Mid-Term Progress Review of APEC Education Strategy 2016-2030

Acknowledgment

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Appreciation also goes to the ad-hoc committee comprised of Chile, New Zealand, and the United States, for their invaluable guidance and support throughout this process. Their expertise and collaboration have greatly enriched the planning and outcomes of this review.

The report is a synthesis of data generously provided by Australia; China; Hong Kong, China; Peru; Malaysia; New Zealand; the Republic of Korea; Chinese Taipei, and the United States. We are particularly grateful to those who generously took time to take interviews, offering critical perspectives that have deepened our understanding of the *Strategy*'s implementation and impact.

This report also builds on the *Progress Report on the Implementation of APEC Education Strategy: 2016-2021*, completed by former EDNET Coordinator's team, ensuring a robust and data-driven foundation for this review.

This midterm review, as part of the ongoing efforts to enhance and advance education cooperation among APEC member economies, is accomplished under the leadership of the Education Network Coordinator Dr. Zhao Yuchi with strong support from the Human Resources Development Working Group and APEC Secretariat, ensuring that the analysis was thorough, relevant, and impactful.

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I. Introduction

APEC Education Strategy (2016-2030) (hereinafter referred to as the *Strategy*), endorsed at the 6th APEC Education Ministerial Meeting in 2016, created a vision for education development towards 2030. It is the first education blueprint since the inception of APEC and reflects the pivotal role of education in economic growth and regional integration. As a framework to guide future projects and collaborative initiatives for the benefit of the region, the *Strategy* encompasses three objectives and nine priority actions, outlining a path to a strong and cohesive APEC education community. An accompanying action plan was developed and endorsed by HRDWG members in 2017, setting out nine targets and thirty indicators for economies to plan and implement projects and initiatives aligned with the *Strategy*.

The *Strategy* places a unique emphasis on linkages between education and quality growth, highlighting three pillars, enhancing competencies, accelerating innovation and increasing employability.

During the 40th APEC HRDWG Education Network Meeting held in May 2023, the EDNET members agreed to conduct the mid-term review to assess their relevant efforts. This mid-term review therefore aims to take stock of the progress made in the region, as well as propose the best way forward in working towards the vision of the nine targets.

1.1 Surveying the Education Landscape in the Asia-Pacific Region

The review is situated in the changing education landscape in the Asia-Pacific Region. Since the adoption of the *Strategy*, the economies have experienced substantial challenges, including the COVID-19 pandemic, economic turbulence, climate emergency, and the rise of artificial intelligence. Rapid technological advancements have positively impacted education systems by providing online learning and cross-border opportunities, while introducing issues like cybersecurity, privacy, data sovereignty, mis/disinformation and compromise to educational standards and engagement.

The year 2023 is the midway mark for progress toward achieving the objectives of the *Strategy*. Given the centrality of the *Strategy* to the work of EDNET, conducting a mid-term review at this point is well-fitted to assess our economies' continuous efforts in the integration of the *Strategy* and its action plan into relevant activities, projects, and plans.

For this purpose, an ad-hoc committee has been established, involving representatives from Chile, New Zealand and the United States as well as current and former EDNET Coordinator's team.

1.2 Constructing a Comprehensive Evaluation Framework

Through joint efforts of the ad-hoc committee as well as the EDNET members, a comprehensive evaluation framework has been developed.

1.2.1 Core Objectives

The mid-term review aims at the following core objectives:

- Assessing the overall effectiveness of the *Strategy*;
- Identifying the policies, projects and initiatives in member economies aligned

with the *Strategy*;

- Evaluating the *Strategy'*s impact on education systems within the economies;
- Highlighting challenges encountered and positive factors contributing to the success of the *Strategy*;
- Providing recommendations to enhance future implementation of the *Strategy*.

1.2.2 Key Perspectives

The following perspectives have been integrated in reviewing the progress made and identifying areas for improvement.

Education policy: APEC members' education policies reflect education reform aligned with the *Strategy* or in its own right. Therefore, it is critical to examine relevant education policies as well as strategies and plans, taking into consideration the changes over time and space to ensure the validity of the *Strategy* as a regional framework.

International development: EDNET serves as a regional platform for promoting education cooperation. While APEC members' policies are the building blocks for EDNET initiatives, international development agendas set forth visions and objectives agreed at regional or global level. Reviewing regional efforts within the international development landscape is thus important for orienting the efforts to global priorities.

Capacity building: Capacity building is indispensable to the continuous development of human capital and is the fundamental step toward achieving the objectives outlined in the *Strategy*. Through the lens of capacity building, projects and activities will be examined in an approach that emphasizes equity, sustainability and efficiency.

Education cooperation: At the core of all APEC initiatives lies the promotion of regional cooperation for joint development. Therefore, cooperation within and beyond the EDNET/HRDWG community is taken into account to ensure the findings and lessons drawn relevant to the mission of APEC.

Inclusion and equity: the review takes an inclusive approach that encompasses the needs of all the people of APEC members in particular, with a view to advancing gender equality and empowering traditionally disadvantaged and marginalized groups, including Indigenous Peoples, migrants, and persons with disabilities.

1.2.3 Evaluation Criteria

The evaluation framework comprises six dimensions: relevance, coherence, effectiveness, efficiency, impact, and sustainability. Key evaluation questions are identified in each dimension in accordance with the objectives of the *Strategy*.

1.3 Employing a Mixed Methodology for Synthesis and Reporting

The mid-term review uses a variety of means of verification and extract evidences from multiple sources. The triangulation of evidences has been undertaken, to corroborate findings, deepen understanding, and construct a comprehensive account.

1.3.1 Research Instruments

The research instruments for the mid-term review were designed to track the progress in implementing the *Strategy* and its action plan toward the vision "a strong and cohesive education community characterised by inclusive and quality education that supports sustainable economic growth, social well-being and employability in APEC

economies", focusing on projects and initiatives that align with the objectives of the *Strategy*, in particular, enhancing and aligning competencies to the needs of individuals, societies and economies, accelerating innovation and increasing employability, while taking into account individual economies' circumstances. They are employed to identify good practices, draw lessons, examine existing and emerging challenges and opportunities, as well as clarify priorities for future efforts.

The research instruments include a matrix of projects and initiatives, a case study template, and a sample interview questionnaire. The matrix and the case study template were circulated by email to collect the data on relevant projects and initiatives. The interviews were conducted via zoom, with each session lasting approximately 60 minutes.

1.3.2 Data Collection

The data collection started with projects planned and implemented within the timeframe of the *Strategy* as well as relevant policies and initiatives provided by EDNET members, complemented by desk review of relevant documents, in particular, those from UN/SDG data source.

Key informants have been interviewed to obtain rich and nuanced details. Case studies are also conducted to showcase exemplary projects implemented by economies with typical representation in terms of geographic location, economic level and governance system.

Nine economies – Australia; China; Hong Kong, China; Peru; Malaysia; New Zealand; The Republic of Korea; Chinese Taipei, and the United States – have taken part in the review by submitting the matrix, taking interview and/or providing case studies.

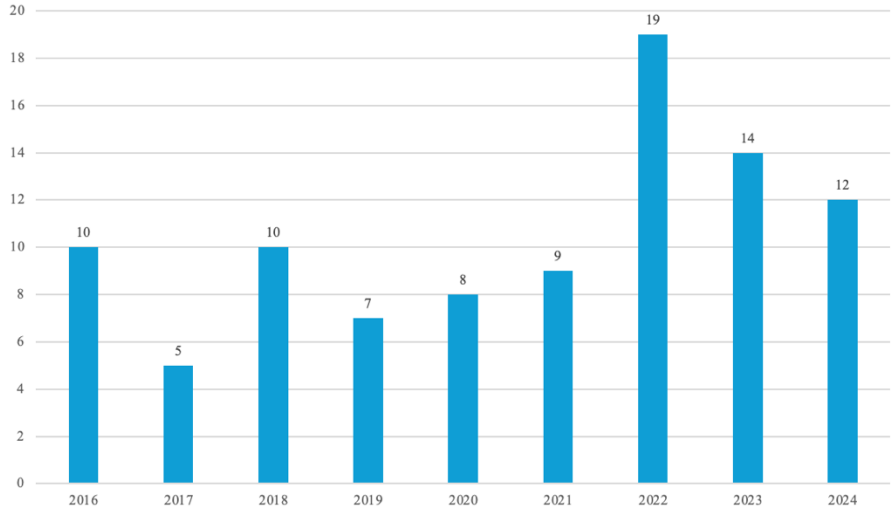
1.3.3 Data Analysis

Using a mixed approach that combines qualitative and quantitative methods, key trends are identified to provide a comprehensive understanding of the progress in the implementation of the *Strategy*.

1.4 Analysing the Trends in Project-Based Cooperation

Since 2016, a total of 94 education-related projects have been undertaken by EDNET members (See Figure 1), ranging from the highest number of 19 projects in 2022 and the lowest number of 5 projects in 2017.

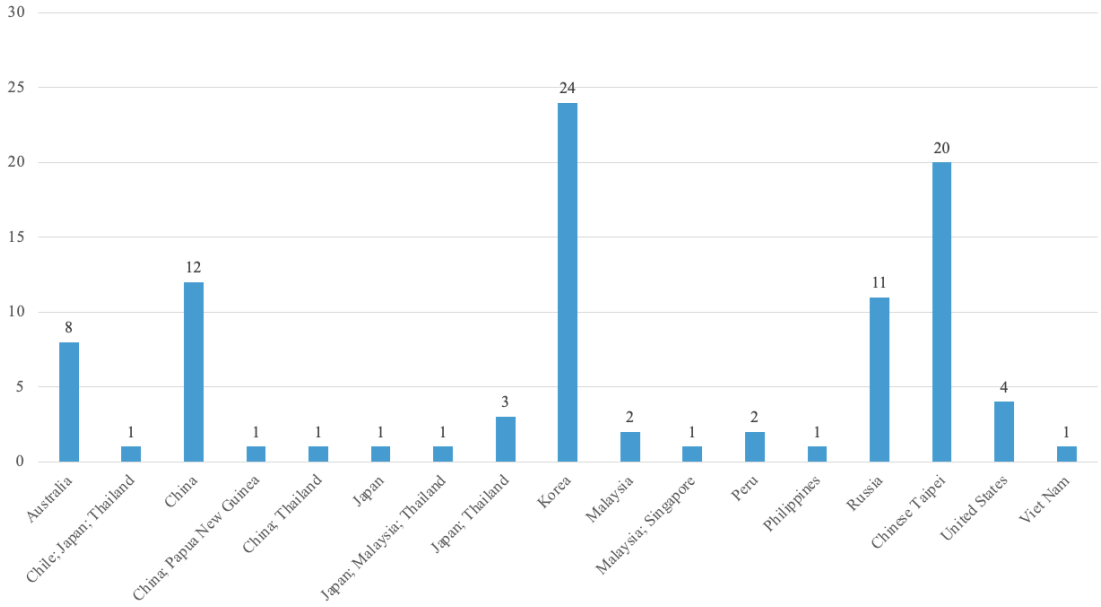
Figure 1. Number of APEC Education Projects by Year (2016-2024)



Source: APEC Project Database.

