduction efforts to meet global market demand. Taiwan's

greenhouse gas emissions have decreased by nearly 5% compared to 2020, showing some progress, but there is still room for further improvement.

- Taiwan's semiconductor industry continues to expand. Although individual companies have made significant progress in self-driven carbon reduction and the use of renewable energy, the industry is expected to face increasing electricity demand in the future. We hope to achieve a win-win goal for both the economy and the environment through green energy and carbon reduction efforts.

(2) Currently, discussions in Taiwan's society are often based on data accessible to individuals, leading to various perspectives. Therefore, there is an urgent need for a fact-based, societal consensus-driven information platform where stakeholders involved in key energy sustainability issues can engage in open and transparent discussions. This will help build consensus in the pursuit of net-zero solutions.

(3) Currently, the renewable energy industry is under the jurisdiction of the Ministry of Economic Affairs. It is recommended that leadership be elevated to the level of the president or premier, with cross-departmental collaboration (including the Ministry of Economic Affairs, Ministry of the Interior, Ministry of Agriculture, etc.) to accelerate the development of renewable energy.

3. Committee Member, Lydia Hsiao-mei Lin

(1) The Taiwan Artificial Intelligence Association primarily promotes emerging industries, focusing on topics such as smart manufacturing, healthcare, agriculture, retail, finance, and unmanned vehicles and systems integration. Different sectors should communicate and discuss their needs and perspectives to reach the broadest possible consensus. It is also essential to consider the views of climate scientists and use rational data to address these issues collectively.

(2) In addressing the challenges of grid resilience, artificial intelligence (AI) could be considered as a potential solution. For example, AI can be applied in smart manufacturing, such as for intelligent scheduling and energy-saving analysis, as well as in disaster prevention and safety, particularly in protecting critical infrastructure. AI can be utilized across three phases: disaster preparedness, early warning during a disaster, and post-disaster recovery. Additionally, as equipment and facilities are expanded and labor shortages become more prominent, the collaboration between human workers and AI agents (intelligent agents) and robots can be evaluated as a solution.

(3) I recommend that we emulate the Taiwan Presidential Hackathon by collecting more public opinions on the committee's discussion topics through a civic wishing pool. The government could then organize these policy issues, integrate relevant datasets, and encourage public participation in solving complex problems.

4. Committee Member, Shih Shin-min

(1) I recommend strengthening the operation of the National Council for Sustainable Development and ensuring that local governments establish climate change response steering groups in accordance with the law. For those that have not yet done so, active measures should be taken to expedite the process.

(2) The Ministry of Environment's report on the net-zero transition in the National Project of Hope, particularly regarding "government establishment of regulatory adaptation, support teams, and action guidelines," should align with the terminology used in industrial transformation and climate legislation. It is also important to emphasize the significance of adaptation capacity, and it is suggested that this be revised to "climate change adaptation capacity." Furthermore, considering that the

Climate Change Response Act has already defined the responsibilities of various ministries and agencies, related budgets should also be allocated in accordance with the law. The report's conclusion, which recommends "the central and local governments allocate adaptation budgets and institutionalize the process," requires clarification of its intent and necessity.

(3) Although Taiwan's 2030 greenhouse gas reduction target is more ambitious than South Korea's, it's still lower than those of Japan and the international community. I recommend evaluating the possibility of aligning Taiwan's goal with those of the international community.

(4) When constructing new power plants, the total energy required for industrial development and the capacity of Taiwan's environment should be considered. While encouraging the development of emerging industries, the government must also account for energy productivity, and industries should bear the responsibility of using more green energy. Additionally, the government should boost the development of renewable energy and encourage the promotion of community or citizen-owned power plants. I recommend that the government provide more specific explanations of the strategies and measures related to carbon reduction. By promoting intensive energy savings and the development of renewable energy, the goals of meeting electricity demand and achieving carbon reduction targets can be realized.

(5) Environmental groups each have their own focus areas, making it difficult to reach a consensus among them. However, the government can strive to minimize political interference while promoting green energy development. Additionally, to be in line with energy-saving and carbon-reduction efforts, recommendations for clothing could be provided in future meetings for the consideration of committee members.

5. Committee Member, Lee Ken-cheng

(1) Former President Tsai made significant progress in advancing energy transition. It is expected that President Lai will continue to push forward with Energy Transition 2.0, building on the current foundation while reviewing past system designs and implementation procedures. Efforts should be made to minimize and address conflicts with agriculture, fisheries, society, and ecosystems as much as possible.

(2) Over half of Taiwan's carbon emissions come from the manufacturing sector, followed by the residential and commercial sector. Major emitters should bear the greatest responsibility. In addition to demanding a stable power supply from the government, the industrial sector should also take on the responsibility of developing renewable energy and conserving electricity. Due to the high residential and commercial carbon emissions in the six special municipalities, the governments of the special municipalities should take action.

(3) The implementation of solar panels on the rooftops of public buildings has nearly reached saturation. Going forward, efforts should focus on promoting solar energy on residential and commercial rooftops. I recommend that the central government establish regulatory frameworks and support measures to encourage local governments to take proactive actions, thereby reducing the land-use pressure for solar energy development.

(4) Committee Members Chen Hui-ping, Chao Chia-wei, and Huang Pin-han and I have jointly submitted a motion entitled "Recommendations for the Executive Yuan to Establish an Information Platform and Dialogue Mechanism to Clarify Nuclear Power-Related Information as a Basis for High-Quality Public Discussion." We echo Committee Member Terry Tsao's suggestion that relevant social discussions should be based on accurate information

and facts.

(5) There is a significant information gap among the Taiwanese public regarding old nuclear energy (such as the safety of small nuclear power plants and nuclear waste) and new nuclear energy (such as advancements in nuclear fusion technology). Many still have only a limited understanding of the legal procedures for extending the life of the country's nuclear power plants and handling high/low-level nuclear waste. Discussions on nuclear power policy must be based on shared and verified information to ensure informed dialogue and avoid societal division.

(6) Environmental groups are concerned with various issues, including environmental ecology and energy transition, and I can only express opinions on behalf of myself and the organization I represent. Diverse views necessitate dialogue, and the aforementioned suggestions particularly emphasize "information verification" and the establishment of an information platform as a basis for public discussion to avoid societal conflicts arising from misinformation or information gaps. My anti-nuclear stance is based on facts, but I respect the statements made by Deputy Convener Tung Tzu-hsien and am willing to engage in dialogue. A nuclear-free homeland is a legal policy, and any changes to this policy would inevitably lead to significant social conflict and upheaval.

