



APEC Center for
Technology Foresight

Annual Report

2025

From Signals to Strategy
Strengthening APEC's Capacity to Anticipate,
Adapt and Act

The Asia-Pacific region is undergoing rapid and interconnected transformation. In 2025, APEC economies faced growing uncertainty arising from emerging technologies, climate transition, energy security, demographic change, supply chain disruptions, and evolving geopolitical and economic dynamics. These challenges increasingly require governments to adopt more anticipatory and adaptive approaches to policymaking.

In this environment, foresight is becoming an essential capability for governance. By identifying emerging signals, exploring alternative futures, and assessing long-term implications, foresight helps policymakers anticipate opportunities and risks, strengthen resilience, and make more informed decisions in an increasingly complex world.

Throughout 2025, the APEC Center for Technology Foresight (APEC CTF) worked closely with APEC member economies, experts, and partner organizations to strengthen regional foresight capacity and translate future-oriented analysis into practical policy insights. Our activities included foresight studies, capacity-building workshops, expert consultations, and regional dialogues on carbon neutrality, emerging infectious diseases, green hydrogen, and science, technology, and innovation cooperation.

Among the year's notable achievements were the publication of foresight-based policy studies, the implementation of regional workshops, and the advancement of collaborative initiatives aimed at strengthening anticipatory governance across the Asia-Pacific region.

The theme of this report, *From Signals to Strategy*, reflects our commitment to transforming emerging insights into actionable policies and stronger regional collaboration. I sincerely thank all partners and stakeholders for their continued support. Together, we will strengthen our capacity to anticipate change, adapt to uncertainty, and shape a sustainable and prosperous future for the Asia-Pacific region.



Dr. Surachai Sathitkunararat

**Executive Director, APEC Center for Technology Foresight
President, Office of National Higher Education Science
Research and Innovation Policy Council**

Table of Contents

- 1 Introduction to APEC Center for Technology Foresight
- 2 State of Technology Foresight in the Asia-Pacific in 2025
- 3 Highlighted Achievements in 2025
- 4 Foresight Projects in 2025
- 5 Looking Ahead to 2026

1. Introduction to APEC CTF

A Regional Foresight Platform for APEC

The **APEC Center for Technology Foresight (APEC CTF)** was established in 1998 as an initiative under the APEC Industrial Science and Technology Working Group (ISTWG) and was endorsed by the Thai Cabinet in the same year. It is recognized as the first and only regional foresight center within APEC, serving as a dedicated platform to support APEC economies in anticipating future challenges, identifying emerging technology and innovation issues, and strengthening the application of foresight in policy formulation.

As a long-term regional foresight mechanism under the APEC Policy Partnership on Science, Technology and Innovation (PPSTI), APEC CTF has continued to promote the use of foresight approaches in addressing APEC-wide technological, economic, social, and policy issues. Its work helps member economies better understand emerging trends, prepare for future disruptions, and translate foresight insights into strategic recommendations that support science, technology, and innovation cooperation across the region.

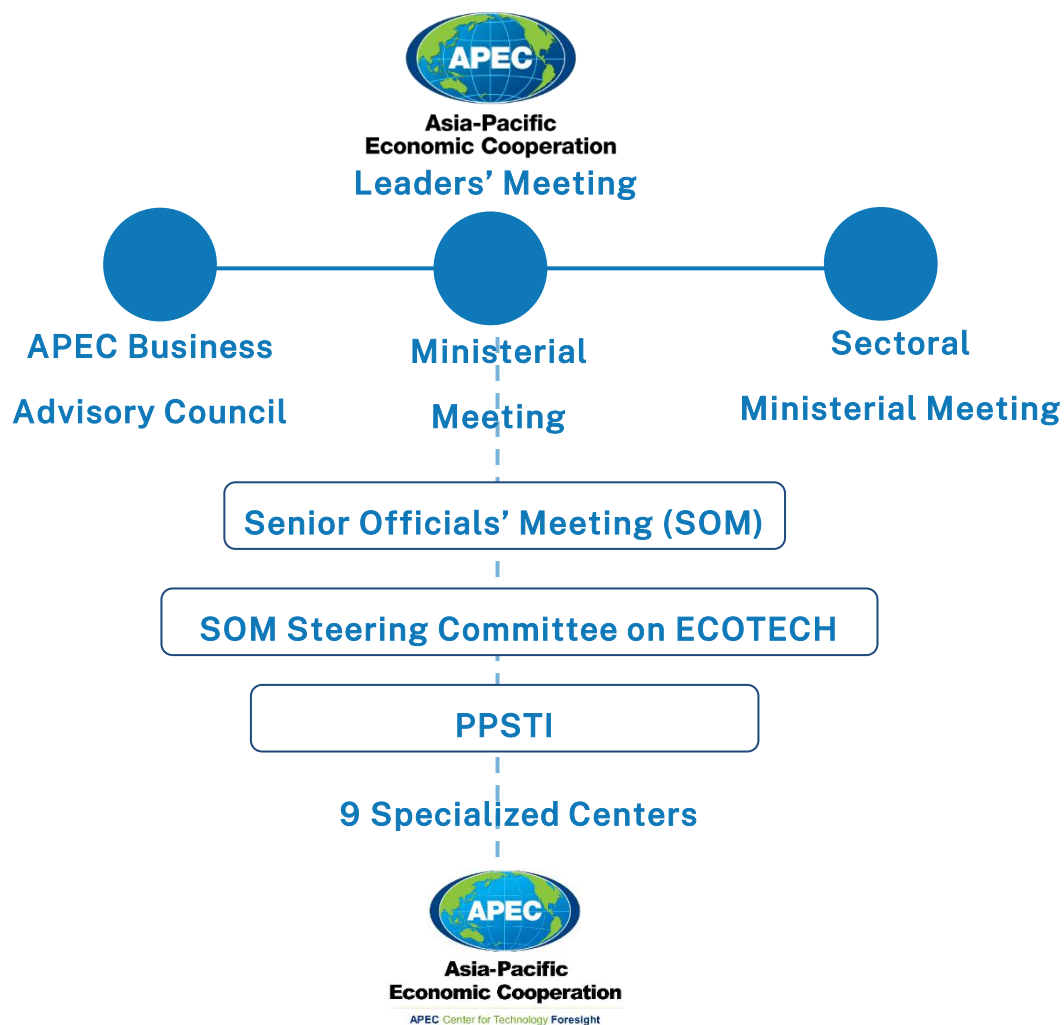
Currently hosted by the **Office of National Higher Education, Science, Research and Innovation Policy Council (NXPO)**, under the Ministry of Higher Education, Science, Research and Innovation (MHESI), Thailand, APEC CTF contributes to APEC through foresight research, capacity building, policy dialogue, and regional network development. Through these roles, the Center strengthens future-oriented thinking and enhances the capacity of APEC economies to design proactive, resilient, and innovation-driven policies for sustainable and inclusive development