In terms of the number of projects undertaken by each economy, The Republic of Korea stands at the top of the list (19), followed by Chinese Taipei (16), China (11) and Russian Federation (10) as shown in Figure 2. It is noteworthy that the majority of projects implemented by The Republic of Korea and Russian Federation are self-funded, in particular, in the form of annual events, such as APEC Future Education Forum hosted by The Republic of Korea and APEC Conference on Cooperation in Higher Education in Asia-Pacific Region hosted by Russian Federation. In contrast, a larger share of Chinese Taipei's projects is funded through APEC. China exhibits a relatively balanced approach to project funding, with a near-equal division between APEC-funded and self-funded projects.

Figure 2. APEC Education Projects Undertaken by APEC Members (2016-2024)



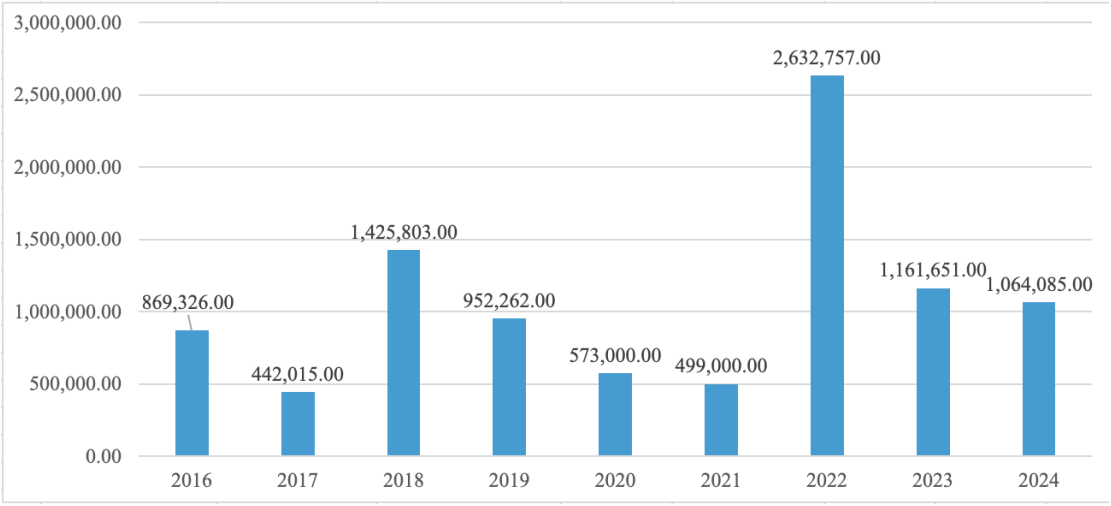
Source: APEC Project Database.

The total cost of these projects exceeds US$ 9.6 million, of which APEC-funded projects total USD 5.1 million and self-funded projects total USD 4.5 million. The

investments into education-related APEC projects, APEC-funded and self-funded combined, has fluctuated over past eight years. After an initial peak in 2016 with over USD 869,000, the funding saw a sharp drop in 2017, the Year of Viet Nam, followed by a substantial surge in 2018, the Year of Papua New Guinea, reaching over USD 1.42 million. The following years witnessed a decline, with funding levels falling below USD 1 million in 2019 and further dropping in 2020 and 2021, due to COVID-19. However, in 2022, the year of Thailand, there was a dramatic increase, reaching the highest amount of over USD 2.63 million, and then decreasing again in 2023 (See Figure 3).

Figure 3. Expenditure of APEC Education Projects (2016-2024)

In US Dollars, by year

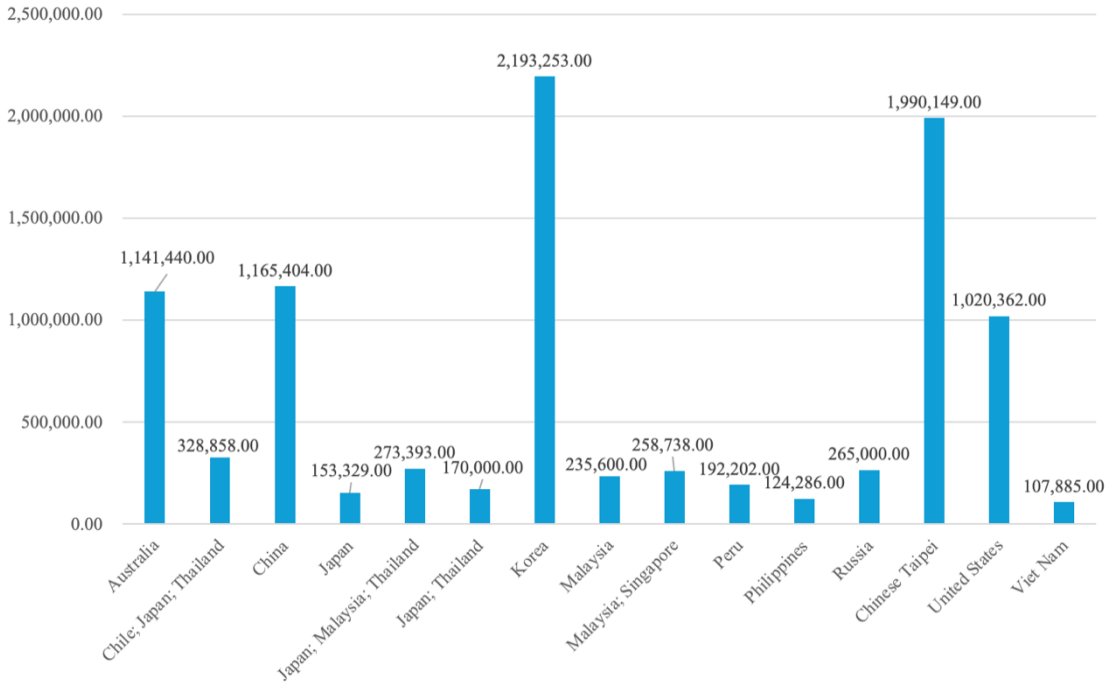


Source: APEC Database.

In terms of spending on education-related APEC projects by sponsoring economy, Korea stands out with the total expenditure of over USD 2.19 million. As shown in Figure 4, the second largest investment is made by Chinese Taipei, exceeding USD 1.99 million. Following them are China, Australia and the United States, with total expenditures of USD 1.17 million, USD 1.14 million, and USD 1.02 million, respectively, over the past eight years.

Figure 4. Expenditure of APEC Education Projects (2016-2024)

By Economy, in US Dollar



Source: APEC Project Database.

II. Findings: Benchmarking Education Cooperation Against the APEC Education Strategy

Review the progress of the *APEC Education Strategy* over the last six years requires a detailed examination of policies and initiatives related to each of its nine targets and indicators. Due to the limited number of the participating economies, the analysis cannot be a comprehensive one. Instead, it provides an overview with a focus on the progress achieved in the implementation of the *Strategy* within certain economies.

Prior to the review, the EDNET had conducted a review of the implementation of the *Strategy*, benchmarking APEC education cooperation through assessing completed projects, which resulted in the report *Progress Report on the Implementation of APEC Education Strategy: 2016-2021.*

This section builds on the findings from the above-cited report and presents an analysis of key policy actions as well as trends relating to each of the nine targets specified in *the Strategy* between 2016 and 2024.

2.1 Enhancing and aligning competencies to the needs of individuals, societies and industries

As a critical step in improving the quality of education, enhancing and aligning competencies to the needs of individuals, societies and industries is one of the most important objectives for our economies to achieve. It involves not only enhancing quality assurance systems, qualification frameworks and skills recognition but also promoting cross-border education, academic mobility and individual pathways within and across education levels as well as advancing modernization of education system. Member economies have actively take measures to reach the targets.

2.1.1 Target 1: Enhance quality assurance systems, qualification frameworks and

skills recognition

Target 1 is measured by three indicators: comparability studies of their qualifications systems (including quality assurance and qualifications frameworks); publicly available quality assurance standards and qualifications frameworks; and qualifications systems, including quality assurance and qualifications that acknowledge global competencies.

APEC members have taken a variety of measures to enhance their quality assurance systems and qualification frameworks, meanwhile the APEC-level projects have facilitated the progress towards the target 1. Notably **Australia** implemented *APEC Integrated Referencing Framework for Skills Recognition and Mobility Phase II* in 2017, to develop a comprehensive skills recognition referencing mechanism for TVET. Central to the project is APEC IRF, a concept that enable comparisons of the skills held by workers across the region by bringing together the components necessary for understanding and assessing these skills. It involves the design of skills recognition pilots in the transport and logistics and tourism sectors using the APEC regional occupational standards developed for these sectors. The 6th APEC Conference on Cooperation in Higher Education in Asia-Pacific Region hosted by **Russian Federation** in 2017 also focused on "Diploma and Qualification Recognition for People-to-People Connectivity". Aligned with the Joint Statement of the 6th APEC Education Ministerial Meeting and APEC Education Strategy, the key aspect of the Conference is the discussion of practical steps for recognition of education in APEC, through developing new modes and approaches to education delivery. Responding the emerging challenges of AI, **Peru** held *Workshop to sharing experiences and best practices on how APEC economies' Qualifications Frameworks are coping with the disruptive impact of emerging AI technologies*, examine how APEC economies' Qualifications Frameworks (QF) adapt to new technologies (e.g. AI), providing an updated educational and training offer, so that professionals have the necessary qualifications to quickly respond to changes. **China** implemented the project *University Admission in Asia-Pacific Region: Processes, Policies and Strategies*, which collected, analysed and shared university admission processes in the region, aiming at identifying effective university admission schemes that could inform and inspire transition from examination-oriented education to competency-oriented education.