(7) Renewable energy, along with the third and fourth LNG terminals, continues to face social and environmental conflicts. Current social-environmental review mechanisms and environmental impact assessments for large-scale development projects seem insufficient to resolve these disputes. At this stage, it is crucial to collectively consider establishing a mechanism for effective dialogue among citizens in society.

(8) I agree with Advisor Eugene Chien's suggestion that

Taiwan must adjust its energy-saving measures and industrial policies to curb electricity demand appropriately. This is not in opposition to economic development but rather a way to promote green growth and achieve both carbon reduction and economic development goals simultaneously.

6. Committee Member, Ho Tsung-hsun

(1) I hope that the government will include relevant committee members as policy advocates and promoters.

(2) Mainstreaming climate change, energy saving, and carbon reduction in daily life: The government should integrate energy-saving, carbon-reduction, and tax-incentive proposals from various ministries. Through a unified app connecting individuals and central and local governments, incentives like dividends or tax reductions can encourage the public to decarbonize transportation, produce and consume low-carbon foods, adopt labeling for energy-efficient buildings, and invest in citizen-owned power plants. This approach allows people to participate directly through their actions, ensuring effective policy outcomes.

(3) Strengthening the professional competence of civil servants: Many civil servants lack sufficient expertise concerning climate change. For example, the carbon fee usage plans submitted by various local governments often lack long-term policy integration and consideration. I recommend enhancing the professional education for personnel handling climate change affairs, as well as their skills in social communication and innovation.

(4) Making climate change part of the national character: Climate change should be integrated into school education and connected with local communities, becoming part of the national character. I recommend that extensive educational and awareness activities be organized, ensuring that every individual engages with this topic at

least five times in a short period to build a strong consensus across the nation.

(5) Resonant policies and disclosure of major power consumers: The Ministry of Economic Affairs should propose intensive energy-saving policies that resonate with the public and promote reasonable fuel, electricity, and water prices. Additionally, I recommend that the government disclose a list of major power consumers to ensure transparency.

(6) Promoting a business-friendly green energy policy: The current promotion of green energy policies has not been smooth. If renewable energy is to be the main focus of Taiwan's future development, the government should establish mechanisms that support the development of renewable energy businesses.

(7) Orchid Island inspection visit: Nuclear power should only be operated under the premise that safety and nuclear waste management are ensured. In 2002, Taipower promised to remove nuclear waste from Orchid Island, but this has yet to be fulfilled. I suggest that committee members who are concerned about nuclear power visit Orchid Island to understand the current situation regarding low-level nuclear waste storage.

7. Committee Member, Chao Chia-wei

(1) In May 2024, the government released the National Scientific Report on Climate Change, which outlined various scientific research gaps and adaptation challenges. The National Development Council plays an important role in climate change adaptation. Recently, while participating in local adaptation efforts, I observed the difficulties that environmental protection bureaus face in overcoming budget and resource integration constraints. I recommend that relevant central government agencies, particularly the National Development Council, assist

local governments in strengthening the formulation of adaptation plans.

(2) During the first energy transition, the Ministry of Economic Affairs promoted the *Energy White Paper*, and recently also released an energy and land use white paper. Additionally, the National Development Council established the Just Transition Committee, showcasing governance innovation. I recommend that the Executive Yuan initiate a governance mechanism for the second energy transition to address existing delays and anticipate potential issues, such as the geopolitical implications of hydrogen energy and new opportunities for international green supply chain cooperation, to accelerate net-zero actions.

(3) AI is a double-edged sword in relation to climate change. While its energy consumption is high, reports also indicate that AI could contribute to a 5% to 10% reduction in carbon emissions. I recommend that the Ministry of Economic Affairs consider incorporating data centers into the early-stage energy use management system to improve energy efficiency and curb electricity demand.

(4) At the national level, this committee plays the role of a searchlight, illuminating the direction of future efforts and providing critical information on energy and net-zero transition. For instance, all scientific reports indicate that a high proportion of renewable energy is an essential goal in the path toward net-zero transition. To help the public understand this information and foster a collective effort where everyone shares responsibility for the net-zero transition, I, along with committee members such as Lee Ken-cheng, propose establishing an information platform and dialogue mechanism.

8. Committee Member, Chen Hui-ping

(1) The net-zero and energy transition is a long-term societal

reform. While there have been achievements, issues remain that require strengthened efforts in building social infrastructure, focusing on placing people at the center of policy. My explanation is as follows:

- The policy should strengthen connections with people. The government should enhance the development of decentralized, small-scale, and user-friendly renewable energy solutions, such as small rooftop solar systems, agrivoltaics, and small hydropower plants. This not only encourages greater public participation but also enables the redistribution of the benefits and resources from the energy transition, helping to boost social support.
- The government should assist in establishing a green electricity market and strengthening its structure. This includes overseeing the green electricity trading market mechanisms, reducing information asymmetry, and addressing supply-demand imbalances. Additionally, it should create more job opportunities. The government should also reinforce corporate oversight to ensure the implementation of ESG practices, not only through the use of renewable energy but also by safeguarding labor rights, promoting gender equality, and providing labor training. A just transition should be realized in industries and aligned with intergenerational justice by setting action goals to support youths in entering the green job market through education.
- The transition process must incorporate fairness and justice by enhancing support for vulnerable groups. The National Project of Hope's principle of a "just transition that leaves no one behind" should include concrete action plans and strategies. Additionally, adaptation and support measures for vulnerable groups should be based on foundational data collection and thorough surveys, such as energy vulnerability assessments by social welfare organizations. This can be initiated by the central

government through top-down evaluations of social welfare institutions to establish foundational data. Furthermore, the greenhouse gas emissions inventory report should be supplemented with relevant greenhouse gas inventory information related to urban development and construction.

(2) Emphasis should be placed on community-based adaptation strategies and the foundational infrastructure for Energy Transition 2.0 or a net-zero society. Recognizing that equal access to knowledge and information can lead to steady progress, we urge the Executive Yuan to adopt the committee members' recommendation to establish an information platform and dialogue mechanism, which will foster a solid foundation for public communication.

9. Committee Member, Huang Pin-han

(1) Any climate change strategy should strive to consider the co-benefits of both adaptation and mitigation. The leaders or advisory units of initiatives like the European Green Deal or the White House Office of Domestic Climate Policy (Climate Policy Office) also integrate expertise in both areas. I recommend that the National Project of Hope's "green growth and 2050 net-zero transition" be evolved into "climate change and net-zero governance." Furthermore, the responsibilities, budgets, personnel allocation, and capacity building for implementing adaptation strategies by administrative agencies should be elevated to the same level as that of mitigation efforts.