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About APEC CTF

Name:	APEC Center for Technology Foresight
Abbreviation:	APEC CTF
Host institution:	Office of National Higher Education, Science, Research and Innovation Policy Council, Thailand (NXPO)
APEC affiliation:	A specialized center under the APEC Policy Partnership on Science, Technology and Innovation (PPSTI)
Core role:	Supporting foresight studies, foresight capacity building, policy recommendations, and regional collaboration on emerging science, technology, and innovation issues



1.1 Mandate

APEC CTF was established to conduct foresight studies on APEC-wide technological issues and to build foresight capacity among APEC member economies. Its mandate has evolved over time in response to the growing importance of anticipatory governance, emerging technologies, sustainable development, and regional policy coordination.

The Center's mandate is to support APEC economies in identifying emerging issues and trends, particularly in science, technology, and innovation, and to translate these insights into policy recommendations and strategic planning inputs.

APEC CTF contributes to APEC by:

- Conducting foresight studies on emerging STI issues
- Developing policy recommendations for APEC and PPSTI
- Supporting member economies in preparing for future challenges and disruptions
- Building foresight capacity among policymakers, researchers, and stakeholders
- Facilitating STI cooperation and knowledge exchange across APEC economies
- Establishing regional foresight networks and joint research initiatives

1.2 Vision and Mission

Vision

To be a trusted regional foresight platform that strengthens APEC economies' capacity to anticipate change, formulate future-ready policies, and cooperate on science, technology, and innovation for sustainable and inclusive growth.

Mission

APEC CTF's mission is to promote the use of foresight as a practical policy capability for APEC economies. The Center supports this mission by conducting foresight studies, building capacity, facilitating policy dialogue, disseminating knowledge, and developing regional networks for foresight and STI cooperation.



Anticipate emerging change

Identify emerging issues, weak signals, technology trends, and future disruptions that may affect APEC economies.



Translate foresight into policy

Develop policy-relevant insights, strategic options, and recommendations to support STI policy formulation and regional cooperation.



Strengthen regional foresight capability

Build foresight skills among policymakers, researchers, experts, and stakeholders through workshops, training, joint projects, and knowledge exchange.

1.3 Role in the APEC Ecosystem

APEC CTF operates within the APEC STI ecosystem as a specialized foresight center under PPSTI. Its role is to provide future-oriented analysis and capacity-building support that can help APEC economies prepare for long-term challenges and opportunities.

The Center supports APEC cooperation in several ways.

- It helps identify future issues that may require policy attention. These include climate change, sustainable development, digital transformation, emerging technologies, carbon neutrality, green technology, and other cross-cutting challenges.
- It supports PPSTI by developing foresight-based policy recommendations and strategic insights. These inputs can contribute to APEC discussions, project development, and regional policy dialogue.
- It strengthens capacity among APEC economies by providing practical training in foresight tools and methods. This is especially important for economies that seek to develop or improve their own foresight capabilities.
- It facilitates collaboration among economies, experts, research institutions, and stakeholders. By convening dialogues and joint activities, the Center helps build a regional foresight network that supports continuous learning and cooperation.