Quality assurance standards varies from economy to economy. As online learning is the new norm, quality assuring online education turned to be an emerging challenge. To address this, **Australia** undertook the *Quality Assurance in Online Education project*, to help economies and quality assurance agencies develop a clear understanding of best practice in online learning and it produced the *APEC Toolkit for Quality Assurance of Online Learning* to assist economies to understand how to assure quality online education. Likewise, with a focus on higher education, **Chile** implemented *Quality Assurance of Online Learning for APEC Higher Education Institutions project*, contributing to ensuring quality assurance of online learning for higher education institutions in the Asia-Pacific region.

Qualification frameworks are available only in part of APEC members. The Malaysian Qualifications Framework (MQF) provides a comprehensive framework that classifies qualifications according to levels, learning outcomes, and credit requirements, with the criteria for different types of qualifications, from certificates to doctoral degrees, ensuring clarity and consistency in the education and training system in Malaysia. In particular, **Malaysia** implemented *Chartered Certified Accountants (ACCA)*

certification for accountancy programme and the *Welding Institute (TWI) certification for the welding programme*.

In the APEC region, like elsewhere in the world, STEM and professional industries have ever-increasing requirements for internationally capable employees, with "global talent", defined as foreign language and intercultural skills in combination with soft, technical, and business skills. The shortage of such individuals in APEC economies is a barrier to both economic integration and trade in goods and services. Hence global competency has become a key dimension in the quality framework. Building on the *APEC Skill Mapping Project*, **the United States** implemented the *Global Competencies and Economic Integration project* involving a survey on current and projected requirements for linguistically and culturally skilled individuals; and a pilot study of the economic value-added and value-created at the domestic and APEC level of global competencies. To further the endeavors on global talent, China implemented *World Language Education and Talents Cultivation (WLETC) project*, focusing on the innovative applications and practices of modern technology in language education and talents cultivation, as well as policies promoting language education access, to provide solutions for APEC education connectivity and talents cultivation.

These efforts have improved relevant education standards, frameworks, and systems in respective economies and across the region, and bring our economies closer to the target that "by 2030, APEC member economies will have enhanced quality assurance systems, qualifications frameworks and skills recognition, as applicable in the context".

2.1.2 Target 2: Promotion of cross-border education, academic mobility and individual pathways within and across education levels

Target 2 is measured by four indicators: students enrolled in mobility or exchange programmes; international scholarship programmes offered by APEC members; Economies' policies or initiatives that promote academic and student mobility; publicly available and up to date information on recognized qualifications and recognized education and training institution.

The past eight years have seen a substantial increase of international students, with relative decline during COVID-19. Six out of ten top host destinations of (inbound) international students are APEC economies, respectively the United States, Canada, Australia, Russian Federation, China, Japan. In terms of international students as percentage of higher education, Canada stands at the top of list (39%), followed by Australia (31%), New Zealand (12%), the United States (6%), and Japan (4%). All these in total, have exceed the goal of "one million intra-APEC student exchanges per year by 2020" set in APEC Connectivity Blueprint for 2015-2025, in recognition that students, academic and provider mobility helps to strengthen regional ties, facilitate people-to-people exchanges and promote economic development through knowledge and skills transfer.

With a limited number of students though, APEC Future Education Forum hosted by **The Republic of Korea** bring together teachers and students to share exemplary cases of collaborative education in the Asia-Pacific region and contributed to enhanced student mobility. The project Mapping Researcher Mobility led by Australia in 2016 enabled economies and institutions in APEC to understand the scale, scope and characteristics of joint research collaboration between economies. **Chinese Taipei** implemented *APEC project Accelerating Innovation and Education Development:*

Regional Mobility, Digital Talent Cultivation and Collaborative Connectivity in Post-Pandemic Era, aiming at a meaningful forum to discuss how to facilitate student mobility and to innovate education in the post pandemic time. Even though all the APEC HRDWG projects contribute to cross-border cooperation, cross-border education is particularly highlighted in *APEC Climate Economics Cross-Border Educational Course* implemented by **Malaysia**, addressing severe challenge that APEC region suffers from more than 70% of global natural disasters causing USD100 billion in annual loss and an 18% GDP reduction by 2050. Through a hybrid seminar involving APEC key stakeholders and other multilateral fora related to education and training, it acts as an exemplar and serve as a practical guideline for APEC economies to restructure and effectively implement cross-border education to achieve climate action, inclusion and socioeconomic resilience in the region. Given language education is crucial for cross-border education, the *project Expand Cooperation Among APEC Economies throughout Language Education Stage II: Innovative Modes of Cooperation for APEC Cross-border Education* implemented by **China** also contributed to student and academic mobility by facilitating the exploration and sharing of ideas or experiences focusing on innovative language education modes and the application of modern educational technology in bilateral and multilateral cooperation in language education. **Japan** led the *project Exploring Ways to Enhance the Cross-Border Development of Skilled Professionals across the APEC Region* and hosted virtual workshop on further development and utilization of skilled professionals by sharing best practices on cross-border works / initiatives / measures implemented by economy and private sector to develop skilled professionals through education, training and creation of job opportunities.

In the wake of the global pandemic crisis, APEC members have taken effective measures to advance cross-border education cooperation and enhance international educational mobility. However, reaching this target also faces challenges. It is noted that the APEC member economies need advice for precise implementation plans, techniques for engaging stakeholders, and ways to keep educational opportunities fair and inclusive. Malaysia and other APEC economies also emphasized their need for solid monitoring and evaluation methods to track their progress and make sure their educational and economic goals are being met.

2.1.3 Target 3: Advance modernization of education system

Target 3 is measured by five indicators: Students enrolled in online, blended and flexible learning qualification; Economy policies or initiatives that promote the development of quality online learning; Economy policies or initiatives that promote lifelong learning; Policies or initiatives for school leaders that promote good practices in school management; Policies or initiatives that encourage stakeholders to improve the equity and inclusivity in education.

Catalyzed by the distance education during COVID-19, the student enrolled in online, blended and flexible learning qualifications have seen a substantial increase ever since. This is also attributable to the policy efforts in economies as well as APEC-level projects and initiatives. **Australia** hosted a series of online education workshops in 2018, focusing on a selection of key quality concerns such as assessment and integrity, course design and development and student experience and retention. Furthermore, online learning and assessment, defined as a permanent “new normal”, was highlighted in *Developing Education 4.0 Across APEC Economies: The need for better quality*

assurance and increased recognition of online qualifications published by **New Zealand** in its host year of 2021. Both prompted the expansion of online learning in respective economies and across the region. **China** led the project *Challenges, Opportunities and Trends of Digitalisation of Education in Post Pandemic Era*, facilitate the sharing of efforts, actions and lessons with regard to the digitalization in education among APEC members, analyze the challenges, opportunities and trends of digital education in post-pandemic era, and generate recommendations for relevant policymaking.

Many economies have issued policies or initiatives to promote quality online learning. **Malaysia** implemented *Future Skills for All* (FS4A) which aims at strengthening provision of digital learning, especially robotics and coding, reducing inequalities in digital and skills development, and ensuring continuity of learning. FS4A has achieved 25,000 unique users in 2020. Moving forward, FS4A aims to nurture more organic content adoption from mainstream education and focus on developing marginalized communities in the economy. Besides, **Malaysia's** *Digital Educational Learning Initiative Malaysia (DELIMa)* provides digital educational resources consisting of a vast collection of textbooks and multimedia content that are accessible for free by all 5.3 million teachers and students. **Peru** conducted *Artificial Intelligence Integration Workshops Training* activities tailored for education specialists and teachers of pedagogical innovation with the aim of the effective use of artificial intelligence for the educational field. The initiative for classroom resource management "School Server" focuses on creating and operating a repository that allows access to digital content to educational institutions (IIEE) with limited or no connection to internet with the purpose of improving teaching and learning experiences for teachers and students. **Peru** also implemented *Educational Innovation Teachers (PIP) 2023-2025* which raises the deployment of actions for improving the quality of educational service, aiming at strengthening the management of the transversalization of digital technologies in the educational institutions (minimal equipment conditions, connectivity and digital safety; training actions in digital technologies; and institutional and pedagogical management of digital technologies) through capacities and assistance development.

To promote good practices in school management, **China** organized *Seminars for Basic Education Reform and Development in APEC: Experiences from PISA and TALIS*, providing a platform for educational policymakers and practitioners in the Asia Pacific Region to exchange their experiences and perspectives concerning reforms and quality of basic education, including educational administration and finance, teachers' professional development, professional standards for head teachers, reforms in curriculum and teaching, and student evaluation. Targeting school leaders in the APEC region, *APEC School Leadership Programme (ASLP)* led by **the Republic of Korea**, a blended training programme, urges school leaders' global preparedness, digital literacy, and capacity-building to narrow learners' educational opportunity gap within APEC economies. The programme grows an interconnected and inclusive school leadership to materialize education innovation and to foster international education cooperation within the APEC region, with emphasis on women's roles and the significance of female leadership in organizational innovation. In 2023, **New Zealand** co-sponsored and presented at the workshop led by the United States *Schools as Community Hubs*, particularly on how to encourage learners, families, and communities to be part of school environments, ways to include indigenous knowledge, and remove barriers to learning.

To facilitate lifelong learning in the digital era, in particular, the "ageing population" has been increasing worldwide and younger older adults have become an integral part of potential human resources in APEC economies, **China** implemented the project *Fostering Digital Competency, Building Re-employment Capacity, and Enhancing Well-being for Younger Older Adults in the Digital Economy,* aiming to build digital competency, increase re-employment and enhance well-being for younger older adults, so that they can not only benefit from enhanced social well-being but also be able to contribute meaningfully to economic well-being once they return to the labor market in the digital economy. An *International Forum on Lifelong Vocational Skills Training* was also hosted by **China**, serving as a knowledge-sharing platform focused on lifelong vocational skills training, to identify key elements of an effective vocational training system, including stakeholder interactions, operational mechanisms, and evaluation processes. In doing so, hopefully it will enhance employability, address skills gaps, and build economic resilience in the post-pandemic era.

At the APEC level, **the Republic of Korea** implemented the *APEC Digital Education Policy Training (ADEPT) programme,* which advocates for sustainable progress toward resilient development, with the emphasis of acknowledging the swift transformations across all facets, the necessity for educational systems to demonstrate adaptability and inclusiveness, particularly in digital transformation of special education.