(2) I recommend that the government reassess the current climate change governance mechanisms. The National Council for Sustainable Development, the Office of Energy and Carbon Reduction, along with the National Development Council and the Ministry of Environment, should realign and integrate their roles and responsibilities to ensure that adaptation and mitigation are given equal

importance at the governance level.

(3) I recommend that the government refer to the EU's "European Green Deal" or the US' "Inflation Reduction Act" to propose a medium- to long-term budget plan. By using fiscal tools or government budget subsidies, the government can allocate resources in diverse ways and, in conjunction with policy instruments, guide the private sector and industry to participate.

(4) According to the law, the government is required to set greenhouse gas reduction targets in five-year phases. I recommend that when the 2030 target is proposed this year, the planning of the reduction pathway should include a process for social consensus building. This committee should assist in this process, ensuring that the targets are science-based and that a more ambitious Nationally Determined Contribution (NDC) is proposed.

(5) Taiwan's energy sector accounts for 90% of its greenhouse gas emissions, with electricity usage being the largest contributor. This is a global issue, and countries are setting goals to increase renewable energy. At last year's COP28, 197 countries reached a consensus to triple global renewable energy capacity by 2030. Accelerating renewable energy development is a shared consensus across diverse groups and an industrial necessity. Industries, the public, and the government must jointly invest resources to drive the transformation of the power system, as the responsibility for energy transition should not rest solely on the government.

10. Committee Member, Su Huey-jen

(1) The president serves as the convener of this committee, underscoring that climate change is a global issue. The members of this committee come from industry, government, and academia. Achieving consensus on climate change policy presents the greatest challenge in

terms of stocktaking, review, and preparation. Additionally, all sectors require action and a workforce with the necessary knowledge, expertise, and values to drive these efforts forward.

(2) Taiwan should leverage technology platforms to connect "empowering the public" and "professional co-management" efforts:

- Empowering the public: Building climate change literacy aids in social communication. By utilizing cross-interface platforms for real-time sharing and understanding, more equitable and responsible public discourse can take place, helping to form consensus.
- Professional co-management: In developed countries, natural disasters have minimal impact on the GDP, while their effects on the least developed countries are longer lasting. Taiwan can take a proactive approach by establishing platforms that provide climate change education and information.

(3) A result of implementing climate adaptation at the regional and local levels is that there are information gaps between different groups. Therefore, the government should effectively utilize smart technology platforms to introduce adaptation solutions that have been practiced and verified in society. This is a crucial national climate change adaptation strategy.

11. Committee Member, Chou Kuei-tien

(1) The current climate adaptation governance assigns responsibilities to the National Development Council and the Ministry of Environment, while climate adaptation-related scientific research is under the purview of the Ministry of Environment and the National Science and Technology Council. This arrangement should be reviewed. In the past, the government focused on disaster prevention, with significant funding allocated, but

scientific research on adaptation, which is crucial for policy decision-making and social communication, has been relatively overlooked. I recommend that the president prioritize this issue. Moreover, climate adaptation governance should not be limited to the National Development Council and the Ministry of Environment, as it is inherently a cross-ministerial and interdisciplinary matter. For instance, high temperatures affect energy, crops, and disease transmission (e.g., dengue fever) and also impact worker health and industrial development, requiring the involvement of multiple ministries. I recommend that governance of adaptation undergo reform and that scientific collaboration on adaptation be strengthened to provide accurate data for policy decisions.

(2) Although the National Council for Sustainable Development is chaired by the premier, it meets only once every six months, making it insufficient to address the rapidly evolving issues of climate change and net-zero carbon emissions. While a Task Force on Climate Change and Net Zero Emissions Transition has been established under the National Council for Sustainable Development, it is unclear whether this task force has sufficient capacity to handle the cross-ministerial policy coordination, policy promotion challenges, budget and decision-making adjustments needed for net-zero transition. I suggest that a decision-making and policy execution mechanism at the deputy minister level or higher be established within the task force to enhance inter-ministerial coordination. Alternatively, the government could consider establishing a climate conference mechanism similar to the Central Disaster Prevention and Response Council, with the premier serving as the convener and the vice premier overseeing its operations. This mechanism would include a task force at the deputy minister level or higher, ensuring that policy governance and scientific research mutually

support each other.

(3) There remains a significant gap in Taiwan's renewable energy development. I suggest that carbon pricing should be finalized as soon as possible and that the regulations on major power consumers be reviewed and revised. Additionally, policies requiring the installation of solar photovoltaic systems on new buildings should be promoted. According to a survey by the National Taiwan University Risk Society and Policy Research Center, nearly 50% of residents in the six special municipalities are willing to install solar panels. Central and local governments should collaborate to promote this initiative.

(4) Both net-zero and climate change adaptation involve challenges related to the transformation of socioeconomically disadvantaged groups. Currently, the social science budget for net-zero efforts is insufficient. It is recommended that a medium- to long-term budget be allocated to systematically promote net-zero adaptation, with a structured approach to addressing these issues.

12. Committee Member, Tseng Chung-jen

(1) Distributed smart grid technology is already quite mature, but Taipower's current planning timeline extends to 2035. It is recommended that the implementation be initiated immediately.

(2) The price difference between the feed-in tariff for solar power and Taipower's electricity selling rates leads most small power producers to sell electricity directly to Taipower. This is not conducive to promoting local use of green energy. I suggest that appropriate subsidies or incentives be provided to encourage local use of green electricity, which would reduce feed-in demand, lower power transmission losses, and cut Taipower's management costs.

(3) Considering the significant gap between Taiwan's

renewable energy supply and the projected overall energy demand by 2050, we will need to find more zero-carbon energy to fill the shortfall. In addition to increasing the development of domestic energy sources such as geothermal and ocean energy, imported energy will also be necessary to close the gap. The government should actively promote green hydrogen, expedite the completion of related infrastructure, and establish hydrogen energy regulations, moving out of the evaluation stage.

(4) Given the challenges of constructing new power plants, future plans for new science parks or industrial parks should include power supply planning and not place the entire responsibility on Taipower.

(5) Since gas-fired units have a long lifespan of up to 30 years, newly purchased gas units should also be capable of burning hydrogen, in order to facilitate the transition to imported green hydrogen and de-carbonized hydrogen-burning technology.

(2) Government Representative Remarks

1. Committee Member, Tseng Wen-sheng

(1) Regarding the distributed grid, Taipower has already begun to segment Taiwan's interconnected grid into large nodes. The grid is being divided into clusters, starting with three major substations in the northern, central, and southern regions: Longtan, Jhongliao, and Longci. At the same time, transmission lines are being developed to connect power plants directly to science parks, similar to the dedicated lanes for container trucks. Additionally, community-based microgrids are being introduced, starting in areas with heavy rainfall, such as mountainous regions, to avoid power outages caused by natural disasters.