1.4 Milestones

1998

APEC CTF was established in 1998 following the initiative of the Thai Delegation to the APEC Industrial Science and Technology Working Group. Its establishment was endorsed by the Thai government through a cabinet resolution on 3 March 1998.

Expansion of mission

As foresight practices strengthened across the region, the Center's mission expanded from conducting foresight studies to facilitating foresight practices, developing policy recommendations, supporting capacity building, and contributing to PPSTI's STI policy agenda.

1998 onwards: First regional foresight initiative in APEC

The Center became the first and only regional foresight initiative of APEC. It began conducting foresight studies on APEC-wide technological issues and supporting member economies in developing foresight skills.

2026–2029 term

Under its current Terms of Reference, APEC CTF's mandate covers the period from 1 January 2026 to 31 December 2029. The mandate will be reviewed by PPSTI and relevant APEC mechanisms prior to the end of the term.

1.5 Governance and Operational Arrangement

The International Advisory Board (IAB) serves as the principal advisory body of the APEC Center for Technology Foresight (APEC CTF), providing strategic guidance on the Center's direction, relevance, quality of work, and alignment with APEC priorities. The IAB operates in an advisory capacity, while the Executive Director retains responsibility for the management of resources, operations, content, and activities of the Center.

The IAB is chaired by the appointed Chair and supported by members who provide expert advice, promote participation from APEC member economies, support outreach, and monitor progress against the Center's work plans. The Executive Director serves as Secretary of the Board, supported by the Deputy Director and the APEC CTF Secretariat.

The IAB will convene twice a year, or as required, to review ongoing activities, discuss future and potential projects, and provide advice on strategic priorities. The Secretariat will prepare meeting documents, minutes, action points, and coordinate follow-up actions. Relevant stakeholders, including research institutions, private-sector representatives, APEC expert units, and other APEC fora, may be invited when their expertise or support is required.

All APEC-branded activities, outputs, project proposals, and events under APEC CTF will follow applicable APEC rules, guidelines, and procedures, including **PPSTI** endorsement where required. IAB members serve a two-year term, while the APEC CTF mandate covers the period from 1 January 2026 to 31 December 2029, subject to review and renewal in accordance with APEC procedures.

Governance and operational arrangements

Group	Arrangement	Responsible Party
Strategic Guidance	The IAB provides strategic advice, supports alignment with APEC priorities, promotes participation, and monitors progress against work plans.	IAB / IAB Chair / IAB Members
Management and Secretariat	The Executive Director manages resources, operations, content, and activities. The Secretariat prepares documents, minutes, action points, and follow-up.	Executive Director / Deputy Director / Secretariat
Meetings and Engagement	The IAB meets twice a year, or as required. Relevant stakeholders may be invited when expertise, support, or information is needed.	IAB / APEC CTF / Secretariat
Compliance and Review	APEC-branded activities follow APEC rules and require PPSTI endorsement where applicable. IAB members serve a two-year term; APEC CTF mandate runs from 2026 to 2029.	APEC CTF / PPSTI

2. State of Technology Foresight in the Asia-Pacific in 2025

What changed in 2025, and why does foresight matter?

This chapter examines key phenomena shaping the Asia-Pacific region in 2025, with particular attention to emerging signals, early indicators of change, and issues that deserve closer monitoring across APEC economies. Rather than presenting a comprehensive forecast, the chapter highlights important developments that may influence the future direction of technology, innovation, competitiveness, sustainability, and regional cooperation.

The year 2025 has been marked by accelerating technological transformation, rising geopolitical complexity, climate-related pressures, supply chain reconfiguration, demographic change, and growing concerns over food, water, energy, and economic security. These developments are not isolated events. They interact with one another and create new uncertainties for policymakers, institutions, industries, and communities across the region.

In this context, technology foresight provides a useful lens for identifying weak signals and interpreting their possible implications. By observing emerging phenomena and connecting them to broader megatrends, APEC economies can better anticipate future risks, opportunities, and policy needs.

This chapter therefore explores selected signals and emerging issues in 2025 that are particularly relevant to APEC. It aims to support a shared understanding of change in the region and to inform future cooperation in science, technology, innovation, and sustainable development.

Regional Phenomena in 2025

The year 2025 was characterized by overlapping uncertainties that directly affected policy formulation across APEC economies. These uncertainties were not isolated issues; rather, they interacted across technological, economic, environmental, demographic, and geopolitical systems. The following examples illustrate how each uncertainty may appear in an APEC context and why foresight is needed to support more anticipatory policy responses.