Third, in the aspect of economy policies or initiatives that promote lifelong learning, *APEC Digital Education Policy Training (ADEPT) Programme* is one of the good practices. Based on three categories of general, informatization, and educational informatization competencies from the model, ADEPT provides not only the platform of knowledge but also the opportunity of strengthening actual competence. In the year of ADEPT 2023, two times of blended learning, Alumni Day, and public relations were conducted. In alignment with the Arequipa Goals, the ADEPT programme will play a key role in bolstering cooperation among economies to advance digital education policies that empower people with disabilities for their quality education and innovative growth. The ADEPT programme will play a key role in bolstering cooperation among economies to advance digital education policies that empower people with disabilities for their quality education and innovative growth.

Fourth, as to policies promoting good practices in school management, **Hong Kong, China**, for example, introduced the *Enhanced School Development and Accountability Framework*, emphasising school leadership and accountability in managing educational outcomes.

In terms of policies encouraging equity and inclusivity in education, **Malaysia** proposed three strategies and policies: (1) *Digital Educational Learning Initiative Malaysia (DELIMa)* provides digital educational resources consisting of a vast collection of textbooks and multimedia content accessible free for all 5.3 million teachers and students. These resources help to bridge the gap in access to quality teaching and learning materials, allowing students in rural areas to access the same resources as their urban counterparts. (2) *Enhancement of Teacher Activity Centres as Centres of Excellence (COE)* aims to reduce the gap in access to learning resources for students, especially in rural and remote areas. (3) *Digital Education Policy* attempts to create a digitally fluent generation that is competitive by enhancing the knowledge, skills, and values of students, educators, and educational leaders, providing quality infrastructure and content as well as actively involving strategic partners in an

integrated and comprehensive manner. **Australia** has enhanced quality assurance and qualifications, frameworks, skills recognition while giving a high priority to the equitable access for women and girls and cculturally and llinguistically diverse (CALD) populations to education, supporting people with lower socioeconomic status and promoting quality and transparency of education systems and cross-border recognition and mobility. **Australia** has also implemented project *Women in Research Fellowship through APEC,* to support research fellowships for female researchers. In addition, in 2018, the United States hosted *APEC Forum on Closing the Digital Skills Gap project*, and convened the first *APEC Closing the Digital Skills Gap Forum* in July 2019 in Singapore.

Over the same period, economy policies aimed at fostering quality online learning have also emerged. **Malaysia**'s *Future Skills for All initiative* has successfully engaged over 25,000 unique users, focusing on digital learning and skills development, particularly in underserved communities. **Peru**'s digital training programmes for teachers further illustrate efforts to enhance online learning quality and promote lifelong learning opportunities.

Key Highlights and Remaining Challenges

APEC members have made notable strides in enhancing and aligning competencies to the needs of individuals, societies and industries. Digital platforms have been successfully integrated within K-12 and higher education, resulting in increased enrolments in flexible learning models. Cross-sectoral collaborative efforts have been made to improve quality assurance and recognition of online qualifications. Policies were formulated to foster quality online learning and facilitate skills development, particularly in underserved communities.

However, challenges persist. While significant progress has been made in creating accessible digital resources, disparities in educational equity and inclusivity remain. Economies like New Zealand and Australia are actively addressing barriers faced by indigenous learners, students with disabilities and culturally diverse populations, yet comprehensive measures are necessary to ensure equitable access across all regions.

2.2 Accelerate Innovation

Accelerating innovation stands as the cornerstone of ***APEC Education Strategy (2016-2030)***, underscoring the imperative for member economies to enhance the effective utilization of educational and technological capabilities within their teaching and learning processes. This strategic directive calls for a transformative approach, where traditional educational paradigms are infused with digital advancements, interdisciplinary collaboration, and forward-thinking methodologies to cultivate an environment conducive to creativity and intellectual growth.

2.2.1 Improve the use of educational and technological capabilities in teaching process

By improving internet connectivity, training educators in ICT, and promoting the adoption of educational technologies, this target aims to create a more dynamic and effective learning environment. The three indicators - internet connectivity in learning institutions and homes; educators trained in the use of ICT; and the adoption of education technologies - are essential for assessing progress. They not only reflect the integration of technology in education but also signify a commitment to equipping both

teachers and students with the tools needed for success in a digital age. This focus on innovation ensures that education systems remain responsive and relevant, fostering a culture of continuous improvement and adaptation. Member economies have implemented various strategies to enhance internet access, facilitate ICT training for educators, and integrate innovative technologies into the classroom.

First, in terms of internet connectivity in learning institutions and homes, **Malaysia** shared information on the implementation of a digital learning platform, launched the *Digital Makeup Tech Talent Development Programme*, and is planning future initiatives that will integrate online and digital competencies among teachers and students. This aligns with enhancing internet connectivity in educational institutions. **Peru** has strived for closing the digital divide and enhancing infrastructure to improve internet connectivity, particularly for teachers and students. *The National Policy for Digital Transformation* plays a key role in this initiative.

Second, concerning educators trained in the use of ICT for teaching and learning. **Malaysia** highlighted its commitment to capacity building, particularly in training educators to effectively utilize ICT in teaching. This effort is part of their broader initiatives to integrate digital education. Likewise, **Peru** has implemented continuous training programmes to improve the teaching and learning process using digital technologies, which includes training teachers on how to effectively use technology in their classrooms. **Peru** held a workshop in Lima in 2016 on the margins of SOM3 to share STEM (Science, Technology, Engineering, Mathematics) investigation practices and STEM-based curriculum experiences and to identify synergies/common areas of work among education and training stakeholders and policymakers from member economies. In 2017, **Russian Federation** conducted the second phase of the project *The Open Environment for Math Education in APEC Schools* to help smooth differences of math teaching and improve the math education quality in APEC economies. During the same year, **the United States** conducted *Digital Workforce Development project* that provided resources to help economies leverage digital and distance-learning technologies to build a 21st century workforce through improved career and technical education (CTE). **Japan** and **Thailand** co-led *Lesson Study: Summary of 12 Years* (launched in 2006) in 2018 which summarized the past 12 years of lesson study projects in mathematics, science, emergency preparedness, and energy efficiency and planned next steps. In 2018, **Chile, Japan** and **Thailand** conducted *Inclusive Mathematics for Sustainability in a Digital Economy (InMside) project*, which aiming to develop upper secondary school curriculum developers' capacity on mathematics, statistics and coding in relation to these issues under the Action Plan. Building on the achievements of this project, the *Informatics and Data Science Education Reform for Digital, Inclusive and Sustainable Society (InMside II) project* co-led by **Japan, Malaysia** and **Thailand** in 2019 trained middle school curriculum developers to include artificial intelligence and big data into the APEC economies' curricula for building inclusive, sustainable and digital society. In 2019, **Malaysia** and **Singapore** co-led the *Actualisation of Integrated STEM Degree Programmes project* that helped construct an integrated, gender-inclusive STEM programme model with STEM educators in the higher education sector.

Third, in the aspect of adoption of education technologies to support teaching and learning, **Malaysia is** committed to accelerating innovation through its integration of AI and digital tools in education. *The Digital Makeup Tech Talent Development*

Programme exemplifies how **Malaysia** is leveraging technology to advance educational outcomes, which aligns with the *Strategy*'s emphasis on using technology to modernize education and boost employability. Similarly, **New Zealand** is enhancing innovation by investing in structured literacy and numeracy, focusing on STEM subjects, greater use of data and evidence and accelerating sustainable digital connectivity and the adoption of educational technologies to support these priorities. **China** initiated *Expand Cooperation Among APEC Economies Throughout Language Education Stage II* project in 2019, which focused on the application of modern educational technology in bilateral and multilateral cooperation in language education. In 2017, **The Republic of Korea** undertook *APEC Community for Education Innovation (CEDI) project* with the objective to help member economies undertake joint research on promising innovative educational practices. Two CEDI projects focusing on digital school leadership were implemented. In 2020, **The Republic of Korea** also conducted *APEC e-Learning Training Programme (AeLT)* and *APEC Learning Community for Shared Prosperity (ALCom) Phase 2 project*, addressing the issues of digital divide and promoting exemplary e-learning policies and practices in the Asia-Pacific region. Two new projects under AeLT and ALCom have been endorsed in 2021.

Notable progress has been made in enhancing the use of educational and technological capabilities within member economies. Significant strides have been achieved in improving internet connectivity in learning institutions and homes, exemplified by **Malaysia's** digital learning platform and **Peru's** National Policy for Digital Transformation, which aims to close the digital divide. Additionally, efforts to train educators in the use of ICT have been highlighted, with Malaysia focusing on capacity building and Peru implementing continuous training programmes to better equip teachers with digital tools. The adoption of educational technologies has also been positively influenced, as seen in Malaysia's integration of AI and digital tools and New Zealand's investment in STEM subjects.

Australia is aiming to equip students with essential skills for the digital age and provide resources for teachers. The Australian Curriculum guides schools on what digital knowledge and skills should be taught, from Foundation to Year 10. **Australia** is supporting teachers to implement the Australian Curriculum, including through the use of Digital tools, through a range of measures, including a suite of Teacher Resource Hubs, spanning digital technologies and digital literacy, Maths and Numeracy, Literacy, Languages, Civics and Citizenship and Student Wellbeing.

Despite these advancements, challenges remain. Issues such as inconsistent internet access, particularly in rural areas, continue to hinder the equitable integration of technology in education. Furthermore, while initiatives to train educators are underway, the scalability and consistency of these programmes vary, leading to disparities in teacher competency across different regions. Additionally, the full adoption of educational technologies is still a work in progress, as not all institutions are equally prepared to implement these tools effectively. Looking ahead, it is essential to enhance investment in infrastructure to ensure reliable internet connectivity for all educational institutions, particularly in underserved areas. Expanding and standardizing teacher training programmes will be crucial to ensure that all educators can effectively leverage technology in their teaching. Moreover, fostering collaboration between educational institutions and technology providers can facilitate the development and integration of

innovative educational tools tailored to local needs. By addressing these challenges and building on existing successes, APEC member economies can further accelerate innovation in education, ultimately leading to improved outcomes for all learners.