(2) In terms of power infrastructure development, Taipower will inevitably become a grid-construction company in the

future. However, to ensure the country does not face power shortages, Taipower must accelerate its natural gas infrastructure projects. Natural gas power plants require less land and can be built more quickly, with future opportunities to transition to hydrogen blending or hydrogen combustion. Additionally, investment in equipment will account for a lower proportion of overall gas power generation costs. Regarding the provision of information, Taipower will fully cooperate with any requests made by the committee.

(3) The proportion of renewable energy in power generation was around 9% last year, and currently is expected to reach 13% this year. By the end of 2025, it is projected to reach 15.6%, but the target of achieving 20% has been postponed by one year, now expected to be achieved in the winter of 2026. On a full-year basis, the proportion will exceed 20% by 2027, with the target for 2030 between 27% and 30%. Regarding the 2035 carbon emission factor from electricity generation mentioned in the report, if a majority of coal-fired units are replaced by natural gas units that emit half the carbon, combined with the development of renewable energy in line with national targets, it is estimated that the carbon emission factor can be reduced to below 0.3.

(4) Regarding the timeline and supply for power infrastructure, from now until 2027, the nighttime reserve capacity is expected to be over 3GW. However, if there are any generator malfunctions during the summer, the nighttime reserve margin could drop below 7%. If all the planned power plants can be completed and come online as scheduled, this situation should gradually improve after 2028.

2. Minister of Environment, Peng Chi-ming

(1) The net-zero transition and Taipower are closely interconnected, as the net-zero goals cannot be achieved if

Taipower's related infrastructure is not completed. Every department and every step in the process is crucial, and everyone shares responsibility. The Ministry of Environment will promptly plan relevant incentive mechanisms and assess various scenarios, such as achieving the 2030 carbon reduction target of 24±1%.

(2) The current plan for carbon fee collection targets high-carbon-emitting factories (approximately 281 companies), but excludes small and medium-sized enterprises. The Ministry of Environment is actively organizing numerous forums to enhance communication with major companies and is working with the Ministry of Economic Affairs to develop incentive and subsidy measures.

3. Committee Member, Kuo Jyh-huei

(1) The difficulties and challenges in developing green energy must be considered, such as whether rising generation costs leading to higher electricity prices could affect the competitiveness of export industries. Meeting electricity demand should be the primary goal, followed by a discussion of electricity cost competitiveness. The committee can be effectively utilized for thorough discussions, allowing for comprehensive communication with electricity consumers and environmental groups.

(2) Geothermal power in Taiwan is estimated to have a potential of around 40 GW, and there is room for further development. In the future, CPC Corporation's exploration technology will be used for drilling to further confirm the actual potential. Additionally, research from scholars indicates that hydrogen power development is progressing slowly, and more policy incentives should be introduced to accelerate its growth.

4. Committee Member, Liu Chin-ching

(1) The National Development Council has engaged experts and scholars from various fields to conduct research on just

transition, and the implementation will proceed based on the findings of these studies.

(2) Recently, discussions with the Ministry of Economic Affairs focused on hydrogen and ammonia power generation, sharing the following new approaches:

- Hydrogen energy production through natural gas combustion: This method falls under grey hydrogen and can reduce carbon emissions by approximately 30%. Private companies can use it as backup power, offering high supply stability and cost savings on electricity. The Ministry of Economic Affairs is currently drafting related incentive measures to encourage private installations, helping to alleviate the pressure on Taipower's power generation.
- Green ammonia: Green hydrogen lacks sufficient stability and requires transportation at extremely low temperatures. Green ammonia requires storage at -30°C. Taipei Port already imports a significant amount of ammonia and has extensive experience in ammonia storage. Additionally, a new terminal in Kaohsiung is available for use. The National Development Fund will invest in related research and enterprises, and further studies will be conducted to improve efficiency and effectiveness.

5. Committee Member, Wu Cheng-wen

(1) Regarding the development of various types of renewable energy and green energy, in addition to providing long-term support to academia for research on diversified new energy, the government encourages ministries to promote self-sufficient energy sources, including solar, small hydropower, and geothermal. It is hoped that academia will collaborate with ministries to help align industrial development with policy objectives. The budget for net-zero initiatives is growing each year, with more than

NT$12 billion allocated for this and next year. Ministries are encouraged to submit proposals for relevant scientific research budgets.

(2) In terms of adaptation, the National Science and Technology Council, through the National Science and Technology Center for Disaster Reduction, has long been working with various ministries and scholars to manage and analyze collected data, as well as to develop models for experiments and research. It also integrates data from the Taiwan Space Agency and the National Center for Research on Earthquake Engineering, providing this information to ministries for reference. For example, in the case of Typhoon Gaemi, rainfall estimates were gradually extended from 2-hour regional rainfall estimates to 6 hours, to help affected residents evacuate earlier and allow ministries to respond to disasters earlier.

6. Committee Member, Liu Shyh-fang

(1) In response to climate change, the Ministry of the Interior has begun conducting risk assessments for spatial planning under extreme climate conditions. Primary tasks include understanding the impacts of flooding, particularly in the urban and rural areas concentrated along Taiwan's southwestern coast, which are considered medium to high-risk zones. These areas are also prone to drought. Future drought response will require long-term planning, including water resource adjustment strategies.

(2) In April of this year, a risk assessment process was initiated, revealing that high temperatures and heatwaves have significantly increased temperatures in urban and rural areas in the northern and southwestern regions of Taiwan. Over the past one to two years, public sector buildings have been required to move towards zero carbon emissions, with gradual expansion to private sector buildings as well.

(3) Regarding comprehensive urban disaster prevention strategies, the Ministry of the Interior, in cooperation with the Water Resources Agency and the National Science and Technology Council, is advancing integrated urban flood management. This involves the use of smart water monitoring systems for disaster prevention planning. Efforts are also underway to promote water reclamation, park greening, and natural environment adaptation projects.

(4) Some committee members have suggested exploring wind and solar energy development in riverbank areas. National parks and green spaces under the jurisdiction of the Ministry of the Interior have the potential for carbon sequestration. In future spatial planning, the MOI will work closely with the Ministry of Economic Affairs, the Ministry of Environment, and other agencies on net-zero emissions, climate change mitigation, and adaptation to achieve the net-zero transition goals.

