

Asia Pacific Perspectives

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Navigating Challenges, Advancing Cooperation



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About the CTPECC

CTPECC is a full member of Pacific Economic Cooperation Committee (PECC), which is an international organization for economic cooperation in the Asia-Pacific region and plays a key role in consultation and advice on APEC's major initiatives and plans. The participation of CTPECC is to assist the government in researching and analyzing economic cooperation plans, and to strive for greater opportunities to participate in cooperation mechanisms and dialogues.

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Between Rivalry and Restraint: Competition and Cooperation in U.S.-China Artificial Intelligence Relations

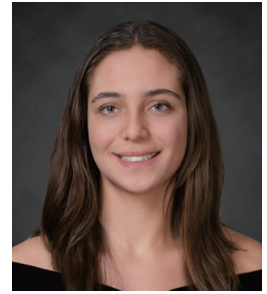
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Introduction: Rivalry with Room for Restraint

The competition between the United States and the People's Republic of China over artificial intelligence has become one of the defining technological rivalries of the 2020s. As Eric Schmidt argues in *Dædalus*, only the two superpowers command the scale of resources, talent, and innovation ecosystems required for global AI leadership.¹ Yet Schmidt's analysis carries a second message: the two ecosystems are too entangled to separate cleanly, giving both rivals reason to constrain destabilizing capabilities and preserve cooperation where interests overlap.

This essay takes that second message seriously. It maps the competitive landscape before drawing on comparative policy research to demonstrate that, beneath divergent national models, meaningful—if limited-convergence exists in local practice.

Together, this subnational convergence and a shared exposure to systemic risks create a viable, though politically constrained, space for bilateral and regional cooperation. The essay concludes by outlining an agenda for the Asia-Pacific and Chinese Taipei's role within it.

The Competitive Landscape in Brief

The competition is positional. China's 2017 New Generation Artificial Intelligence Development Plan set the goal of world-leading AI capability by 2030; Washington's 2019 Executive Order 13859 sought to maintain American leadership, and in January 2025 the second Trump administration made global AI dominance an explicit objective.² Rivalry centers on two principal axes: human capital and compute. On human capital, comparative indices continue

1. Eric Schmidt, "AI, Great Power Competition & National Security," *Dædalus* 151, no. 2 (Spring 2022): 296, https://doi.org/10.1162/daed_a_01916.

to place the United States ahead in AI talent, an advantage reinforced by its capacity to attract and retain foreign-born researchers. Immigration policy, advanced training, and research funding have therefore become critical arenas of competition.³ On compute, Washington views reliance on East Asian semiconductor fabrication as a strategic vulnerability,⁴ while progressively restricting China's access to advanced chips and chipmaking tools.

These controls exemplify what Farrell and Newman term weaponized interdependence. States with jurisdiction over central nodes in global networks can exploit chokepoints to deny adversaries access to critical flows.⁵ Yet chokepoint strategies can generate adaptive responses. Targeted states may pursue indigenous alternatives and develop countervailing sources of leverage—as seen in Beijing's drive for semiconductor self-sufficiency and its export controls on selected critical minerals and related technologies. Such responses may gradually erode the centrality on which coercive leverage rests, even where controls retain significant near-term effects. This reciprocal resort to technological restrictions produces a competitive dynamic that is neither stable nor cost-free, giving both capitals an incentive to define limits to their rivalry.

Divergent Models, Convergent Practices

It is tempting to read the rivalry as a clash of incompatible governance models—a top-down, state-led Chinese approach against a market-driven, participatory American one. Recent comparative research complicates this binary. Drawing on a multi-level analysis of two hundred AI policy documents, Zhu, Wong, Wu, and Zhu find that Sino-American AI policies diverge primarily at the national level but show convergence in local policy practice. Nationally, Beijing sets policy goals and implementation strategies through an overarching national plan, whereas Washington has traditionally relied on voluntary recommendations and treated the private sector as “the main engine for developing AI.”⁶ At the subnational level, however, resource-rich jurisdictions such as Guangdong and Beijing in China, and California and Virginia in the United States, pursue more specific policy goals and customized local strategies. These include, in varying forms, collaboration among government, universities, and industry.

Some convergence is also visible in the regulatory agenda, though not in a straight line. Washington's approach shifted significantly after January 2025. Executive Order 14148 revoked Executive Order 14110 on January 20. Three days later, Executive Order 14179 directed the development of *Winning the Race: America's AI Action Plan*, released in July 2025. The plan is organized around innovation,

2.State Council of the People's Republic of China, New Generation Artificial Intelligence Development Plan, July 8, 2017; President of the United States, Executive Order 13859: Maintaining American Leadership in Artificial Intelligence, February 2019; Executive Order 14179: Removing Barriers to American Leadership in Artificial Intelligence, January 23, 2025.

3.Asian Development Bank, *Harnessing Digital Transformation for Good: Asian Development Policy Report* (Manila: Asian Development Bank, 2025), 9-10, 24-25, accessed May 27, 2026, <https://www.adb.org/publications/asian-development-policy-report-2025>.