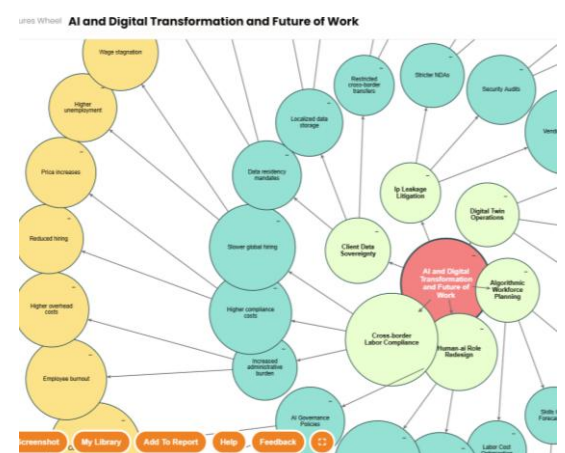
APEC's 2025 theme, "Building a Sustainable Tomorrow," together with the priorities of Connect, Innovate, and Prosper, provides a relevant policy frame for understanding these uncertainties. It highlights the need for regional cooperation on connectivity, digital innovation, sustainability, and inclusive growth.

APEC consists of 21 economies, with around 2.95 billion people, accounting for about 62% of global GDP and 48% of world trade. This means that major policy uncertainties in APEC affect not only individual economies, but also regional trade, investment, labor markets, innovation, and supply chains.

AI and Digital Transformation and Future of Work

APEC has endorsed the APEC AI Initiative 2026–2030 to support AI adoption while reducing capability gaps among economies. APEC's recent economic outlook also estimates regional growth at around 3.2% in 2025, 3.1% in 2026, and 2.9% in 2027, partly supported by AI-related investment.

Why it matters: AI is becoming embedded in public administration, customs processing, healthcare, education, industrial production, and digital services. However, not all APEC economies have the same level of data infrastructure, regulatory capacity, cybersecurity readiness, or digital skills.

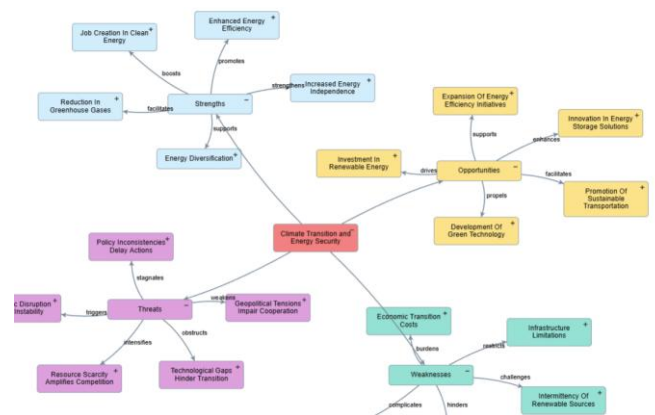


The Future Wheel of AI, Digital Transformation, and the Future of Work (Generated by NXPO: Shaping Tomorrow 2026)

Climate Transition and Energy Security

Electricity demand in APEC could increase by up to 96% by 2060. Electricity generation could rise from around 18,971 TWh in 2022 to about 32,690 TWh under current policies. The share of renewables in electricity generation could increase from 26% in 2022 to 55% by 2060, or even 64% if announced targets are achieved. APEC estimates that cumulative investment in electricity and hydrogen from 2025 to 2060 could reach around US\$57–91 trillion.

Why it matters: Climate transition affects energy systems, industry, infrastructure, agriculture, cities, ports, investment, and competitiveness. Economies that depend heavily on fossil fuels may face pressure to decarbonize, while economies exposed to climate risks may face repeated disruptions to agriculture, coastal infrastructure, and urban systems.



SWOT of Climate Transition and Energy Security
(Generated by NXPO: Shaping Tomorrow 2026)

Green Technology Competition

Global energy investment in 2025 is estimated at about US\$3.3 trillion, with around US\$2.2 trillion going to clean energy and about US\$1.1 trillion going to fossil fuels. Solar PV investment alone is estimated at around US\$450 billion, while battery storage investment is around US\$66 billion.

Another important figure is the concentration of clean technology manufacturing. Around 80–90% of manufacturing capacity for solar PV, wind, batteries, electrolyzers, and heat pumps is concentrated in only a few major economies and the European Union. China alone accounts for about 80% of solar PV module capacity and around 75% of battery manufacturing capacity.

Why it matters: Green technology competition is not only an environmental issue. It is also about industrial policy, trade, standards, finance, manufacturing capacity, intellectual property, and technological leadership.

Supply Chain Resilience

APEC accounts for about 48% of global trade. In the first three quarters of 2025, APEC merchandise exports increased by around 8.0%, while imports increased by around 7.6% compared with the previous year.

Why it matters: APEC economies are deeply integrated into regional and global production networks, especially in electronics, semiconductors, food, energy, medical products, digital technologies, and critical materials.

Supply chains remain exposed to geopolitical tensions, climate events, logistics disruptions, export controls, and resource constraints. A disruption in one part of a technology supply chain can affect manufacturing, trade, employment, and consumer prices across several APEC economies.