7. Committee Member, Chuang Tsui-yun

(1) Regarding using relevant measures to encourage industries to achieve net-zero and carbon reduction goals, the Statute for Industrial Innovation already provides tax incentives. For example, research and development of carbon reduction technologies and the purchase of smart machinery can be deducted from corporate income tax.

(2) The Ministry of Finance also offers commodity tax reductions to guide consumers in contributing to energy conservation, carbon reduction, and net-zero goals. For instance, purchasing energy-efficient appliances qualifies for a commodity tax reduction, and purchasing glass for solar photovoltaic modules is exempt from commodity tax. If there is a need to further utilize tax tools to promote policy initiatives, further discussions can be held to assess their effectiveness and necessity.

8. Committee Member (then incumbent), Li Men-yen

(1) The Ministry of Transportation and Communications has completed the installation of 76.8 MW of rooftop solar power generation on public buildings under its jurisdiction in recent years. By the end of this year, the total generation capacity is expected to reach 90 MW.

(2) In July of last year, the "Executive Yuan TPASS commuter monthly pass" initiative was launched, and as of May this year, ridership on the Taoyuan Airport MRT increased by 64.74% compared to the same period last year. This has effectively reduced the use of private vehicles and increased public transportation usage, with an estimated total of 2.19 billion passenger journeys by the end of this year, meeting the expected goals for promoting low-carbon and energy-efficient transportation.

(3) The Ministry of Transportation and Communications is also promoting the electrification of vehicles. The original goal was for electric buses to comprise 25% of the urban fleet (3,300 units) by this year, a target that has already been exceeded (as of July this year, there are 3,863 electric buses, approximately 36.8%). However, further efforts are needed to promote the adoption of electric cars and electric scooters.

(4) Currently, based on the needs of shipping companies, the feasibility of using methanol as a replacement for heavy fuel oil for large vessels is being assessed at Taipei Port and Kaohsiung Port. Additionally, the ports are conducting inventories and planning for the import of liquid ammonia and other energy sources, which could assist Taipower in advancing energy conservation and carbon reduction.

9. Committee Member, Chen Junne-jih

(1) Climate change has caused uncertainty in agricultural operations, affecting national food security. For example, data shows that a 1°C rise in temperature will reduce rice

yields by 10%. Domestic research teams have been continuously improving crop varieties (such as stress-resistant strains) and have achieved significant results. Through these improvements, they are mitigating the yield loss caused by temperature increases, helping agriculture adapt to climate change.

(2) Due to global warming, the suitable growing regions for perennial fruit trees are shifting from south to north. For instance, the optimal growing area for the Kaohsiung-Pingtung Yuherbau Litchis variety is moving northward, prompting a transformation of these growing regions. The Ministry of Agriculture has already initiated comprehensive planning for these extended growing areas, and implementation will proceed gradually.

(3) Hillside agriculture often faces challenges from heavy rainfall in short periods, leading to landslides or debris flows. The Ministry of Agriculture is applying hillside early warning technology and continuously monitoring landslides via satellite imagery. This technology proved effective during Typhoon Gaemi, and the ministry plans to further enhance early warning methods in the future.

(4) The Ministry of Agriculture is also promoting carbon sinks in forests, soils, and oceans, noting that the carbon storage potential per hectare of seagrass beds exceeds that of forests. Efforts to accelerate these initiatives are underway. Addressing climate change response is not something that can be achieved by one department alone, and the ministry will continue to promote the net-zero transition through public-private partnerships.

10. Committee Member, Peng Jin-lung

Currently, many insurance products are already integrated with low-carbon living (e.g., discounts on premiums for walking or driving less). Future development will focus on green financial products that are closely connected to

people's daily lives, such as green deposits and green credit cards. These products will encourage public participation in a meaningful way, using civic engagement or fintech tools to expand citizen involvement in sustainable practices.

(3) Deputy Convener Remarks

1. Deputy Convener, Cheng Li-chiun

(1) In response to climate change, alongside net-zero transition, land and social adaptation are equally important. A comprehensive, systematic, and innovative climate governance mechanism must be established. In response to Committee Member Shih Shin-min's remarks, the consensus formed by this committee will be aligned with the National Council for Sustainable Development (NCSD), established by the Executive Yuan. The NCSD is convened by Premier Cho, and includes a "Task Force on Climate Change and Net Zero Emissions Transition," which I oversee and chair. National Development Council (NDC) Minister Liu Chin-ching serves as executive, and Minister of Environment Peng Chi-ming serves as deputy executive. All action plans discussed in today's meeting will be integrated into inter-ministerial policies and resources by the task force under the NCSD framework and subsequently submitted to the premier for approval, thereby establishing a national climate governance mechanism.

(2) In response to the suggestions from participants and today's reports, the following clarifications are provided:

- The Executive Yuan currently has five major strategies for the 2050 net-zero transition, with the energy transition aiming to achieve both stable power supply and decarbonization. Over the past eight years, the first energy transition was completed, and the second energy transition will steadily advance from this foundation. The goals of the second energy transition include not only

ensuring a stable and secure power supply but also actively developing diverse green energy sources, such as solar and wind power, while also seeking breakthroughs in hydrogen technology. In addition, efforts will be made to reduce carbon emissions in the natural gas sector. There has been considerable discussion about nuclear energy recently. Future discussions can take place within society, provided that nuclear waste disposal and nuclear safety can be ensured.

- The government is actively promoting a green and digital twin transformation of industries, with three key pillars: carbon pricing, green finance, and net-zero technologies. These pillars are aimed at driving green manufacturing, the circular economy, and low-carbon transition. Breakthroughs in net-zero technologies are critical, and both Academia Sinica and the National Science and Technology Council have allocated significant budgets for this purpose. To further advance industrial green transformation, green manufacturing, and the circular economy, it is recommended that international cooperation strategies be leveraged to accelerate the net-zero transition.
- Land and social adaptation are also critical future goals. Next year, the water management budget will increase by 40%, with the aim of expanding comprehensive land adaptation governance, including mountain and water management, flood control, typhoon preparedness, drainage systems, integration with railways and roads, and housing safety. Technology and analytical tools will be introduced to implement regional and comprehensive governance based on extensive scientific, evidence-based research to enhance resilience during normal times rather than focusing solely on disaster response. Future adaptation plans will cover ecosystems, land, health, agriculture, industries, and lifestyles, with the hope of

cross-ministerial collaboration. Therefore, in addition to the net-zero budget, the government should also introduce an adaptation budget next year.