4.Asia-Pacific Economic Cooperation, *APEC Internet and Digital Economy Roadmap*, finalized version, October 24, 2017, 1, accessed May 27, 2026, https://www.apec.org/docs/default-source/Groups/ECSG/17_csom_006.pdf.

5.Asia-Pacific Economic Cooperation, “2025 APEC Digital and AI Ministerial Statement,” August 4, 2025, para. 13, accessed May 27, 2026, <https://www.apec.org/meeting-papers/sectoral-ministerial-meetings/telecommunicationsandinformation/2025-apec-digital-and-ai-ministerial-statement>.

6.Lin Zhu, Wilson Wong, Alfred M. Wu, and Minqiang Zhu, “AI Policy Models in China and the United States: A Multi-Level Comparative Analysis of Policy Convergence and Divergence,” *Journal of Comparative Policy Analysis: Research and Practice* 27, nos. 5-6 (2025): 524-527, <https://doi.org/10.1080/13876988.2025.2529277>.

infrastructure, and international diplomacy and security rather than a precautionary regulatory approach. Yet some institutional and technical capabilities developed or expanded under the earlier order—notably work on standards, testing, and model evaluation—remained relevant and were recast within the new policy framework. Read alongside Beijing’s Interim Measures for Generative AI Services and Global AI Governance Initiative, these developments suggest that both governments see advanced AI as requiring public governance capacities beyond market mechanisms, even though they differ markedly in regulatory philosophy, institutional authority, and implementation.⁷ This limited working-level convergence may provide a common vocabulary and practical tools—risk assessment, technical standards, testing, and evaluation—on which future official dialogue could build. The first U.S.-China intergovernmental dialogue on AI, convened in Geneva in May 2024, provided an initial forum for exchanging views on AI risk and safety, including the two governments’ respective approaches to risk management.⁸

Managing Shared Risks: Guardrails in the Military Domain

The first and most urgent area for cooperation is military risk management. Schmidt’s argument is that realism itself compels restraint: AI’s amplification of cyber, conventional, and nuclear capabilities makes rival relationships less predictable and conflicts harder to contain.⁹ Machine-speed operations compress decision time and shrink the space for

de-escalation; autonomous systems may operate in ways that are difficult for adversaries to interpret; AI-enabled intelligence, surveillance, and targeting could threaten second-strike forces and undermine strategic stability. Unlike nuclear warheads, AI capabilities are difficult to count, define, and verify in ways suitable for traditional arms-control arrangements.

Precisely for that reason, the near-term agenda should be modest. Initial dialogue could improve mutual understanding of each side’s broad approaches, develop a shared vocabulary for strategic concepts and risk thresholds, and build on the November 2024 Lima affirmation of the need to maintain human control over nuclear use decisions¹⁰ by exploring more durable bilateral declaratory commitments. Because the integration of AI into nuclear strategy and command-and-control remains at an early stage, there is still an opportunity to establish risk-reduction protocols before deployment patterns become entrenched and narrow the policy space. None of these measures requires deep political trust, but all depend on limited reciprocity, sustained communication, and procedures designed to prevent incidents or misperceptions from escalating beyond intention.

Widening the Space for Cooperation

Beyond guardrails, a positive agenda is available. Because the competitive equilibrium is neither stable nor cost-free, both capitals have reason to bound their rivalry, and Schmidt’s calibration-purposeful

8. Michelle Jamrisko and Augusta Saraiva, “Seven Hours in Geneva Hotel Highlight US-China Struggle on AI,” Bloomberg, May 23, 2024.

9. Schmidt, “AI, Great Power Competition,” 294-296.

10. Jarrett Renshaw and Trevor Hunnicutt, “Biden, Xi Agree That Humans, Not AI, Should Control Nuclear Arms,” Reuters, November 16, 2024.

decoupling only where linkages create unacceptable security vulnerabilities, combined with continued cooperative research and commercial interchange-remains the most sensible framework for doing so.¹¹ Wholesale technological divorce would impoverish basic research in both countries without eliminating security risks. Four domains offer large joint gains, limited military externalities, and some insulation from swings in the broader relationship.

First, frontier AI safety. Both governments have developed policy and institutional capacities for AI evaluation, testing, and risk management, though these differ substantially in scope, transparency, and institutional design. Both have also expressed concern about high-consequence misuse, synthetic media, and AI-enabled risks in biological and cyber domains. These are areas where neither side necessarily gains from the other's failure. A catastrophic accident or major act of AI-enabled misuse could, for example, impose costs on both sides and trigger broader restrictions on the technology. Building on the Geneva track, the two sides could exchange testing methodologies, develop comparable incident-reporting categories for non-sensitive safety events, and pilot voluntary notification of selected safety-relevant frontier tests. Such functional cooperation has precedent in U.S.-China coordination on nonproliferation, pandemic response, and climate change despite broader strategic competition.¹²

Second, global public goods. Health offers a particularly promising case. At its seventy-ninth session, the World Health Assembly adopted

resolutions on precision medicine, equitable access to diagnostic imaging through teleradiology, and smart pharmacovigilance-areas in which AI and digital technologies can support health-system functions, but where validation, interoperability, and regulatory capacity remain practical challenges.¹³ Trusted data-sharing frameworks for public-interest uses such as disease surveillance and climate adaptation, subject to privacy safeguards and purpose limitations, could provide relatively low-politics opportunities for cooperation.¹⁴