2.2.2 Promote science, technology and innovation in education and pedagogical practices

Accelerating innovation stands as another cornerstone of ***APEC Education Strategy (2016-2030)***, underscoring the imperative for member economies to enhance the effective utilization of educational and technological capabilities within their teaching and learning processes. This strategic directive calls for a transformative approach, where traditional educational paradigms are infused with digital advancements, interdisciplinary collaboration, and forward-thinking methodologies to cultivate an environment conducive to creativity and intellectual growth. Promotion of science, technology and innovation in education and pedagogical practices remains an important element of the *Strategy*, with an explicit emphasis placed on e-learning resource sharing, STEM-related teacher training, as well as on the equity of education. member economies have made considerable progress in promoting science, technology and innovation in education and pedagogical practices.

First, in the area of Availability of STEM e-learning resources for teaching and learning, **Hong Kong, China** has promoted *E-Learning and STEAM* (i.e. Science, Technology, Engineering, Arts and Mathematics) education to go hand in hand. The EDB integrates the strategies on ITE into the planning and implementation of *STEAM* education, focusing on enhancing teachers' and students' capabilities in applying IT in learning and teaching and nurturing students' information literacy. **Hong Kong, China** also proposed and implemented the *Quality Education Fund (QEF) e-Learning Ancillary Facilities Programme* which aims to facilitate the development, enrichment and provision of e-learning ancillary facilities. **Peru** proposed and implemented the *PeruEduca 4.0* platform, aiming to provide and integrate digital services to contribute to the improvement of pedagogical practices and boost the learning of the educational community inside and outside the classroom, in an inclusive, equitable and sustainable manner, through virtual environments. **Chinese Taipei** carried out *Digital, Technological and Environmental Education* with an aim at promoting digital learning to enhance students' digital competencies and integrating technology into teaching and learning processes. Integration of Emerging Technologies focuses on leveraging emerging technologies such as AI, VR/AR, and block-chain to transform education. **Malaysia** implemented *Actualisation of Integrated STEM Degree Programmes: A Model to Inform, Catalyze and Shape Inter- and Trans- Disciplinary University Education* which is committed and proactive in promoting Science, Technology, and Innovation (STI) in education and pedagogical practices. **Malaysia** also shared information on the implementation of a digital learning platform, launched *APEC Tech Talent* development programme.

Second, in the area of availability of STEM-related teacher training programmes, **Peru** conducted *Artificial Intelligence Integration Workshops Training* activities targeted at education specialists and teachers of pedagogical innovation with the aim of advising educational actors on the effective use of artificial intelligence for the educational field. *Initiative for classroom resource management ("School Server")* focuses on creating and operating a repository that allows access to digital content for educational institutions (IIEE) with limited or no connection to internet with the purpose of

improving teaching and learning experiences for teachers and students. Peru also proposed *Management for the transversalization of technologies digital in educational institutions (IIEE) with Educational Innovation Teachers (PIP) 2023-2025* which raises the deployment of actions for improving the quality of educational service with the aim of strengthening the management of the transversalization of digital technologies in the educational institutions (minimal equipment conditions, connectivity and digital safety; training actions in technologies digital; and institutional and pedagogical management of technologies digital) through capacities and assistance development. In addition, **Peru** proposed *"Utah Gap"* which is a plan iintended to close the access gap between students and teachers. **Malaysia** is planning to carry out future initiatives that will integrate online and digital competencies among teachers as well as students.

Third, in the area of policies that promote women's and girls' participation in STEM-related activities **Chinese Taipei** participated in *APEC Forum on Digital Innovation and Entrepreneurship* from 2018 to 2023, providing a 3-day Workshop on *Digital Innovation and Entrepreneurship* to empower the emerging youth cohort and to devote itself to addressing the issues of youth employability and female labor force participation, and encourage regional startups and cross-border cooperation. **Australia** also recognises the need for promoting and actively supporting women and girls to study STEM subjects and consider careers in STEM. Australia's *Pathway to Diversity in STEM Review* final recommendations report, published in February 2024, aims to increase diversity and inclusion in STEM fields through 11 recommendations, focusing on ecnomy coordination, inclusive workplaces, lifelong learning, and changing perceptions. The Australian Economy and industry providers are also promoting women in STEM through programmes and initiatives such as the *Women in STEM Cadetships and Advanced Apprenticeships Programme*, which aims to help women upskill or build careers in STEM fields and provides a higher education pathway to produce graduates with workplace skills in STEM fields. *Australia's Advancing Women in STEM Strategy* in another mechanism which aims to increase gender equity in STEM education and careers.

Recent years have witnessed efforts that member economies made to promote the application of science and technology in education which have made significant progress. **Peru**, by implementing *Management for the transversalization of technologies digital in educational institutions (IIEE) with Educational Innovation Teachers (PIP) 2023-2025*, has achieved 95.40% participation of education specialists from the DRE and UGEL in the implemented sessions and encouraged 130.40% of education specialists, 53.85% of director and head of pedagogical management of DRE and UGEL and 53.95% of Teachers of Pedagogical Innovation (PIP) to participate in orientation sessions. Moreover, in **Malaysia**, numerous STEM opportunities are offered to all students, including the underprivileged groups of students, to experience STEM learning. In **Hong Kong, China**, the EDB integrates the strategies on ITE into the planning and implementation of STEAM education, focusing on enhancing teachers' and students' capabilities in applying IT in learning and teaching and nurturing students' information literacy. The EDB also provides ITE related training programmes to enhance school leaders' e-leadership and improve teachers' e-learning repertoire and skills in utilising e-learning tools and resources.

Yet, only a few economies proposed policies that promote women's and girls' participation in STEM-related activities. Achieving gender equality in the field of

education is a crucial goal in promoting the application of technology in education. It involves dismantling barriers that prevent girls and boys, women and men from participating equally in STEM (Science, Technology, Engineering, Mathematics) programmes, ensuring curriculum content is free from gender biases, and encouraging a culture where digital literacy and technological proficiency are encouraged and nurtured for every student. Consequently, further commitment will be needed among member economies to guarantee the provision of polices or programmes related to promotion of women's and girls' participation in STEM-related activities. In addition, more efforts are encouraged to increase services and infrastructure to provide e-learning sources for girls and women through public education systems.

2.2.3 Promote economy-industry-academia collaboration for R&D and Innovation

Promoting economy-industry-academia collaboration for R&D and innovation is of paramount importance in driving societal progress, fostering economic growth, and addressing complex global challenges. This collaborative approach leverages the unique strengths and resources of each sector to create a synergistic environment. These partnerships facilitate knowledge transfer, skill enhancement, and resource pooling, enabling faster progression in education at all education levels.

In terms of economy-industry-academia collaboration projects and R&D, **Malaysia** implemented *Collaboration with Industry / Agencies* which encourages to collaborate with industry, academia, and other agencies to enhance the quality of the programme and curriculum and will also launch the *Trans-Tech 4TVET (TVET Transfer Technology IR4.0)* in 2024-2025. **Peru** has undertaken a number of arrangements, intended to establish collaboration between the parties for the development of the *"Mobile Classroom"* project, which consists of a truck loaded with a fully equipped and conditioned container for the development of learning activities with the aim of achieving digital literacy and development of digital skills for entrepreneurship aimed at young people in rural areas of Peru.

Second, with regard to projects and initiatives that contribute to a climate resilient future, **Malaysia** led the *APEC project Sustainability and Environmental Education for Post Disaster (APEC SEEPD 2023)*, which aims to enhance the environmental knowledge, attitudes, sensitivity, and concerns of relevant stakeholders through environmental education focusing on post-disaster recovery planning and strategies. It also attempts to increase participants' understanding of current pre- and post-disaster policies, guidelines, models, and gaps in environmental education, while promotes better collaboration among cross-border researchers, practitioners, and policymakers to achieve the targeted outcomes.

Notable results have been attained by member economies in promoting economy-industry-academia collaboration for R&D and innovation. In **Peru**, the ICT classroom was installed in the mixed educational institution of La Molina, of the UGEL 06 of Metropolitan Lima at the secondary level. Both parties developed the commitments assumed in accordance with the concluded agreement. Directors, specialists and teachers were trained to use the technological resources installed in the institution, especially to produce audiovisual materials.

Alongside economy-industry-academia collaboration for R&D and innovation, further steps in implementing R&D initiatives supported by private sectors (fund, expertise, infrastructure) and projects and initiatives that contribute to a climate resilient future

are encouraged. R&D initiatives serve as a cornerstone for fostering innovation, driving technological advancements, and propelling education forward. Besides, education projects and initiatives dedicated to a climate resilient future are instrumental in nurturing a workforce equipped with the expertise to drive sustainable development, fostering an environment ripe for breakthrough technologies, and cultivating a mindset that balances progress with ecological stewardship. Therefore, member economies are expected to carry out more policies and projects with an aim to encourage private sectors to support R&D initiatives and to help building a climate resilient future.

Educational innovation has also been accelerated through research collaboration. The *Workshop on APEC Report on Education and Economic Development*, co-hosted by **China** and **Thailand**, seeks to provide a solid foundation for launching the *APEC Report on Education and Economic Development*, which further aims to share best practices on competencies, innovation, and employability, analyse the relationship between education and economic development in the APEC region, and generate policy recommendations on education and economic development. Similarly, the *Policy Dialogue on Education and Economic Development*, co-hosted by **China** and **Papua New Guinea**, has also strengthened exchanges and cooperation among economies, effectively promoting policy innovation.

Key Highlights and Remaining Challenges

Recent years have witnessed efforts and progress that member economies made in accelerating innovation in the field of education. Numerous STEM opportunities have been offered to students, including groups of learners traditionally underrepresented, to experience STEM learning. Strategies on Information Technology in Education were integrated into the planning and implementation of STEM education, focusing on enhancing teachers' and students' capabilities in applying IT in learning and teaching and nurturing students' information literacy. Training programmes were also provided to enhance school leaders' e-leadership and improve teachers' e-learning repertoire and skills in utilising e-learning tools and resources. Internet connectivity in learning institutions and homes have also been improved, which aims to close the digital divide. Projects have been implemented to encourage joint research projects and innovation ventures between academic institutions and industry partners, provide funding and resources to support collaborative research and development activities and facilitate knowledge transfer and commercialization of research outcomes through technology transfer offices and innovation hubs.