- Taiwan needs a mindset focused on green opportunities and green growth. The green economy, green jobs, green skills, and green talent that emerge from the shift toward green living will present both challenges and new opportunities for the next generation.
- Whether in climate governance or energy governance, the approach differs from past single-policy or single-solution strategies. The goal is to move towards participatory governance in the future. We also hope that the government will establish mechanisms for information disclosure and public discussion, fostering a shared vision and encouraging communication, coordination, and collaboration. Through a holistic effort, we aim to update and upgrade governance models to ultimately achieve sustainability.

2. Deputy Convener, James C. Liao

(1) Currently, 50% of Taiwan's carbon emissions come from power generation, and this proportion will likely increase with the future shift towards large-scale electrification. It is essential to consider the future power generation mix – how much will come from renewable energy, nuclear energy, and other zero-carbon sources? For power generation planning, it is suggested that estimations be based on electricity consumption. Taiwan's current annual electricity usage is around 280 billion kWh. Assuming that 1 hectare of solar photovoltaic (PV) installations can generate 1 million kWh, we can assess the available ground and rooftop areas for PV installations to estimate a reasonable future solar power capacity. Using the same method for wind power, it is estimated that both wind and solar can each generate about 50 billion kWh. Additionally, if nuclear power generation continues,

Kuosheng Nuclear Power Plant and Maanshan Nuclear Power Plant could collectively generate around 30 billion kWh. However, even if we combine the potential from wind, solar, and nuclear energy, this would still only provide around 130 billion kWh. The critical question remains: where will the remaining zero-carbon electricity come from?

(2) Academia Sinica is currently developing high-efficiency solar panels, which can potentially increase power generation by up to 50%. In collaboration with CPC Corporation, deep geothermal development is also underway, with a drilling ceremony scheduled for next month in Yilan. It is recommended to simultaneously develop geothermal, ocean energy, and high-efficiency solar panels, while also exploring the decarbonization of imported natural gas and utilizing hydrogen for hydrogen-mixed combustion.

(3) Each power generation technology has its advantages and disadvantages. We should actively use technology to mitigate the disadvantages and amplify the advantages, such as using new technologies to enhance nuclear safety or reinforcing nuclear power plants located in seismic zones. Additionally, it is crucial to estimate electricity demand for 2030 and 2050, calculate the contributions of different power generation methods, and prioritize them accordingly.

3. Deputy Convener, Tung Tzu-hsien

(1) *Fortune* magazine recently released its Global 500 list, with five Taiwanese companies making the ranking. Pegatron Corporation ranked third among Taiwanese companies. Taiwan’s large corporations are actively investing in carbon-free power generation, gaining valuable experience and insights into the use of green energy and nuclear power. In terms of specific achievements, Greenpeace announced the world’s top ten large manufacturers using green energy,

with three Taiwanese companies on the list. Pegatron Corporation ranked first among Taiwanese companies, with a renewable energy usage rate of 19%. In recent years, Pegatron Corporation has expanded its manufacturing presence in India, Indonesia, Vietnam, and Mexico but has encountered challenges in purchasing renewable energy in these regions. In some countries, there have even been instances of burning waste being mixed into biofuels, highlighting the difficulties of purchasing green energy and the gap between the reality and ideals of green energy usage.

(2) In June of this year, the Director General of the International Atomic Energy Agency stated that by 2050, achieving decarbonization and reducing emissions to prevent global warming will require the assistance of nuclear energy. Without it, not only Taiwan but the entire world will struggle to meet the carbon reduction targets for 2030 and 2050. Additionally, in 2023, Voice of America reviewed the United Nations' recently announced 17 carbon reduction goals for 2030, noting that progress on them has fallen behind and these goals are unlikely to be met. One global example of high electricity prices is Singapore, where 92.6% of electricity is generated from natural gas, resulting in an electricity price of NT$6.4 per kWh, which is double the cost in Taiwan. If Taiwan were to rely heavily on natural gas for power generation, it could similarly face soaring electricity prices. In contrast, coal and nuclear power generation costs less than NT$3 per kWh, while natural gas could be more than NT$3 higher. If Taiwan generates 300 billion kWh annually, this would increase costs by NT$900 billion, imposing a significant burden on the national budget. It is recommended that Taiwan should not overly rely on natural gas, and further discussions on energy mix are needed.

(3) Every kilowatt-hour of carbon-free electricity is valuable,

and the continued development of hydrogen energy and tidal power and increasing the efficiency of solar energy are encouraged, as well as advancing decarbonization projects for conventional coal-fired power generation. These efforts will help Taiwan increase its proportion of carbon-free electricity. Additionally, there is a call to extend the operational life of the low-cost, carbon-free Kuosheng Nuclear Power Plant and Maanshan Nuclear Power Plant to help Taiwan balance the ideal of carbon-free power generation and the reality of maintaining affordable electricity prices.

(4) Advisor Remarks

1. Advisor, Eugene Chien

(1) Government agencies should fully leverage public procurement to promote the net-zero transition. According to United Nations statistics, global public procurement budgets total US$13 trillion, accounting for about 3% of global GDP and contributing approximately 10% to 15% of global greenhouse gas emissions (including both direct and indirect emissions). The Industrial Deep Decarbonisation Initiative emphasizes low-carbon public procurement. It is recommended that governments adjust public procurement policies to include low-carbon and net-zero standards, allowing government departments to become key drivers of low-carbon products, create markets, and accelerate the adoption of emerging low-carbon technologies.

(2) The government plays a crucial role in energy conservation and carbon reduction, including the central and local governments, state-owned enterprises (such as China Steel Corporation, CPC Corporation, and Taipower), public hospitals, and public schools. These entities account for more than half of the country’s carbon emissions. Each agency can follow the Pathway to Net-Zero Emissions in 2050 announced by the Executive Yuan to develop relevant

regulations and allocate budgets, thereby promoting the effectiveness of the net-zero transition.

(3) As Taipower is an energy delivery unit rather than a policy unit, it is recommended that the Ministry of Economic Affairs provide a report on Taiwan's power supply and demand policies. Regarding the three key principles of sustainable energy – economic development, net-zero sustainability, and social fairness and justice – explanations are as follows:

- Economic development: Taiwan's economic growth over the next 10 years needs to align with energy development. With an annual power demand increase of 2.79%, electricity demand is expected to rise by 28% by 2033. The Ministry of Economic Affairs should further analyze whether to continue supporting energy-intensive industries.
- Environmental sustainability: While the Executive Yuan has announced the Pathway to Net-Zero Emissions in 2050 and the 2030 carbon reduction target, Taiwan remains behind many international benchmarks and must intensify its efforts. In theory, achieving the 2030 target of a 24±1% reduction in carbon emissions could potentially halve electricity demand. Under this premise, the Ministry of Economic Affairs should further analyze the relationship between energy conservation, carbon reduction, and changes in power demand. Additionally, by 2025, coal-fired power plants will be phased out in five European countries. Although the Russia-Ukraine war may lead to an extension of coal plant operations, the global trend is moving toward abolishing coal-fired power generation.
- Social fairness and justice: Limited resources such as water, electricity, and natural gas should not be used excessively with disproportionate subsidies, as this violates principles of fairness and economic logic.