Third, standards and interoperability. Where frontier safety concerns joint protection against catastrophic risk, this domain concerns making divergent regulatory regimes legible to one another; the driver is compliance cost rather than shared danger. Interoperability need not require identical laws; it requires systems capable of recognizing comparable safeguards. Certification-based mechanisms pioneered in APEC offer one basis for such interoperability, although China's non-participation in the Cross-Border Privacy Rules (CBPR) system illustrates the practical limits of this approach.¹⁵

Fourth, subnational and track-two exchange. Because convergence is most visible in local policy practice, provinces, states, universities, professional associations, and track-two forums may offer venues for pragmatic dialogue and scholarly exchange on non-sensitive aspects of AI governance.

An Asia-Pacific Agenda

11.Schmidt, "AI, Great Power Competition," 296-297.

12.See Ryan Hass, Ryan McElveen, and Lily McElwee, *Advancing U.S.-China Coordination amid Strategic Competition: An Emerging Playbook*, CSIS Brief (Washington, D.C.: Center for Strategic and International Studies, January 2025).

13.Frances Chang, "Healthcare AI After COMPUTEX and WHA79: From Infrastructure Momentum to Governance Readiness," *Asia Pacific Perspectives*, 2026 Issue 2, 13-14.

14.Kai-Hsin Chang, "Digital Governance for Inclusive AI Communities: APEC's Pathway to Shared Prosperity in the Asia-Pacific," *Asia Pacific Perspectives*, 2026 Issue 2, 2-7.

The Asia-Pacific has both a stake and a role. Many regional economies depend on American technology platforms and Chinese markets alike, and bear compliance costs when great-power regulatory regimes diverge. Because both Washington and Beijing participate, APEC offers a useful venue for regional dialogue. The 2025 APEC Digital and AI Ministerial Statement encouraged collaborative approaches to digital governance, while APEC 2026, under the theme “Building an Asia-Pacific Community to Prosper Together,” offers an opportunity to frame interoperable AI governance as a pathway to shared prosperity.¹⁶ The Global CBPR and PRP Systems illustrate how voluntary, accountability-based certification can facilitate trusted cross-border data flows among participating jurisdictions with differing privacy regimes—a useful, though limited, analogy for AI assurance.¹⁷

Chinese Taipei is well placed to contribute. Its semiconductor and ICT strengths give it an important position in regional AI supply chains, while its combination of advanced technological capacity and deep SME networks equips it to translate responsible-AI principles into practical tools for smaller firms, share experience in digital public services and healthcare AI, and support regional capacity building.¹⁸ That role is not merely aspirational: Chinese Taipei is a founding participant in the Global CBPR Forum, providing an institutional basis for its engagement in trusted cross-border data flows and privacy governance.¹⁹ Above all, an economy deeply embedded in AI supply chains

has a strong interest in effective U.S.-China guardrails, since regional prosperity depends in part on keeping competition between the two AI superpowers within manageable bounds.

Conclusion

U.S.-China AI competition is likely to endure, given the positional goals declared in both capitals. But competition and cooperation are not mutually exclusive—they are layered. Beneath national-level rivalry lies limited convergence in local policy practice;²⁰ beneath declared primacy lies shared exposure to certain risks that neither can fully manage alone. A risk-limiting agenda, grounded in a realist recognition of enduring rivalry, therefore runs on three tracks: bilateral guardrails in the military domain, functional cooperation on safety and global public goods, and regional mechanisms for interoperability to which Asia-Pacific economies, including Chinese Taipei, can contribute. To prosper together, the region needs the two AI superpowers to learn not merely to compete, but to compete within limits—and to cooperate where their interests already meet.

15. Yueh-Ping (Alex) Yang, “The CBPR Model for Harmonizing Digital Governance Regimes: From the APEC to the Global,” *Asia Pacific Perspectives*, 2026 Issue 2, 8-12.

16. Asia-Pacific Economic Cooperation, “2025 APEC Digital and AI Ministerial Statement,” August 4, 2025; Asia-Pacific Economic Cooperation, “China Unveils APEC 2026 Theme and Priorities in Shenzhen,” December 12, 2025.

17. Yang, “The CBPR Model for Harmonizing Digital Governance Regimes,” 8-12.

18. Kai-Hsin Chang, “Digital Governance for Inclusive AI Communities,” 2-7.

19. Global CBPR Forum, “About the Global CBPR Forum.”

20. Zhu et al., “AI Policy Models in China and the United States,” 524-554.

Who is Thinking of the Workers? Artificial Intelligence (AI) and the New Age of Labour Displacement