Yet, only a few economies proposed policies that promote women's and girls' participation in STEM-related activities. Further commitment will be needed among member economies to guarantee the provision of polices or programmes related to promotion of women's and girls' participation in STEM-related activities. Achieving gender equality in the field of education is a crucial goal in promoting the application of technology in education. It involves dismantling barriers that prevent girls and boys, women and men from participating equally in STEM (Science, Technology, Engineering, Mathematics) programmes, ensuring curriculum content is free from gender biases, and encouraging a culture where digital literacy and technological proficiency are encouraged and nurtured for every student. Additionally, issues such as inconsistent internet access, particularly in rural areas, continue to hinder the equitable integration of technology in education. Furthermore, while initiatives to train educators are underway, the scalability and consistency of these programmes vary, leading to

disparities in teacher competency across different regions. The full adoption of educational technologies is still a work in progress, as not all institutions are equally prepared to implement these tools effectively.

2.3 Increase Employability

Increasing employability accounts for one of the three major objectives of the *Strategy*, as globalisation and the rapid technological advancement are reshaping the demand for knowledge and skills and how work is organized, causing an evident mismatch between labor market demand and supply of available skills. According to the *Strategy*, economies are encouraged to progress constructive initiatives and policies to increase employability and mitigate impending shortages.

Three targets are proposed in the *Strategy* and its action plan proposed, emphasizing public-private collaboration, future-ready skills and school-to-work transition. Since 2016, member economies have made solid progress toward that vision.

2.3.1 Promotion of collaboration between economy, higher education and TVET institutions, business and education and training stakeholders

Active partnerships among key stakeholders ensure that educational programmes are aligned with industry needs, effectively equipping students with essential skills. By integrating diverse stakeholder perspectives into policy and programme development, employability is enhanced, and skills mismatches are addressed. Such initiatives not only support local industries but also promote sustainable and inclusive growth, ultimately leading to improved employment outcomes in an ever-evolving job landscape.

Member APEC economies have implemented targeted strategies to enhance collaboration between economy, academia, and industry, with a focus on employability and inclusive sustainable economic growth. **China** implemented the APEC project *Gauging Demand and Supply of Technical and Vocational Education*, which used qualitative research methods to analyze and resolve skill mismatches in TVET, fostering mutual understanding and identifying best practices for aligning vocational education with industry needs to improve workforce readiness. **Hong Kong, China** introduced grants to enhance university students' employability by fostering industry-academia collaboration, organizing mentorship programmes, and providing job shadowing opportunities, promoting vocational and professional education to support social and economic development. **Chinese Taipei** initiated the *Success Models of Sustainable Tourism project*, aligning interdisciplinary efforts in transport technology post-pandemic, and promoting collaboration among the economy, academia, and industry to create more accessible and intelligent transportation systems. Additionally, **Malaysia** focused on the employability of the aging population through the Alternative Re-Employment Project for Aging Population, which achieved all milestones within the specified timeframe, demonstrating Malaysia’s commitment to inclusive employment. **New Zealand** has undertaken the project *Social Dialogue as a Tool to Address Labour Market Challenges*, outlining how social dialogue mechanisms promoted consensus, supported labor market recovery, and addressed broader challenges. **The United States** implemented *Digital Workforce Development project* in 2017 which provided resources to help economies leverage digital and distance-learning technologies leading to the *APEC Workshop on Digital Workforce Development*, held December 2018 in the Washington, D.C. Chinese Taipei hosted

APEC High Level Policy Dialogue on Education and Career Planning for Young Athletes in 2016, which brought together representatives of the public sector, academia and business to discuss the most effective ways to provide education and career planning for young athletes.

APEC member economies actively respond to the call of the *Strategy* by promoting collaboration among industry, academia, and economy. This concerted effort aims to align education with market demands and enhance employment opportunities for graduates of higher education and vocational training. By synchronizing strategies and initiatives with the *APEC Education Strategy*, member economies have successfully built consensus and achieved significant progress.

2.3.2 Development of 21st century competencies for work and entrepreneurship

The development of 21st-century competencies is vital for increasing employability in a changing labor market. By fostering both technical and soft skills, APEC economies can better align education with industry needs, preparing students for future challenges. Interdisciplinary education and industry engagement ensure that graduates are equipped with the skills necessary for work and entrepreneurship, driving long-term economic growth.

APEC economies, particularly **Malaysia, China, and Chinese Taipei** and **Australia** have actively implemented strategies to enhance the development of 21st-century competencies, aligning their education systems with modern workforce demands. **Malaysia** undertook a comprehensive Curriculum Review for Vocational College Diploma Programmes, embedding skills such as critical thinking, creativity, communication, and digital literacy, alongside an entrepreneurial mindset and global awareness. In line with its focus on sustainability, Malaysia also participated in the *APEC Climate Economics Cross-Border Educational Course project*, aimed at equipping students to address climate change through regional cooperation. **China** focused on enhancing digital competencies across generations, conducting research that led to the creation of online micro-credential courses and a workshop engaging seven APEC economies, fostering regional collaboration on digital competency challenges. **Chinese Taipei** implemented *Digital and Inclusive Talents Cultivation Empowerment of Innovative and Entrepreneurial Talent*, aiming to integrate technology with education and promote market-driven skills development. The project *Expand Cooperation Among APEC Economies throughout Language Education Stage II: Innovative Modes of Cooperation for APEC Cross-border Education* implemented by **China** resulted in recommendations on education policies and plans relevant to fostering the cultivation of a greater number of internationally competitive talents, and reinforcing cross-border education cooperation, particularly through sharing best practices and quality curricula, as well as joint development of educational resources. Version 9.0 of the **Australian** Curriculum actively promotes 21 century skills through its General Capabilities.

These efforts, coupled with inter-ministerial collaboration, aim to cultivate talents for innovation, entrepreneurship, and global exploration. Despite these advancements, the mid-term evaluation highlights that while digital skills are emphasized, critical thinking and problem-solving requires more attention, and the lingering effects of the COVID-19 pandemic continue to challenge cross-border exchanges and educational programmes.

2.3.3 Smoothing the transition from education to work

Facilitating a smoother transition from education to work plays a crucial role in enhancing employability. Lifelong learning, work-integrated experiences, and re-skilling equip individuals to meet the shifting demands of the labor market. By cultivating practical competencies and fostering continuous learning, students are better prepared for the workforce, improving their job prospects and career adaptability in an ever-changing environment.

Among the efforts of all APEC economies, **Hong Kong, China** and **Malaysia** have been the most proactive in promoting effective transitions from education to work, focusing on career planning, vocational training, and integrating digital learning into traditional education models. **Hong Kong, China** has prioritized Life Planning Education (LPE), allocating significant resources to help students explore career interests, set goals, and prepare for future career paths through career exploration activities. These initiatives equip students with knowledge about multiple career pathways and the workplace, facilitating informed decision-making and smoother transitions into the workforce. To further modernize its education system, **Malaysia** introduced a Digital Learning System, enabling over 100,000 students and lecturers across polytechnics and community colleges to engage in online learning and final examinations, offering a flexible learning environment.

The initiatives have made progress in improving student employability across APEC economies, particularly through work-based learning and innovative educational models. These efforts have also better equipped students with a mix of theoretical knowledge and practical skills. However, more attention could be given to work-integrated learning within TVET programmes. Strengthening industry collaboration and ensuring training keeps pace with changing labor market demands would further enhance these efforts and support employability.

Key Highlights and Remaining Challenges

APEC member economies actively respond to the call of *APEC Education Strategy* for increasing employability, aiming to align education with market demands and enhance employment opportunities for graduates of higher education and vocational training. By synchronizing strategies and initiatives with the *Strategy*, member economies have successfully built consensus and achieved significant progress.

Collaborations between economy, industry, and academia have been fostered to boost employment for TVET graduates. This includes aligning vocational education with market needs and developing targeted training programmes. The approach has led to increased employability and a workforce better equipped for economic demands. Youth employability has been improved by bridging education and skills through targeted projects, with a strong focus on women's participation to promote inclusivity. Besides, financial tools have been utilized to foster academia-industry collaboration, enhancing employability through mentorship and job shadowing programmes. Reskilling and re-employment of the aging population is valued, highlighting its role in fostering inclusivity and economic vitality. Social dialogue mechanisms were emphasized, to enhance labor market cohesion and support long-term recovery while addressing broader challenges. Moreover, in the field of development of 21st century competencies for work and entrepreneurship, climate change and regional cooperation were prioritized to empower student employability. Notably, vocational curriculum uniquely

integrates 21st-century competencies with a focus on sustainability, equipping students to thrive in modern workplaces and tackle global challenges.

However, challenges remain, including a lack of detailed implementation strategies and the need for broader participation for long-term success, ensuring effective fund distribution and maintaining the quality of collaborations. Challenges in outreach and resource allocation could also hinder the long-term success of these initiatives. Meanwhile, a notable shortcoming among APEC members remains in the insufficient focus on Technical and Vocational Education and Training (TVET). The limited integration of work-integrated learning practices highlights the need for a stronger emphasis on practical experiences within vocational education, underscoring the necessity to better prepare students for the workforce. It's also worth noticing that, while the pandemic has subsided, its lasting impacts on education, employment, and regional exchange continue to pose challenges that need to be addressed.

III. Lessons Learned

Over the past years since 2016, the implementation of the *APEC Education Strategy* has achieved notable progress across key areas. APEC economies have undertaken various actions to implement the *Strategy*. The mid-term review of the *APEC Education Strategy* reveals significant progress by member economies, particularly in the areas of cross-border education cooperation, educational mobility, equity, accessibility, and inclusiveness. However, considerable efforts are still warranted to meet the objectives of the *Strategy*.

In the realm of cross-border education cooperation, APEC economies have recognized the importance of external expertise to help shape more effective implementation strategies. There is a growing need for robust monitoring and evaluation frameworks to track progress and ensure alignment with both educational and economic objectives. This underscores the growing demand among economies for greater exchange and understanding of educational practices across the region, in order to optimize cross-border collaboration.

With respect to educational equity, accessibility, and inclusiveness, while some economies have implemented effective measures to promote equity and address gender disparities, there is still a long journey ahead. Currently, only a limited number of economies have introduced policies aimed at increasing the participation of women and girls in STEM fields. APEC members have to continue to work toward ensuring that all demographic groups, including the elderly, women, people with disability and marginalized populations, have access to education and opportunities to enhance their employability.

In the area of innovation, COVID-19 pandemic has accelerated the digital transformation of education, highlighting the urgent need for economies to adapt to the digital age and enhance their digital infrastructure. Nonetheless, challenges such as internet connectivity and inadequate infrastructure continue to impede the digitalization of education in some APEC economies, limiting access to educational resources. The digital divide persists.