Policies should aim for fair usage while improving policy and risk communication. Moreover, during the energy transition, issues of just transition should be addressed, such as how to provide affordable energy prices and assistance to disadvantaged groups and how to assist workers in declining industries find new employment opportunities.

2. Advisor, Lee Yuan-tseh

(1) Facing global warming and extreme climate events, human society has reached a state of emergency – a consensus strongly shared worldwide. Based on this consensus, it is imperative to prevent the Earth's surface temperature from rising more than 1.5°C above pre-industrial levels. To achieve this, net-zero emissions must be reached by 2050. Failing to do so could destabilize the planet's environment, leading to irreversible changes and potentially human extinction, which is a profoundly serious issue.

(2) To achieve net-zero emissions by 2050, the goal of halving greenhouse gas emissions by 2030 is extremely challenging. It is suggested that the target be adjusted to halving emissions by 2032, with annual reduction targets set and diligently pursued to ensure progress.

(5) Convener, Lai Ching-te

Report Item 1: Assessing the impacts of climate change on both the globe and Taiwan

My thanks to Minister of Environment Peng Chi-ming for his presentation, as well as to the National Science and Technology Council and the Ministry of Transportation and Communications for providing detailed climate assessment information. This has given everyone a deeper understanding of the impacts of climate change.

If we use illness as a metaphor, a cold or a sudden discomfort are perceptible symptoms and have short-term impacts, while climate change, on the other hand, is a chronic illness such as

hypertension. It often has no noticeable symptoms and is not deeply felt, but over time, it can lead to various related health issues. Therefore, in addition to short-term changes, we must also pay attention to long-term trends to maintain overall good health.

We must closely monitor the impacts of climate change and put effort into three key areas:

First, we should continue to strengthen Taiwan's adaptation and mitigation mechanisms to address the risks of climate change. We need to internationalize, mainstream, and localize our adaptation and mitigation efforts. By combining the strengths of various sectors, we can connect our adaptation and mitigation work with the global climate finance system, allocate financial resources, and incorporate technological innovation and application. Moreover, we can broaden and deepen policy planning integration and improve execution, performance, and management to enhance resilience in our nation's overall development.

All levels of government, whether central or local, should establish comprehensive platforms that function effectively and ensure that mechanisms for addressing and mitigating climate change are fully implemented.

Second, we should carefully consider and evaluate opportunities for Taiwan to pursue leaps in development. Climate change is undoubtedly a challenge for Taiwan, but it also presents opportunities. As Advisor Eugene Chien mentioned earlier, without altering the total national fiscal expenditure, the public sector could link a proportion (such as one quarter) of its performance metrics to climate action indicators. This would allow for the allocation of a stable green fiscal budget, promoting low-carbon transition policies across various departments. This would drive trillion-dollar-level green investments and carbon finance developments in the private sector, achieving a leverage effect. Or, through market mechanisms, we can drive substantial carbon reduction across various sectors and systematically expand the carbon fixation and adaptation mitigation benefits of

nature-based solutions in agriculture and forestry, land, and marine settings.

Third, we should take proactive measures and make advance preparations in multiple aspects. Extreme weather conditions such as high temperatures, droughts, and floods pose severe threats to both the public and industries, particularly affecting groups such as the elderly, children, and outdoor workers. There have even been calls for baseball to not be played in the afternoon. Even games starting at 6 p.m. see temperatures as high as 35°C, posing a serious challenge for all involved. The government must take proactive measures, including those for early warning systems, health care, resource management, and support for vulnerable groups and industries susceptible to climate impacts. Efforts should be made using various approaches to ensure thorough preparation in advance.

Climate change is a formidable challenge, and I want to thank all the committee members for providing diverse perspectives on government policies. Let us keep working together to build a safer and more resilient nation.

Report Item 2: The transition and challenges related to power supply and demand in Taiwan

Thank you, Taipower Company Chairman Tseng Wen-sheng, for your detailed presentation on issues of power supply and demand which are of concern to the public. You not only outlined the achievements of the past few years, but also honestly addressed the challenges that Taipower is facing. Please include Advisor Eugene Chien’s suggestions in the follow-up report by the Ministry of Economic Affairs. This is not just about addressing climate change and electricity supply; it is essential to balance economic development, sustainable development, and social justice.

We can see that over the past few years, due to rapid economic growth, electricity consumption has increased significantly. From 2012 to 2023, the nation’s power consumption grew by nearly

15%. However, thanks to the promotion of renewable energy and gas-fired combined cycle units replacing older units, air pollutant emissions from power generation have decreased by more than 60%. Additionally, Taipower's carbon emission factor for electricity has decreased by 10% from its peak. This should be made known to more citizens, as they are very concerned about the health impacts of air pollution. If people are informed about the efforts made by Taipower, it will boost their confidence in the future.

We should cherish the phased achievements of our past energy transition, but we must also acknowledge the challenges ahead. We need to pragmatically address three major issues. The first is ensuring an adequate power supply. I invite all environmental movement leaders to attend meetings, and hope to gather your valuable input. On the other hand, when it comes to electricity supply, the business and industrial sectors also have responsibilities. I also hope that environmental advocates can assist with communication with society during the process of electricity infrastructure development. If we help the public and other groups understand actual needs, I believe that Taipower's electricity infrastructure projects will proceed more smoothly. The second major issue is maintaining the safety of the power system, and the third is accelerating decarbonization. This is why we advocate the promotion of a second energy transition.

Regarding the first issue of adequacy of power supply, Taipower's report indicates that the explosive development of AI will lead to faster and greater growth in electricity demand in the future. Currently, Taipower is promoting the establishment of more than 20 new gas-fired combined cycle units. Some are already under construction, others are in the bidding or environmental impact assessment phase, and some are still in the phase of administrative planning. Each stage faces different challenges. I hope that as Taipower strives to overcome these challenges, local governments, communities, and civic groups can engage in rational discussions and support appropriate power

development projects. As I mentioned in my opening remarks, energy poses complex multiple-choice questions, and is not simply a black-and-white matter. If we approach power development projects with a process-of-elimination mindset, our options will inevitably diminish, leading to increased social strife. This approach will not help us create win-win situations, let alone achieve sustainability together.