Demographic Change

APEC's population is currently around 3.0 billion people. Population growth is expected to slow and may begin to decline around 2035, falling to about 2.2 billion by 2100. The share of people aged 65 and above in APEC increased from 7% in 1990 to about 15% in 2025. APEC's average total fertility rate declined from around 2.5 births per woman in 1989 to about 1.3 births per woman in 2023, below the replacement level of 2.1 births per woman.

Why it matters: Demographic change creates different but connected challenges across APEC. Some economies are ageing rapidly and facing shrinking workforces, rising care needs, pension pressure, and higher healthcare costs. Other economies have younger populations and need to create sufficient jobs, skills, and innovation opportunities.



Momentum Analysis of Aging Society Signals in Asia (Generated by NXPO: Shaping Tomorrow 2026)

3. Highlighted Achievements in 2025

2025 Project Highlights at a Glance

1. APEC-Endorsed Projects

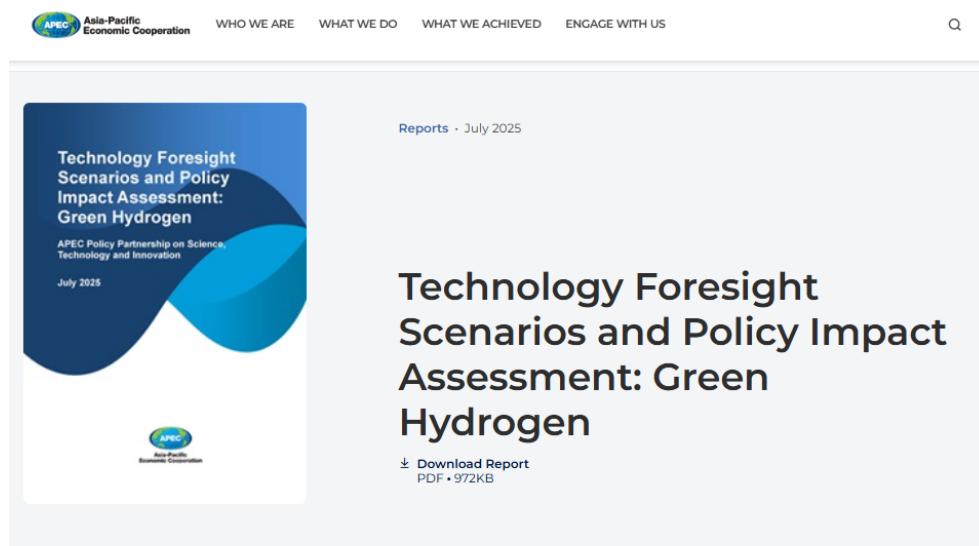
In 2025, APEC CTF advanced three APEC-endorsed projects that reflected the Center's role in applying technology foresight to major regional challenges. These projects addressed issues that are increasingly important for APEC economies, including energy transition, net-zero pathways, green and low-carbon hydrogen, and preparedness for emerging infectious diseases. Collectively, they demonstrated how foresight can help translate complex regional uncertainties into strategic scenarios, policy options, and practical cooperation agendas.

- **PPSTI206_2024A** Comparative Analysis and Foresight of Emerging Infectious Diseases (EIDs) in APEC
Co-sponsoring: Canada; China; Hong Kong, China; Indonesia; Korea; Papua New Guinea; Peru; Chinese Taipei
- **PPSTI_211_2024A** Identification of Emerging Signals Affecting Carbon Neutrality in APEC Using Foresight
Co-sponsoring: China; Indonesia; Japan; Korea; Malaysia; Papua New Guinea; Peru; Russia; Chinese Taipei
- **PPSTI_03_2024S** APEC Energy Transition Towards Net-Zero: Foresight Scenarios and Policy Impact
Co-sponsoring: China; Japan; Korea; Malaysia; Peru; Chinese Taipei

2. Publications

In 2025, APEC CTF published the report **Technology Foresight Scenarios and Policy Impact Assessment: Green Hydrogen** as part of APEC project no. PPSTI_03_2024S, APEC Energy Transition Towards Net-Zero: Foresight Scenarios and Policy Impact. The report was published in July 2025 under APEC publication as a 37-page report.

The publication presents foresight-based scenarios and policy impact assessment on the future role of green hydrogen in supporting the Asia-Pacific region's transition toward net-zero emissions by 2050. It applies STEEP analysis, Foresight Canvas methodology, economic modeling, and participatory workshops involving 42 participants from seven APEC economies.



Published Under
SOM Steering Committee on Economic and
Technical Cooperation (SCE), Policy Partnership
on Science, Technology and Innovation (PPSTI)

Accessed
766
Pages
37

This report is the final report of APEC Energy Transition Towards Net-Zero: Foresight Scenarios and Policy Impact. It analyzes three hydrogen economy scenarios for the Asia-Pacific region through 2050. Using foresight tools including STEEP framework analysis and Foresight Canvas methodology, combined with economic modeling and participatory workshops involving 42 participants from seven APEC economies, it evaluates a Reference scenario (current trends), Carbon Neutrality scenario (moderate hydrogen adoption), and Hydrogen Economy Policy scenario (accelerated green hydrogen deployment). The foresight process enabled stakeholders to explore beyond probable futures to identify transformative pathways. The HEP scenario delivers the strongest outcomes: USD327 billion additional GDP, 40% emissions reduction, and 30 million new jobs by 2050. Key recommendations include standardized hydrogen policies across APEC, enhanced technology transfer mechanisms, workforce development programs, coordinated infrastructure investment, and strengthened research collaboration to establish a borderless regional hydrogen market.