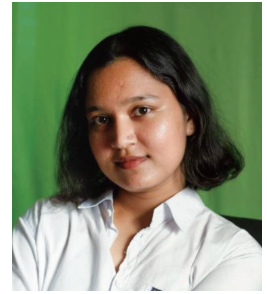
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In 2023, on the backdrop of AI Safety Summit in London, Elon Musk, the earliest investor in DeepMind and Open AI research lab, emphatically argued that “there will come a point where no job is needed-you can have a job if you want one for personal satisfaction but AI will do everything”¹. His interviewer, United Kingdom (UK) Prime Minister Rishi Sunak who was looking for some affirming words from the tech mogul at the time to attract investment in UK tech market was probably not expecting a sensationalist prediction. Among the AI community, Musk’s position is usually considered as “alarmist”, “extreme” and “a negative distraction”², nonetheless, the discussions about AI’s capacity to restructure labour market and its ultimate effect on aggregate employment has been an intrinsic part of AI ~~CEO’s~~ recent conversations. While, some

are seeing the “doom” and others are choosing to be realistic optimists, an inescapable contest is afoot among technology companies or otherwise to produce “agents” propelled with Large Language Models (LLMs) that could do what humans do but faster and cheaper. Major powers spearheading the AI innovation, alike, are in a race to strengthen their stronghold, whereas, the fellow state governments are rushing to establish a foothold along various nodes of AI supply chain.

It is made evident in recent discourse on economics and AI that machine learning is the new node of disruption; a step into “fourth industrial revolution” and an immaculate predictive tool to be developed critically and engaged with necessarily³. Nonetheless, what remains rather inconclusive and still understudied, are more critical questions: How

1.Kleinman, Zoe, and Sean Seddon. “Elon Musk Tells Rishi Sunak AI Will Put an End to Work.” BBC, November 3, 2023. <https://www.bbc.com/news/uk-67302048>.

2.Shead, Sam. “Elon Musk Has a Complex Relationship with the A.I. Community.” CNBC, May 13, 2020. <https://www.cnbc.com/2020/05/13/elon-musk-has-a-complex-relationship-with-the-ai-community.html>.

3.Bryan, Kevin A. “The Economic Impacts of Artificial Intelligence: A Multidisciplinary, Multi-Book Review.” *Journal of Economic Literature* 64, no. 1 (2026): 281-300.

are businesses and firms implementing automation? Will this new transition add to the existing inequality and unfair labour practice? And are states being prompt enough to regulate the nature of restructuring or are more inclined to normalize the technologies and the “few” who control them. These questions matter especially in context of **Asia-Pacific** where employment and unemployment indicators at aggregate level showcase considerable stability, yet, lack of job security, income inequality and weak social protection are clearly evident. This article situates itself within this context and emphasizes that although recent studies conducted by global organizations present a limited evidence of aggregate employment disruption in Asia-Pacific, the governments should direct more attention towards understanding mechanisms through which AI adaption can reduce labour demand, generate substantial worker-level displacement and cause short and medium term highly unequal transitions such as occupational downgrading, earnings losses or gig employment furthering occupational stratification. The warning signs are already evident in the sectors, for instance, digitised professional and technical occupations which are highly exposed to Generative AI.

AI, Asia-Pacific Labour Market and Reports: Reading Between the lines

In recent years, several high-authority studies covering Asia-Pacific have recognised that million workers in the region are potentially exposed to a minimal degree of generative AI, nonetheless, they have not found a strong evidence of outright job displacement. As of 2025, the unemployment rate

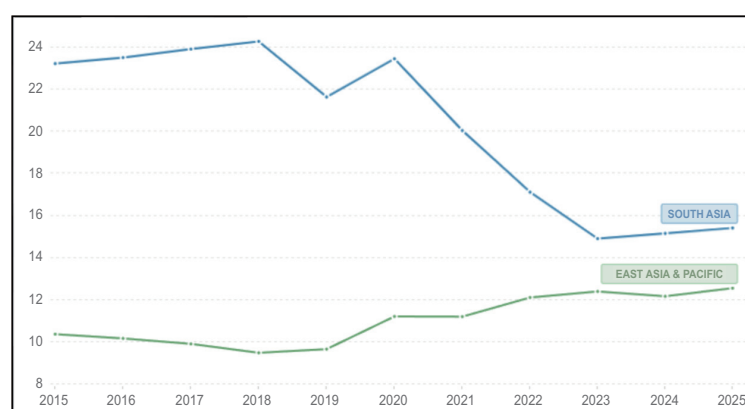
in Asia and the Pacific was estimated at 4.1 percent, which was an improvement compared to the earlier decade and indicated job creation in the region. Certain sub-regions in the region also defied the global decline in manufacturing as a share of total employment, partially due to automation, accounting for 20.3 percent of total employment in Eastern Asia (led by China) and 14.8 percent in South-Eastern Asia (led by Vietnam)⁴. Given the region sees around 65.4 percent employment in the informal sector with varying exposure to **digitisation** and novel technology, the optimistic outlook at aggregate level should be of a less surprise. The uncertainty gets pronounced as one focuses on specific sectors, age groups and AI's role in **informalization** across specific geographies.