For the second issue, maintaining the safety of the power system, a stable power grid is essential. Efforts to improve the grid should be accelerated to reduce the risk of power outages and trips, minimizing inconvenience to the public. I've asked Taipower to expedite its Grid Resilience Strengthening Construction Plan from the originally scheduled completion time of 10 years to finishing key areas and critical projects related to public welfare four years sooner, which will be 2028.

Regarding the third issue, in facing the challenges of transitioning to net-zero by 2050, Advisor Lee Yuan-tseh just proposed that Taiwan should cut its carbon emissions by half by 2032 as part of the transition to net-zero by 2050. For that, we must accelerate decarbonization. We are maximizing green energy production by rapidly expanding the deployment of mature renewable energies, such as wind and solar power, while also developing emerging renewable energies, like geothermal, green hydrogen, and ocean energy. Additionally, we are promoting smart grids and intensive energy-saving measures. The gradual implementation of these policies requires cooperation among the government, Taipower, and various public and private entities. Regarding the issue of nuclear energy, about which the public is very concerned, the "nuclear-free homeland" is a statutory national policy goal written in Article 23 of the Basic Environment Act. After the passage of the 2018 "Nuclear for Green" referendum, the DPP government respected this result. The Executive Yuan promoted amendments to remove the 2025 deadline for decommissioning all nuclear power plants in the Electricity Act, which was passed by the Legislative Yuan in the third reading.

In terms of energy policy, the government's most important tasks at present are, first, ensuring a stable power supply. Taiwan must continue to develop both peoples' livelihoods and industry, for which prioritizing a stable power supply is essential. Second, we must strive to develop diverse green energy sources, prioritizing green energy development while maintaining a stable power supply. Third, we do not rule out energy solutions that are conducive to net-zero, including new and advanced nuclear technologies in the future.

Whether we are dealing with new nuclear technologies or the issue of retaining or decommissioning existing nuclear power plants, we must engage in social dialogue to achieve a broad consensus within society. This is essential to properly address various issues, including nuclear safety, nuclear waste management, and legal aspects.

A committee member just mentioned that following the Great East Japan Earthquake on March 11, 2011, Japan established the Nuclear Regulation Authority, which has since approved the restart of 17 nuclear reactors. However, last week, the authority declined to approve the restart of Unit 2 at the Tsuruga Nuclear Power Plant, citing the presence of active faults and failure to meet safety standards.

From Taipower's presentation, it is evident that different energy sources present different challenges. These are exactly the types of issues that Taiwanese society must face together when initiating the second energy transition. It is difficult to reach a definitive conclusion through a single meeting. However, whether it is the government, businesses, or society, we all share a collective responsibility for the nation's energy governance. I will instruct the administrative team to fully disclose information and establish platforms in this regard. I hope that both this committee and the entire Taiwanese society, based on a shared foundation of facts, review the experiences of previous energy transitions, face the challenges of future energy governance, and engage in rational and proactive discussions on the governance model for the second

energy transition.

Lastly, I thank all the committee members for your valuable opinions. I also urge Taipower to incorporate the feedback of committee members into the future planning for the transition in power supply and demand. Most importantly, whether it is power generation units, substations, or cable and grid infrastructure, Taipower must expedite these projects to ensure a stable power supply. I also ask Executive Yuan agencies to provide the necessary assistance, and local governments and the public to offer their support so that we can jointly overcome these challenges.

Report Item 3: Draft Rules of Procedure for Meetings of the Office of the President National Climate Change Committee

Explanation: Executive Secretary Peng Chi-ming reported that the draft rules of procedure had been discussed during the preparatory meeting and recommended approval after revisions.

Resolution: Approved with revisions.

VI. Extempore Motion

Explanation: Deputy Executive Secretary Chang summarized the consensus on energy issues as follows:

1. Different energy sources present various challenges in different aspects, and there is a need to strike a balance between development and sustainability, as well as between transition and adaptation. Although the challenges are indeed severe, the active development of renewable energy represents the greatest common ground. Therefore, everyone shares a common but differentiated responsibility. Government departments, private enterprises, and civil society must jointly face these numerous challenges.
2. During the meeting, Committee Member Terry Tsao pointed out that the use of green energy is crucial for the stable development of Taiwan’s industries and for

maintaining their competitiveness. However, Taiwan faces many challenges in the development and implementation of green energy. Only through a platform providing accurate and verified information can the public engage in rational dialogue and discussion. This proposal was strongly supported by the committee members. The most urgent task at present is for the government to fully disclose information on all energy options, clarify the facts, and establish a shared and reliable information platform to bridge information gaps and prevent divisions in society. This will allow Taiwan to engage in further rational discussions, promote a sustainable future, and achieve social consensus.

Resolution: Approved as proposed.

VII. Chair's Closing Statement

Once again, I would like to thank everyone for your contributions, whether you are a representative of a government agency, civil society, or industry, or expert. Your input has made today's meeting highly constructive and fruitful.

Our discussions were highly diverse and deeply insightful. The media and the public may be wondering if we were getting worked up in here. However, from my perspective, the atmosphere was neither intense nor heated; rather, it was very proactive. I want to thank everyone once again for your participation.

During this meeting, the Ministry of Environment presented a report assessing the impacts of climate change on both the globe and Taiwan. We then heard a report from Taipower Company on the transition and challenges related to Taiwan's power supply and demand. From these discussions, we must address issues honestly, propose solutions pragmatically, and resolve problems practically. This requires the continued valuable input of all committee members. It is important to note that the issues for this committee to discuss and address go beyond the two reports presented today. They encompass seven key areas, including net-zero pathway, just

transition, and sustainable green lifestyle, altogether being very expansive and complex. This committee will hold regular meetings every three months and will coordinate with the Executive Yuan's National Council for Sustainable Development.

I want to thank all government representatives for reporting to Premier Cho Jung-tai (卓榮泰) in advance about your presentations today. I hope that for future meetings, all agencies will follow this procedure, with presentation content being approved by Premier Cho before being brought to the committee for discussion. I would also like to kindly ask Vice Premier Cheng Li-chiun, who is one of our deputy conveners, and our executive secretary, Minister Peng Chi-ming, to report on the Executive Yuan's climate change response policies and progress as part of each committee meeting. By providing reports every three months, we can enhance communication with society and help the public better understand the government's policies and efforts.

We need society's understanding and support to unite all our forces and tackle the challenges of climate change. With today's committee meeting, we are setting things in motion. Let us work together to build a more sustainable and prosperous Taiwan. Thank you.

VIII. Meeting End Time: 7:50 p.m.