<https://www.apec.org/publications/2025/07/technology-foresight-scenarios-and-policy-impact-assessment--green-hydrogen>



3. Workshops

Throughout 2025, APEC CTF continued to strengthen foresight capacity across the APEC region through the organization of APEC workshops and related foresight training activities. These activities aimed to enhance the knowledge and practical skills of policymakers, researchers, experts, and stakeholders in applying foresight tools, including horizon scanning, weak signal detection, trends analysis, scenario development, and policy dialogue. Through these efforts, APEC CTF helped participants better anticipate emerging changes, understand future uncertainties, and develop more forward-looking policy responses to support sustainable and resilient development in the region.

APEC Foresight Workshop: Resilient Futures for Emerging Infectious Diseases

Date: 10–11 September 2025

Venue: Grande Centre Point
Lumphini, Bangkok, Thailand

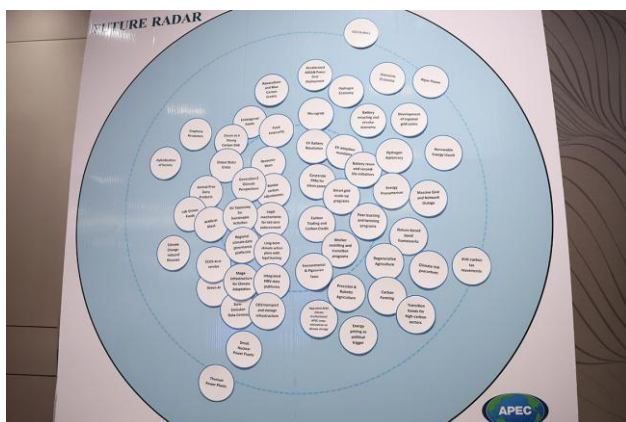
Participants: Over 50 participants
from APEC member economies

Participating economies:

Indonesia; Peru; United States;
Japan; Thailand

Key focus: Foresight for emerging
infectious disease preparedness
and resilience





APEC Foresight Workshop: Identification of Emerging Signals Affecting Carbon Neutrality Using Foresight

Date: 26–27 November 2025

Venue: Pullman King Power Bangkok, Thailand

Participants: 30+ participants

Economies: 8 APEC member economies

Participating economies: Australia; Brunei Darussalam; Indonesia; Republic of Korea; Malaysia; Peru; Chinese Taipei; Thailand

Focus: Emerging signals and trends affecting carbon neutrality pathways



Strategic Foresight for Strategic Development Planning

Date: 29 January 2025

Venue: NXPO, Bangkok, Thailand

Participants: 28 officials from the Secretariat of the Senate

Purpose: Study visit on foresight concepts, tools, techniques, and policy applications



The 7th International Conference on Public Policy (ICPP7)



Date: 2–4 July 2025

Venue: Chiang Mai International Exhibition and Convention Center, Chiang Mai, Thailand
Policy, Chiang Mai

Supported by: NXPO and APEC CTF

Participants: Around 1,100 participants from more than 75 economies

APEC CTF session: “Strategic Foresight and Policy Design: Applying Foresights Towards Disruptive Transformations”

Key focus: Foresight application in environment, health, digital transformation, energy policy, system transitions, and policy design

NSC Policy Design II

Date: 26–28 March 2025

Venue: Amari Hua Hin, Prachuap Khiri Khan, Thailand

Participants: More than 40 officials from the National Security Council

Key focus: Foresight for future security policy and strategic planning



National Nanotechnology Research and Development Roadmap of Thailand, 2028–2032

Date: March – October 2025

Organized by: NXPO in collaboration with the National Nanotechnology Center (NANOTEC), National Science and Technology Development Agency (NSTDA), Thailand

Key focus: Development of the draft Thailand Nanotechnology Roadmap 2028–2032 through foresight and stakeholder



Future of Digital Government and Disaster Management



Date: 5 March 2025

Venue: Abloom Exclusive Serviced Apartment, Bangkok, Thailand

Participants: Around 50 participants from related agencies for disaster

Key focus: Future analysis of digital government and disaster management

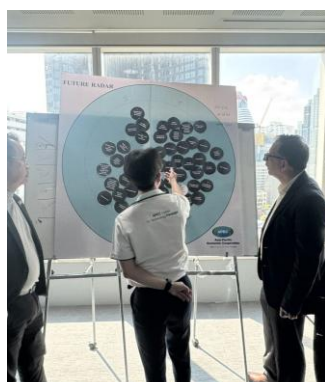
Outcome: Strategic insights and policy scenarios to support long-term national future crisis preparedness

Technology Needs Assessment (TNA)

Date: 2025 - 2027

Supported by: United Nations Framework Convention on Climate Change (UNFCCC), United Nations Environment Programme (UNEP), UNEP Copenhagen Climate Centre (UNEP-CCC), and the Global Environment Facility (GEF)

Key focus: Technology needs assessment to support Thailand's climate action.