Across the nine ASEAN countries, service sector activities such as ‘information processing’, ‘finance and insurance’, ‘administrative work’ and ‘communications’ invites majority of AI exposure potentially impacting 42.2 percent workers in Singapore, followed by Philippines (28.1 per cent), Indonesia (21.7 per cent), Vietnam (20.8 per cent) and Thailand (20.6 percent)⁵. In several of these economies, young adults have a relatively larger share of these tasks limiting them to integrate into formal workforce at the earlier stages. In Philippines, Business Process Outsourcing (BPO) sector accounts for around 8 percent of its national GDP and is fuelled by hundreds and thousands of English speaking and service-oriented young graduates every year. With the adoption of cloud technology and robotic process automation, the younger workforce in the industry sees a greater risk of displacement and a potential shift in income, than the older workers who occupy managerial roles⁶. This pattern is also visible in countries such as Indonesia, China, to some extent

4. International Labour Organization (ILO). Employment and Social Trends 2026. World of Work Series. ILO, 2026.

5. International Labour Organization (ILO). Generative AI and Labour Markets in ASEAN: Significant Exposure, Limited Disruption, Uneven Preparedness. ILO Brief. ILO, 2026.

Figure 1.1 Unemployment, youth total (% of total labour force ages 15-24) (modelled ILO estimate) - South Asia, East Asia & Pacific



Source: ILO Modelled Estimates database (ILOEST), International Labour Organization (ILO)

Thailand and India where entry-level occupations see a high concentration of young people with skills highly replaceable with ‘cost-cutting’ AI.

Addressing the considerably higher rate of youth unemployment has always been a Sisyphean task in the region. South Asia faces one of the highest unemployment rate (15.4 per cent) in the region, a considerable improvement from a decade ago (23.2 percent) in 2015, but on the rising tangent (14.9) since 2023. On a different pattern, East Asia and Pacific’s youth unemployment rate hovers at per cent slightly below that of South Asia, nonetheless, presenting a more precarious scenario where the long-term trend has been more clearly upward, i.e. 10.4 percent in 2015 to 12.5 percent in 2025, with numbers remaining above the pre-pandemic level (see Figure 1.1). With the highest AI adoption rate in Asia, China is also

witnessing a level of urban youth unemployment that has surpassed 20 per cent in July 2026 as a number of fresh graduates enter a labour market with limited entry-level jobs and squeezed wages⁷. As AI is introduced to share the workload in name of productivity and the nature of the work transforms, such as code writers to fixers, an increased risk of reduced wages and possible unemployment is already the reality for some in the region⁸.

Recent theoretical studies, prominently involving developed regions, already showcase an inverse relationship between a firm’s AI exposure and labour income, whereas, early workers aged 22-25 in occupations such as software developer and custom service representatives are shaping out to be potential ‘canaries in the coal mine’⁹. As AI is being layered on already existing work and

6.Cucio, Micholo, and Tristan Hennig. Artificial Intelligence and the Philippine Labor Market: Mapping Occupational Exposure and Complementarity. IMF Working Paper WP/25/43. International Monetary Fund, 2025.

7.The Strait Times. China at Risk of Increased Youth Joblessness as Labour Distress Spreads. July 22, 2026. <https://www.ipag.org/asias-next-economic-crisis-may-come-from-youth-unemployment/>.

8.Kang, Li. “China’s Young Workers Pay the Price of AI before Reaping the Gains.” Think China, April 14, 2026. <https://www.thinkchina.sg/technology/big-read-chinas-young-workers-pay-price-ai-reaping-gains>.

9.Ghosh, Dona, Rajarshi Ghosh, Sahana Roy Chowdhury, and Boudhayan Ganguly. “AI-Exposure and Labour Market: A Systematic Literature Review on Estimations, Validations, and Perceptions.” *Management Review Quarterly* 75, no. 1 (2025): 677-704. <https://doi.org/10.1007/s11301-023-00393-x>; Brynjolfsson, Erik, Bharat Chandar, and Ruyu Chen. “Canaries in the Coal Mine? Six Facts about the Recent Employment Effects of Artificial Intelligence.” November 13, 2025.

labour inequalities across sectors and countries in Asia-Pacific, a potential disconnect between visible labour-market indicators, actual restructuring and the policy frameworks necessary to manage it is highly plausible and is necessary to be closely monitored.

The “Silent Displacement” of the Middle

There is a general agreement among economist historians that previous waves of automation did not lead to permanent mass unemployment; new machines displaced tasks while created new jobs and industries eventually. This history is often used to reassure the public and gift-wrap the AI revolution as a story of job creation, greater productivity and more opportunities. That may well happen, yet, as Brian Merchant showcases, the same ‘relentless’ and ‘authoritative-sounding’ bestowal of ‘mass automation as technological destiny’ has been levied against workers as well since they came face to face with big machines in Industrial Revolution¹⁰. What makes this wave of automation different or relatively erratic from the earlier ones is its capability to perform cognitive and knowledge based tasks that have emboldened social mobility, consumer demand and remarkable growth stories in various Asia-Pacific economies.

With firms and companies working with a uniform assumption that labour replacement rather

than augmentation will make them competitive, IT industry is increasingly observing ‘silent’ or ‘quiet’ layoffs, where, businesses are openly cutting off staff, while broadly framing it under categories of ‘restructuring’ and ‘optimization’ across Asia-Pacific. India’s largest IT firm, Tata Consultancy Services, announced approximately 12,000 layoffs in 2025 due to ‘skill mismatch’, while its true workforce decreased by nearly 20,000 in the following quarter, a gap that the employee union NITES called as ‘deliberate underreporting’¹¹. On the similar tone, Panasonic decided to invest around 500 billion yen in supporting AI infrastructure, while scaling up the planned job cuts to 12000 from previously decided number of 10000 jobs globally¹². Major tech firm, Oracle also underwent a wave of layoff cutting 21,000 jobs that constituted 13% of its workforce to fund AI infrastructure¹³.