However, challenges like the digital divide, educational inequality, and gender disparities persist. In summary, while progress has been made, achieving the objectives of the *Strategy* will demand sustained efforts. Member economies are encouraged to

focus on fostering cooperation, ensuring fairness and inclusiveness, and accelerating the digital transformation of education systems. Through these efforts, APEC economies can provide high-quality education for all, contributing to broader social welfare and economic growth.

IV. Policy Recommendations for Accelerating Progress Towards the Vision of APEC Education Strategy

Despite the numerous challenges encountered in advancing the goals of the *APEC Education Strategy* over the past several years - including the significant disruptions caused by the COVID-19 pandemic - progress towards achieving these objectives by 2030 remains attainable. This chapter of the mid-term progress review outlines key opportunities to accelerate further advancement. It presents a comprehensive set of policy actions for education stakeholders across APEC economies to strengthen digital infrastructure, foster innovation, and promote inclusivity. The chapter concludes with a call to intensify efforts toward building resilient and adaptive education systems. In the subsequent sections, targeted recommendations are provided for each strategic goal, along with specific actions aimed at addressing the needs of excluded groups across the region.

4.1 Prospects for Future Education Cooperation

The mid-term review of *APEC Education Strategy* reveals four key opportunities that economies can leverage to accelerate progress toward achieving the strategic goals by 2030:

- Digital Transformation: The pandemic has accelerated the adoption of digital tools in education, offering an unprecedented opportunity to strengthen digital infrastructure and integrate technology into teaching and learning.
- Cross-Border Collaboration: APEC economies are uniquely positioned to deepen knowledge sharing, expand cross-border education initiatives, and enhance mutual recognition of educational qualifications, thereby advancing regional integration and improving educational outcomes.
- Innovation in Education: Emerging technologies, such as artificial intelligence, can be harnessed to personalize learning, enhance student engagement, and enable adaptive learning solutions.
- Equity Focus: Increased emphasis on closing the digital divide, supporting marginalized communities, and ensuring education offers an opportunity to reduce disparities and promote equitable access for all learners.

4.2 Recommendations for Accelerating Progress Towards the Strategy's Targets

4.2.1 Strengthen Digital and Technological Infrastructure

The pandemic highlighted the critical importance of digital access in education, yet many students - particularly those in rural and underserved areas - still face barriers to reliable internet connectivity and access to digital devices. This lack of digital infrastructure severely restricts students' ability to engage in modern educational systems, which increasingly depend on online learning platforms, thus exacerbating regional inequalities.

Investing in robust digital infrastructure is essential to expand access to online learning resources, particularly in rural and marginalized communities. Digital infrastructure improvements should prioritize the expansion of broadband coverage in remote and underserved areas through public-private partnerships, which can reduce the financial burden on economies while ensuring scalability. Economies can collaborate with technology firms to establish regional internet hubs or provide satellite internet services in geographically remote areas.

Affordability of digital devices should also be prioritized. Economies and educational institutions can offer financial subsidies, digital vouchers, or device loan programmes to ensure that students from low-income families have access to laptops, tablets, and other essential tools. Collaboration with the private sector - particularly tech companies - can lead to donated devices or corporate-sponsored access programmes aimed at bridging the digital divide. For example, Australia is providing up to 30,000 qualifying families with school-age children a free National Broadband Network internet service under the School Student Broadband Initiative.

Cybersecurity and data protection must also be reinforced. As students and teachers increasingly rely on digital platforms, cybersecurity strategies are critical to safeguarding sensitive data, particularly for younger users. Economies should invest in cybersecurity training for educators and administrators and develop secure digital frameworks that protect both academic and personal information.

Digital inclusion policies should be developed to ensure all students have access to affordable internet, regardless of their geographic location or socio-economic background. More efforts are needed to expand services and infrastructure that support e-learning opportunities for girls and women through public education systems. It is equally essential to enhance infrastructure investments to guarantee reliable internet connectivity for all educational institutions, particularly in underserved areas.

The APEC economies should consider launching “Tech for All” programmes, in which economies partner with the private sector to offer low-cost internet access packages and introduce digital literacy courses for both students and parents, ensuring that digital tools are used effectively and responsibly.

4.2.2 Enhance Teacher Training and Professional Development

Although the digital transformation of education has advanced rapidly, many teachers still lack the training required to effectively integrate digital tools into their teaching. Furthermore, disparities in teacher qualifications between urban and rural areas have contributed to unequal learning outcomes.

Continuous professional development for educators is crucial for delivering high-quality online and blended learning experiences. To ensure that teachers are well-equipped to manage modern classrooms, economies should consider establishing a *Teacher Fellowship Programme* aimed at educators from rural and underserved areas. This programme would provide opportunities for international exchanges, participation in workshops, and engagement in professional development initiatives that expose teachers to best practices from top-performing schools. Such initiatives would help to close the knowledge and training gaps between urban and rural educators, leading to more equitable educational outcomes. Expanding and standardizing teacher training programmes is crucial to ensure that all educators can effectively incorporate technology into their teaching practices.

In addition to skills development, greater attention should be given to the mental health and well-being of teachers. Teachers, especially those who have faced the challenges of transitioning to online teaching during the pandemic, need tools to manage stress and workload effectively. Economies can incorporate mental health support into professional development programmes by offering access to counseling services, wellness workshops, and stress management techniques. A well-supported teacher is not only more effective but also more likely to remain in the profession, thereby reducing teacher turnover rates, particularly in rural and hard-to-reach areas.

Finally, the establishment of a digital resource bank - a centralized platform where teachers can access lesson plans, digital learning materials, and share best practices - will promote collaboration and innovation. This platform would serve as a hub for educators to find relevant teaching materials tailored to diverse student needs, further enhancing teaching quality and fostering peer-to-peer knowledge exchange across the education system.

4.2.3 Promote Lifelong Learning and Skills Development

The demands of the modern workforce are evolving rapidly, and traditional education systems are struggling to keep pace. Workers increasingly need to reskill and upskill throughout their careers, yet many economies lack sufficient pathways for lifelong learning.

To promote lifelong learning, economies should develop frameworks that prioritize accessibility and flexibility in education, enabling individuals to continually upskill as they move through different stages of their careers. This could involve expanding access to online courses, certifications, and micro-credentials that can be completed part-time or alongside full-time employment and other flexible forms of employment. For example, economies can forge partnerships between universities and industries to develop short-term programmes that target key skills gaps, such as digital literacy, data analytics, or project management. These programmes should be available through a user-friendly, centralized platforms where individuals can access training at their convenience.

In addition to promoting lifelong learning for the existing workforce, it is essential to address the underrepresentation of women in STEM fields. Economies should introduce campaigns to encourage women and girls to pursue careers in science, technology, engineering, and mathematics (STEM). These campaigns can be bolstered through collaboration with private-sector organizations, which can offer internships, mentorships, and scholarships specifically for female students in these fields. By providing greater access to educational opportunities and support, women can play a more significant role in industries that are critical to future economic growth.

Furthermore, economies can encourage private-public partnerships to fund vocational training and re-skilling programmes for older workers, particularly those impacted by automation. These programmes should be designed to help workers transition smoothly into new roles in industries that are less vulnerable to technological disruption, such as healthcare, renewable energy, and education.

4.2.4 Ensure Equity and Inclusivity in Education

Despite progress, educational disparities persist across APEC economies, particularly for students from low-income backgrounds, students with disabilities, and those living

in rural and remote areas. The digital divide and the absence of inclusive policies continue to widen gaps in access to quality education.

To create a more inclusive education system, economies should prioritize policies that specifically target educational disparities, ensuring that marginalized and disadvantaged groups receive tailored support, in particular, to address the challenges faced by marginalized groups and provide resources for schools to address these issues. By engaging with key stakeholders, economies can ensure that marginalized students feel represented and supported within the education system. These campaigns should also encourage schools to adopt inclusive curricula that reflect the experiences and histories of diverse populations.

Economies should also consider introducing enforceable quotas or measurable targets for female participation in STEM-related degree programmes and industries. By setting clear goals and tracking progress, economies can ensure that more women enter and succeed in these traditionally male-dominated fields. Additionally, schools should offer specialized programmes and mentorships for female students in STEM, helping to build confidence and provide role models for young women aspiring to enter these fields.

For students with disabilities, schools should establish inclusion committees composed of educators, parents, and disability advocates, to ensure that school policies and practices meet the diverse needs of all students. These committees could oversee the implementation of strategies to strengthen inclusive practices, ensuring that both classrooms and digital learning environments are fully accessible. Teachers should receive training on the effective use of assistive technologies, and schools should invest in acquiring the necessary devices to support students with various disabilities. Furthermore, flexible learning formats, such as blended and hybrid models, should be introduced to accommodate students with disabilities, allowing them to choose the learning environments that best meet their individual needs.

4.2.5 Modernize Curricula to Address Future Workforce Needs

Many economies still rely on outdated curricula that do not adequately prepare students for the demands of the 21st-century workforce. The gap between the skills taught in schools and those required by employers is widening, particularly in fields such as digital technology, entrepreneurship, and environmental sustainability.

To ensure that education systems remain relevant, economies and educational institutions should collaborate closely with industry leaders to ensure curricula reflect the needs of high-growth sectors, such as technology, healthcare, and renewable energy. Industry representatives can provide insight into the specific skills that employers are seeking, helping ensure that students graduate with the competencies necessary to excel in the job market. Economies can establish task forces to regularly review and update curricula, ensuring they maintain alignment with economic trends and technological developments.

Project-based learning (PBL) is encouraged to be adopted as a standard pedagogical approach. PBL encourages students to work on real-world problems in collaboration with peers, industry experts, and community members, fostering critical thinking, problem-solving, and teamwork skills. For example, students enrolled in environmental science programmes could participate in projects addressing local sustainability issues, thereby gaining practical experience while contributing meaningfully to their communities.

In addition to technical competencies, schools should also incorporate instruction on ethics, leadership, and global citizenship into their curricula. This will ensure that students not only acquire technical capabilities needed for the workforce but also develop the soft skills required to become responsible global citizens. Digital portfolios should also be introduced as a means for students to showcase their skills and competencies, providing potential employers with tangible evidence of their practical experience and achievements.

Moreover, fostering collaboration between educational institutions and technology providers can facilitate the development and integration of innovative educational tools tailored to local needs. By building on successful pilot initiatives, APEC member economies can further accelerate innovation in education, ultimately leading to improved outcomes for all learners.