**global
environment
facility**
INVESTING IN OUR PLANET



United Nations
Framework Convention on
Climate Change



**UN
environment
programme**

**copenhagen
climate centre**

supported by **UNOPS**

Thailand Foresight Alliance

Date: 17 September 2025

Key milestone: Signing of the Letter of Intent to establish the Thailand Foresight Alliance, with 12 organizations joining as founding partners

Key focus: Building Thailand's national foresight ecosystem and strengthening collaboration among government agencies, academic institutions, policy organizations, and innovation agencies

HORIZON 2030: Launch of a strategic framework to support future-oriented policy directions for Thailand's higher education, science, research, and innovation system



2025 KEY NUMBERS AT A GLANCE

A snapshot of APEC CTF's achievements in 2025
advancing foresight, building capacity, and informing policy across the Asia-Pacific.



3

APEC Projects



3

Workshops



> 200

Participants



10

Economies
Engaged



2

Publications



> 5

Policy Recommendations
Submitted



1

Declaration

4. Foresight Projects in 2025

Comparative Analysis and Foresight of Emerging Infectious Diseases (EIDs) in APEC

PPSTI 206 2024A

- **Fund Source:** APEC Support Fund (ASF)
- **Co-Sponsoring:** Canada; China; Hong Kong, China; Indonesia; Korea; Papua New Guinea; Peru; Chinese Taipei;
- The objective of this project is to enhance the preparedness and resilience of APEC economies to Emerging Infectious Diseases (EIDs) through comparative analysis and foresight tools. It aims to share lessons learned in crisis management, identify critical trends and challenges, plan foresight scenarios, and offer strategic recommendations on STI through literature reviews, online surveys, and foresight workshops. This project will promote collaboration among APEC members and the use of foresight tools to develop strategic recommendations to reduce the impact of future EIDs.

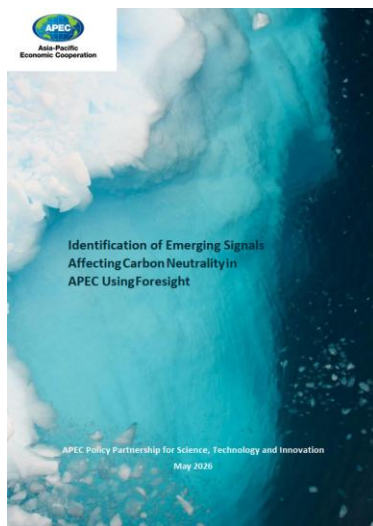
Identification of Emerging Signals Affecting Carbon Neutrality Using Foresight

PPSTI_211_2024A

- **Fund Source:** APEC Support Fund (ASF)
- **Co-Sponsoring:** China; Indonesia; Japan; Korea; Malaysia; Papua New Guinea; Peru; Russia; Chinese Taipei
- Carbon neutrality is one of the challenging goals for APEC economies. Innovative policies and disruptive technologies are significant to achieve this daunting target. However, unpredicted circumstances can accelerate or decelerate progresses toward carbon neutrality. Therefore, APEC economies should anticipate emerging signals leading to those unexpected events and adjust their policies accordingly. To foresee unexpected events, foresight methodologies are widely employed to detect emerging signals referring to signs that are forming and could create considerable changes in the future.
- This project aims to identify emerging signals, particularly those related to science, technology and innovation, that could substantially affect carbon neutrality target. Preliminary research will be conducted to determine a list

of potential emerging signals.

Subsequently, a foresight workshop gathering APEC experts will be held to collaboratively explore critical emerging signals. Recommendations will be proposed for APEC economies to prepare for identified signals.



<https://www.apec.org/publications/2026/05/identification-of-emerging-signals-affecting-carbon-neutrality-in-apec-using-foresight>



- **Methodology:** Applies the **Future Radar** approach to identify, assess, and prioritize emerging signals that could affect APEC's pathways toward carbon neutrality.

APEC Energy Transition Towards Net-Zero: Foresight Scenarios and Policy Impact

PPSTI_03_2024S

- **Fund Source:** Self funded
- **Co-Sponsoring:** China; Japan; Korea; Malaysia; Peru; Chinese Taipei
- This project is a comprehensive effort to tackle the urgent challenge of steering the energy landscape in the APEC region towards a net-zero future. The primary objective is to identify and analyze foresight scenarios concerning the transition of energy-technological issue towards net zero.
- The project will focus on selecting Science, Technology, and Innovation (STI) issues, evaluating scenarios amid uncertainty and criteria with input from stakeholders across various sectors—government, private industry, and communities. By analyzing the economy-wide impacts arising from these scenario. This approach ensures a thorough exploration of potential pathways, considering diverse perspectives and fostering collaboration among APEC economies for the development of effective transition.
- **Methodology:** Applies **Energy Economic Modelling** and the **Foresight Canvas** to assess scenario impacts and translate findings into strategic policy recommendations.