To add, the five largest internet firms in the China, Tencent, Alibaba, Byte Dance, Baidu, and JD.com have also been reported to eliminate large numbers of positions over a span of eighteen months, with Alibaba specifically reducing its staff by 30 to 40 percent¹⁴. A related, but, distinct concern also came from the corner of China’s voice actors, whose voices were cloned by AI systems and reused in advertisements and narration without their consent or compensation, leaving several to pursue individual and uncertain lawsuits¹⁵. Until now, Chinese

10. Merchant, Brian. *Blood in the Machine: The Origins of the Rebellion against Big Tech*. Little, Brown and Company, 2023.

11. Press Trust of India. “TCS Headcount Drops 20,000 in Q2; NITES Alleges Company Downplaying Large-Scale.” *The Economic Times*, October 10, 2025. <https://hr.economictimes.indiatimes.com/news/industry/tcs-headcount-drops-20000-in-q2-nites-alleges-company-downplaying-large-scale-layoffs-by-under-reporting/124443195>.

12. Stevenson, Reed, and Mari Kiyohara. “Panasonic Targets Further AI Growth to Build on Record Valuation.” *Yahoo Finance*, July 1, 2026. <https://sg.finance.yahoo.com/news/panasonic-targets-further-ai-growth-185859828.html>.

13. Min-joo, Park. “Oracle Plans More Job Cuts After Slashing 21,000 to Fund AI Buildout.” *Seoul Economic Daily*, August 13, 2026. <https://en.sedaily.com/international/2026/08/13/oracle-plans-more-job-cuts-after-slashing-21000-to-fund-ai>.

14. Chen, Laurie. “China Inc Deploys ‘quiet’ Layoffs as Beijing Promotes AI Adoption.” *Reuters*, June 10, 2026. <https://www.reuters.com/business/world-at-work/china-inc-deploys-quiet-layoffs-beijing-promotes-ai-adoption-2026-06-10/>.

15. Yiwen, Cai. “The Chinese Voice Actor Forced to Prove He’s Human.” *Sixth Tone*, June 10, 2026. <https://www.sixthtone.com/news/1018753>.

courts have checked these actions and ruled against companies that seek to replace workers with AI within its jurisdiction on case by case basis, nonetheless, these events are not just coincidences and limited to one scenario. They are forewarnings that demand a collective discussion to determine the nature, speed and ethics with which automation needs to be introduced in the region.

The Nobel Prize-winning economist, Daron Acemoglu, is considerably cautious about assuming that the market will automatically rebuild the opportunities it displaces in the rush towards AI. As technological progress has never been neutral, he is wary of AI's potential to monitor workers, sideline labour and deepen inequality as it displaces workers, but do not create new jobs for the same workers who were displaced¹⁶. In economies such as India, where, white-collar workers constitute a small fraction, but drive a sizeable discretionary spending have a potential to weaken its consumption economy and by large the demand for service sector that has propelled its unconventional growth. The direction in which technology develops depends on the incentives facing firms and the choices made by institutions and policymakers. As highlighted by United Nations Development Programme report The Next Great Divergence, the growth of gig economy provides the ideal and fertile ground to understand the precariousness of the tech-driven work i.e. 'lack of job security', 'patchy social protection', 'income volatility' and the informalization of labour market with highly limited 'legal protection in terms of safety and security'¹⁷.

APEC's Opportunity for Preventive Action

With every significant economy in the region competing for AI investment, throughout the Asia-Pacific, the policy architecture is predominantly oriented toward adaption and productivity. The labour market consequences are regulated through exiting retrenchment, consultation, discrimination and workforce transition laws which makes it extremely difficult to isolate AI or automation related impact. The concern becomes more pronounced for the individuals who train the AI systems and are categorized under ambiguous terms and employed as gig or contract workers. Till now, governments have acknowledged and opted for oversight statements, voluntary corporate accountability, postponed sanctions, and case-by-case judicial rulings to be in the race, nonetheless, the regulation should also examine the process through which innovation is being pursued.

California is currently considering legislation specifically addressing AI-driven technological displacement and reviewing whether its existing worker adjustment laws needs to be modernized for AI-driven workforce disruption. Singapore Ministry of Manpower has also acknowledged that it is difficult to capture AI and automation related disruption more accurately in retrenchment statistics. APEC economies should strengthen mechanisms and redundancy frameworks that can capture technology-driven displacement. Better data on the distributional consequences of automation will allow policymakers to move beyond assumptions and ensure that the gains of AI are shared more broadly and the workers and communities are not treated as afterthoughts.

16.DeLollis, Barbara. "MIT's Daron Acemoglu to Business Leaders: Unchecked Power of Big Tech Poses Risks as AI Reshapes Society." Feature. Institute for Business in Global Society, April 28, 2024. https://www.hbs.edu/bigs/insights-ai-wealth-gap?utm_source=chatgpt.com.

17.United Nations Development Programme report The Next Great Divergence

Leveraging Cross-fora Collaboration to Enhance Resilient Growth: From Energy Transition to Disaster Preparedness

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Introduction

The Emergency Preparedness Working Group (EPWG) has recognized the emergence of a “new normal” in environmental dynamics¹, in which intensified climate change and extreme weather events have significantly increased the frequency and severity of natural disasters in recent years. According to the World Meteorological Organization (WMO), the Asia-Pacific region remains one of the most disproportionately impacted are by high-impact weather and climate events.² Moreover, these persistent disruptions are no longer isolated incidents, as they have evolved into systemic crises that increasingly strain both regional and global supply chains, thereby undermining long-term economic stability across the Asia-Pacific. In this case, disaster preparedness stands a crucial position in terms of enhancing regional sustainable and resilient growth.

In response, the EPWG has been at the forefront of championing disaster risk reduction (DRR) and climate change adaptation (CCA). Over the past few years, member economies have consistently reaffirmed their commitment to fostering a more disaster-resilient region, as outlined in the 2023 updated APEC Disaster Risk Reduction Framework

(DRRF)³, which provides the essential blueprint for shifting from reactive disaster response to a holistic model of risk reduction and proactive recovery. The 2025 APEC Leaders’ Gyeongju Declaration has also underscored the pivotal role of transformative technologies, such as Artificial Intelligence (AI), in addressing environmental stressors.⁴ These efforts closely align with the APEC Putrajaya Vision 2040, which underscores greater cooperation in emergency preparedness and disaster risk reduction to foster “strong, balanced, secure, sustainable, and inclusive growth” across the region.⁵ Nevertheless, we believe that further cooperation across relevant fora is the next step for further progress in disaster resiliency in the region. By applying innovative research and improving existing tools, we can apply proven solutions to new problems to meet emerging challenges, thereby ensuring a more agile and prompt response to severe climate disasters and enhancing regional resilience.

The Encounter of Disaster Preparedness and Energy Transition

In July 2025, Typhoon Danas triggered widespread emergency mobilizations across coastal regions in

Taiwan. Although Typhoon Danas was classified only as a moderate level upon landfall, it generated powerful gale-force winds. Having been spared from direct typhoon strikes since 1958, Chiayi suffered from a prolonged gap in disaster preparedness. This vulnerability of aging infrastructure was further compounded by the area's flat topography, with the coastal plain lacking natural barriers to buffer the destructive winds and torrential rainfall, thereby significantly exacerbating the overall storm damage. Despite lingering in the region for a mere six hours, the storm tore off roofs of residential and agricultural structures, snapped approximately 3,500 utility poles, and toppled high-voltage pylons, triggering critical transmission failures and large-scale blackouts that impacted over one million households, severely impacted local aquaculture operators. In some remote communities, the prolonged power outages exceeding 100 hours triggered mass mortality among fish and shrimp due to a fatal drop in dissolved oxygen. The resulting torrential rainfall inflicted an estimated 113 million US dollars in economic losses, concentrated in the agricultural and aquaculture sectors due to power outages. This underscored the critical vulnerability of Taiwan's long-reliant centralized power grid against extreme climate events, and therefore prompted regional experts to rethink infrastructure design to enhance energy resiliency, as there is no doubt that power and energy stand a crucial position when it comes to emergency preparedness.

This disaster was not a crisis of power shortage, but rather a failure of the centralized power grid, which was severely crippled by the storm and rendered incapable of delivering electricity to households and farms. In fact, the stricken region possessed abundant energy resources that could have mitigated these heavy losses if properly managed and localized. According to the official data, the four hardest-hit areas boast a combined solar PV installed capacity of approximately 6.89 GW, accounting for nearly 49% of Taiwan's total solar power in 2024.⁶

Had this locally generated power been consumed directly through a decentralized framework, rather than being transmitted to a centralized substation before redistribution, the catastrophic blackouts could have been largely averted.

In fact, since 2016, promoting the energy transition has been at the center of Taiwan's energy policy agenda with a target to derive 20% of total electricity generation from renewable sources. Given Taiwan's high population density and scarce land resources, maximizing land efficiency through "dual-use" strategies is critical to achieve the goal, and this has fostered the symbiosis system of renewable energy and other sectors in the region.

Symbiosis System of Electricity and Local Sectors- The "Aquavoltaic" System

It is this very green energy transition policy, which was not originally designed for emergency preparedness and tackle emergency climate incidents, that has ultimately revealed a groundbreaking pathway for enhancing disaster resilience. More specifically, the widely deployed local energy infrastructure of "aquavoltaic system," which operates as a symbiosis of fishery and solar power, has inspired experts to reevaluate its utility. This infrastructure is now recognized as a possible tool for strengthening localized emergency readiness, particularly in mitigating the catastrophic power outages that occur when typhoons strike the centralized power grid. In this case of Typhoon Danas, the centralized infrastructure collapsed under the stress of the severe storm, leading to prolonged blackouts that caused the failure of critical life-support systems; the immediate deactivation of water pumps and oxygen aeration systems decimated entire fish stocks within hours due to the rapid depletion of dissolved oxygen. Had the power generated by these on-site PV panels been utilized directly rather than relying on the vulnerable centralized grid, these massive fishery and economic

losses could have been largely averted. Driven by this innovative insight following the disaster, regional experts are now pursuing a strategic shift to harness this setup as a multi-functional climate adaptation tool, seamlessly integrating emergency preparedness with long-term economic sustainability.