<https://www.apec.org/publications/2025/07/technology-foresight-scenarios-and-policy-impact-assessment--green-hydrogen>



APEC PPSTI Meeting Participation

- APEC CTF participated in the **25th PPSTI Meeting**, held from 24th to 26th February 2025 in Gyeongju, Republic of Korea. The meeting was organized under the 2025 APEC Korea theme, “Building a Sustainable Tomorrow: Connect, Innovate, Prosper,” and provided an important platform for APEC economies to exchange views on regional science, technology, and innovation cooperation.
- Assoc. Prof. Wongkot Wongsapai delivered a presentation titled “**Implications for Emerging Technologies: Opportunities and Challenges in the Era of Disruption**” at the meeting. The presentation was well received by the participants and received positive comments for its insightful analysis of emerging technologies, future opportunities, and key challenges in the era of disruption.
- In addition, on 11–12 August 2025, APEC CTF participated in the **26th APEC PPSTI Meeting**, the second main PPSTI meeting of the year.



APEC Centers Partnership for Science and Innovation

A major strategic partnership highlight in 2025 was the establishment of the APEC Centers Partnership for Science and Innovation. This partnership brought together four specialized APEC centers:

- **APEC Center for Technology Foresight**
- **APEC Research Center for Advanced Biohydrogen Technology**
- **Asia-Pacific Center for Theoretical Physics**
- **APEC Mentoring Center for the Gifted in Science**

The partnership was formally advanced following the PPSTI 26 meeting in Incheon, Korea. On 22 August 2025, representatives of the four centers met in Pohang, Korea, to sign the Declaration on APEC Centers Partnership for Science and Innovation.



A core pillar of this collaboration is capacity building. The four centers committed to promoting multi-year and multi-economy initiatives designed to nurture young talent, exchange expertise, share resources, and disseminate best practices.

Related work

Dr. Srichattrat Chaivongvilan, representing APEC CTF, was invited as a speaker at the **2025 APEC Industry-Academia Collaboration Workshop**, hosted by **APEC Institute of Innovation & Education Development**, held on 27–28 August 2025 in Taipei.

She shared Thailand's experience on future skills and digital talent ecosystem development, contributing to an important regional dialogue on how academia-industry partnerships can support inclusive digital transformation and prepare APEC economies for future workforce challenges.



5. Looking Ahead to 2026

New Mandate: Terms of Reference 2026–2029

- A significant milestone for APEC CTF in the transition from 2025 to 2026 is the renewal of its mandate under the APEC Center for Technology Foresight Terms of Reference for the period 1 January 2026 to 31 December 2029. This renewed TOR was endorsed through the APEC process and represents APEC member economies' continued confidence in the Center's role and value.
- The renewed mandate focuses on three strategic goals: promoting innovation and policy development by identifying emerging STI issues and providing policy recommendations; building capacity and enhancing collaboration through workshops, joint projects, and training programs; and developing a regional APEC Foresight Network and joint research initiatives. The TOR also reinforces APEC CTF's governance structure, including its International Advisory Board and reporting to PPSTI.
- Under the new TOR, APEC CTF will continue to be hosted by NXPO of Thailand, maintaining institutional continuity and strong national support for the Center's activities. The mandate will be reviewed by PPSTI prior to expiration, ensuring ongoing alignment with APEC priorities.

Foresight Project Pipeline

APEC CTF enters 2026 with an active project pipeline that includes ongoing projects, projects under development, and areas being explored for future PPSTI proposals.

Projects	Status
APEC Young Futurists: Frontier Technologies and Solutions for Future Food	Awaiting endorsement by PPSTI
Empowering Women in AI-Enabled Agriculture	Awaiting endorsement by PPSTI
Strengthening Mission-Oriented Frontier Technology Commercialization Ecosystem in APEC	Awaiting endorsement by PPSTI

Roles



Surachai Sathitkunararat, PhD

Executive Director, APEC CTF

President of NXPO

Provides overall leadership for APEC CTF, oversees the Center's strategic direction, budget, and overall operations, and makes key decisions to ensure effective implementation of APEC CTF activities.



Assoc. Prof. Wongkot Wongsapai

Senior Strategist, APEC CTF

Vice President of NXPO

Provides strategic advice, policy guidance, and expert recommendations to support APEC CTF's foresight work, regional cooperation, and long-term strategic development.



Kommate Jitvanichphaibool, PhD

Deputy Director, APEC CTF

Assistant to the President of NXPO

Manages APEC CTF's work programmes, coordinates key activities and partnerships, and supports the operation of the International Advisory Board and related foresight initiatives.

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