With the primary driving force behind Taiwan's original promotion of aquavoltaic system is the achievement of a symbiotic land-use strategy, this initial conceptual design was strictly confined to economic synergy and clean energy generation. Structurally, these systems were engineered under a traditional "grid-tied" model, meaning all solar power generated on-site was fed directly back into the centralized national grid rather than being accessible to the farms themselves. Consequently, when Typhoon Danas knocked out the primary transmission lines, these massive coastal solar arrays became completely useless to the local ponds, leaving vital water pumps and aerators paralyzed despite megawatts of power potentially floating right above them.

Nevertheless, in Tainan's Beimen District, an aquaculturist managed to keep his two-hectare fish stocks unharmed throughout the grueling five-day post-storm regional blackout.⁷ While aligning with the government's policy of solar panel deployment, the owner had strategically modified his facility's infrastructure configuration. Rather than erecting the 40 photovoltaic panels directly atop the open fish ponds, he opted to install them on the reinforced rooftops of his fishery processing facility and storage plants. More importantly, the owner bypassed the standard grid-tied commercial models by configuring his site as a decentralized power hub, integrated with a localized energy storage system (ESS). Under this autonomous design, the electricity generated daily was diverted and prioritized for immediate on-site utilization rather than directly routing it into the central grid solely for feed-in-tariff profits. The farm was therefore able to operate in an "island mode" which insulated itself from the

macro-grid's collapse. This case serves as a crucial milestone that has inspired regional experts to not only promote renewable energy purely for the sake of "Net Zero", but also rethink the design of the aquavoltaic system and integrate it into broader emergency preparedness frameworks.

Forging Cross-Sectoral Resilience through Collaborative Networks

Taiwan faces the critical task of strengthening power grid reliability. Implementing a disaster-resilient distributed power grid offers a proactive framework, utilizing localized generation to reduce vulnerability during natural disasters. Crucially, this infrastructure was originally designed to achieve energy transition targets rather than tackle disasters. This technological convergence underscores how energy transition initiatives yield unexpected co-benefits for broader disaster risk reduction. From a disaster preparedness perspective, decentralized microgrids resolve the logistical "last mile" dependency of traditional relief, ensuring localized life-support infrastructure remains operational immediately without waiting for macro-grid repairs. Re-purposing carbon-reduction policy into an emergency preparedness mechanism reveals that integrated renewable energy infrastructure is a vital, multi-functional asset capable of enhancing community resilience against climate-induced shocks. The profound insight from Taiwan's microgrid evolution is that achieving "strong, balanced, sustainable, and inclusive growth" does not always demand entirely new inventions. Microgrids conceptualized for net-zero emissions demonstrate that strategic pivots can convert passive green assets into active crisis-defense nodes. Unlocking these latent capabilities requires breaking down institutional silos through cross-sectoral collaboration. While grid construction was driven by the energy sector, integrating agricultural innovations brought aquavoltaic

systems into reality. Furthermore, incorporating risk management expertise transformed conventional grids into decentralized, bidirectional microgrids. This transformation relies heavily on synergy among government authorities, civic organizations, and private enterprises through Public-Private Partnerships (PPPs). Engaging private tech firms to deploy advanced Energy Management Systems (EMS) and aligning with local water and environmental regulators proves that comprehensive resilience is an ecosystemic outcome rather than the responsibility of a single agency.

Within the regional architecture, APEC stands as the premier forum to incubate and scale these complex, multi-functional ideas and solutions. Operating on principles of open dialogue, non-binding commitments, and information exchange, APEC serves as an agile policy incubator uniquely suited to address interconnected challenges that formal, single-domain institutions often address in isolation. This flexibility allows member economies to move past conventional constraints and explore the structural cross-purposing of technical assets. To fully

leverage these opportunities, future progress must be driven by deliberate cross-fora collaboration, for instance in this case of fostering disaster preparedness through the infrastructure of energy transition, such breakthrough requires institutional synchronicities between EPWG and EWG. Joint initiatives and joint meetings between these sub-fora can foster mutual learning, helping economies co-develop technical and regulatory standards for flexible, decentralized energy hubs. While this collaboration between the two fora could serve as a starting point, more cross-fora engagements directly advance the core objectives of the APEC Putrajaya Vision 2040. Today, the Asia-Pacific region confronts unprecedented challenges, characterized not only by a fractured geopolitical landscape, but also by increasingly volatile and catastrophic climate events. Ultimately, it is through these innovative, cross-sectoral partnerships fostered within APEC that the region can effectively navigate the “new normal” of environmental volatility, securing an open, dynamic, resilient, and peaceful Asia-Pacific community for the prosperity of all people and future generations.

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