4.3 Recommendations by the Strategy's Targets

Target 1: Enhancing Competencies for the Future

1. **Review curricula** to prioritize skills such as critical thinking, creativity, problem-solving, and collaboration. Ensure these competencies are systematically integrated across all subjects, rather than being confined to specific disciplines.

2. Incorporate **digital literacy** as a core component of the education system. Equip students with the ability to navigate, assess, and produce digital content responsibly, making them proficient in leveraging technology as a tool for learning and problem-solving.

3. Expand **interdisciplinary learning programmes** to encourage students to synthesize and apply knowledge across fields such as science, technology, engineering, the arts, and mathematics (STEAM). Encourage **problem-solving** approaches that draws upon multiple perspectives and domains.

4. Promote **project-based learning** where students engage in real-world issues. Integrate experiential learning opportunities - including internships and apprenticeships - that enable students to apply their skills in practical settings.

5. Develop **global citizenship education** that fosters cultural awareness and social responsibility. Teach students to understand global issues such as climate change, migration, and economic inequality, preparing them to act as responsible global citizens.

6. Encourage **ethical decision-making** in educational settings. Teach students to evaluate the societal and environmental impacts of their actions, particularly in relation to technology and sustainability, ensuring they become conscientious contributors to society.

Target 2: Accelerating Innovation

1. Create **innovation labs and hubs within schools and universities** where students, teachers, and researchers can co-create and experiment with new educational technologies and methodologies. Encourage creative problem-solving and entrepreneurship.

2. Develop **open-source educational platforms** to make learning resources freely available. Support the creation and sharing of open educational resources (OER) to promote collaboration across borders and foster innovation in teaching and learning.

3. Leverage **AI and machine learning technologies** to develop adaptive learning platforms that personalize educational experiences. Equip schools with these tools to provide customized feedback and instructional content tailored to individual student needs.

4. Encourage partnerships between educational institutions and tech companies to explore **the development of VR and AR tools** that enhance learning. Use these immersive technologies to create engaging, hands-on experiences, especially in technical subjects such as engineering and medicine.

5. Launch **research programmes** that explore the potential of emerging technologies such as blockchain, AI, and IoT in education. Invest in research that examines how these tools can be leveraged to improve access, engagement, and outcomes for students.

6. Establish **cross-border collaborations** on innovative teaching methodologies. Work with international institutions to share best practices and create a global exchange of innovative ideas in education.

Target 3: Increasing Employability

1. Expand **technical and vocational education and training (TVET) programmes** that directly align with market demands. Focus on sectors like green technologies, healthcare, and digital innovation to prepare students for employment in high-growth areas.

2. Introduce **entrepreneurship education into school curricula from an early age**. Teach students how to develop business plans, analyse market needs, and foster a mindset of innovation and risk-taking that will help them succeed in the modern economy.

3. Partner with local industries to create **apprenticeship and internship programmes** that offer students hands-on experience in real-world settings. Ensure that these programmes are accessible to students from diverse socio-economic backgrounds.

4. Develop **career-oriented education pathways** that offer flexibility and support alternative career trajectories, such as freelance work or entrepreneurship. Offer career counseling and mentorship programmes that help students explore these non-traditional pathways.

5. Foster **skills in data analysis, AI, and automation** to prepare students for the jobs of the future. These sectors are becoming increasingly important across industries, and students should be trained on how to use these tools to solve complex problems.

6. Promote **lifelong learning** by creating programmes that allow workers to continuously upskill or reskill throughout their careers. Provide flexible, modular learning opportunities that are accessible both online and in person to ensure that all individuals can keep pace with changing job market demands.

4.4 Recommendations for Inclusive Quality Education

4.4.1 Socio-Economic Status

Broaden **financial support programmes** which should be designed to cover not only tuition fees but also the additional costs associated with digital learning, such as access to devices and internet services.

Provide **digital vouchers or device loans** to ensure that students are not left behind due to financial constraints.

Expand **school feeding programmes** to help alleviate food insecurity, which directly impacts students' concentration and academic performance. By addressing basic needs, such programmes contribute to a more conducive learning environment for disadvantaged students.

Establish **community learning centers** to ensure that students from all socio-economic background can access free internet, computers, and study materials.

Provide **targeted mentorship programmes** that offer academic and emotional support to disadvantaged students, helping them navigate educational challenges and stay on track with their studies.

Offer **scholarships and micro-grants** for students from low-income families, particularly for those pursuing careers in high-demand sectors such as the teaching profession, STEM, and healthcare.

4.4.2 Disabilities

Provide assistive technologies, such as screen readers, adaptive keyboards, and speech recognition software, to enable students with disabilities to access and engage with learning content effectively.

Invest in upgrading **physical and digital infrastructure in schools** to meet accessibility standards, ensuring that all students can navigate learning spaces independently.

Highlight **modules on inclusive practices** in teacher training programmes, equipping educators with the skills needed to support students with disabilities in both physical and virtual classrooms.

Create partnerships with tech companies to develop and distribute **affordable assistive devices** tailored to the needs of students with disabilities.

Establish **inclusion committees** in schools, comprising educators, parents, and disability advocates, to ensure that school policies and practices meet the needs of all students.

Introduce **flexible learning formats**, such as blended and hybrid models, that allow students with disabilities to choose the learning environments that best suit their needs.

4.4.3 Location (urban-rural-remote)

Prioritize the **expansion of broadband infrastructure in rural areas** to ensure that students in these regions can benefit from online education and digital resources.

Invest in **mobile learning solutions** that utilise offline technologies, such as preloaded tablets or solar-powered laptops, to deliver high-quality educational content to students in areas with unreliable or no internet connectivity.

Offer **incentives for teachers**, including higher salaries and professional development opportunities, to attract and retain qualified educators in rural schools, improving the overall quality of education.

Establish **rural education hubs**, where students from multiple villages can gather to access shared resources, including internet and digital devices.

Partner with telecommunications providers to offer **affordable data plans and broadband packages** to rural households, ensuring that all students can connect to online learning platforms.

Develop **distance learning programmes** tailored to the needs of rural students, focusing on flexible learning schedules and content that is relevant to their local contexts.

4.5 Conclusion: A Call to Transform Education

The APEC Mid-Term Progress Review highlights both the notable progress and the persistent challenges in the collective efforts to achieve the goals of *APEC Education Strategy* by 2030. To meet these ambitious targets, economies must commit to transforming their education systems with a strong focus on digital transformation, inclusivity, and lifelong learning. By implementing the comprehensive recommendations outlined in this report, APEC economies can build education systems that are more resilient, innovative, and adaptable, effectively preparing learners for the challenges of the 21st century.

Furthermore, fostering stronger partnerships among APEC economies can facilitate the sharing of knowledge and best practices in education, leading to more innovative solutions for shared challenges. By focusing on these areas, APEC member economies can improve the overall effectiveness of their education systems and better equip all students with the competencies necessary for success in an increasingly digital and interconnected world.

As the world continues to evolve, so too must education. By investing in digital infrastructure, modernizing curricula, promoting lifelong learning, and ensuring equity and inclusivity, APEC economies can create a future where all students—regardless of their background or location - have access to the skills, knowledge, and opportunities they need to thrive in an increasingly interconnected and complex world. Now is the time for bold, coordinated action to transform education systems, and ensure that no student is left behind on the path to a sustainable and inclusive future.

Annex 1: Mid-Term Review Matrix of APEC Education Strategy

Background

The Mid-Term Review Matrix of *APEC Education Strategy* is designed to track progress on implementing *APEC Education Strategy* (2016-2030) and its action plan toward the vision "a strong and cohesive education community characterised by inclusive and quality education that supports sustainable economic growth, social wellbeing and employability in APEC economies, " focusing on projects and initiatives that align with the objectives of the *Strategy*, in particular, enhance and align competencies to the needs of individuals, societies and economies, accelerate innovation and increase employability, while taking into account individual economies' circumstances.

I. Projects and Initiatives

1.1 Initiatives relevant to enhancing and aligning competencies to the needs of individuals, societies and economies

No.	APEC Economy or Forum	Title	Brief description (including sectoral coverage and key stakeholders)	Objectives/ Timeframe/Impact (qualitative and/or quantitative)	Description of progress or achievement
1.					

Initiatives relevant to accelerating innovation

No.	APEC Economy or Forum	Title	Brief description (including sectoral coverage and key stakeholders)	Objectives/ Timeframe/Impact (qualitative and/or quantitative)	Description of progress or achievement
1.					

Initiatives relevant to increasing employability

No.	APEC Economy or Forum	Title	Brief description (including sectoral coverage and key stakeholders)	Objectives/ Timeframe/Impact (qualitative and/or quantitative)	Description of progress or achievement
1.					

II. Policies, Strategies and Plans

ECONOMY:

Actions	Policies, Strategies and Plans	Description of progress or achievement / relevant measures taken to meet Targets
Pillar 1: Enhance and Aligning Competencies to the Needs of Individuals, Societies and Economies		
Enhancement of Quality Assurance Systems, Qualification Frameworks and	Title, year of issuance, responsible agency, abstract etc.	

Actions	Policies, Strategies and Plans	Description of progress or achievement / relevant measures taken to meet Targets
Skills Recognition		
Promotion of cross-border education, academic mobility and individual pathways within and across education levels.		
Modernization of education systems		
Pillar 2: Accelerate Innovation		
Improving the use of educational and technological capabilities in teaching and learning processes		
Promotion of Science, Technology and		

Actions	Policies, Strategies and Plans	Description of progress or achievement / relevant measures taken to meet Targets
Innovation in education and pedagogical practices.		
Promotion of Economy – Industry – Academia Collaboration for R&D and Innovation.		
Pillar 3: Increase Employability		
Promotion of collaboration between economy, higher education and TVET institutions, business and education and training stakeholders.		
Development of 21st century competencies for work and entrepreneurship.		

Actions	Policies, Strategies and Plans	Description of progress or achievement / relevant measures taken to meet Targets
Smoothing the transition from education to work.		

Annex 2: Mid-Term Review of APEC Education Strategy

Interview Questionnaire

Relevance

1. How well do EDNET's projects and initiatives align with the objectives of *APEC Education Strategy* and its action plan?

2. How well does the coordination of EDNET and HRDWG support APEC members to attain the goal of *APEC Education Strategy* and its action plan?

3. To what extent do the projects and initiatives respond to the needs of marginalized groups such as people with disability and migrants, and also highlighting the voices of learners and youth?

Coherence

1. What are the linkages between the *Strategy* and other APEC strategies and initiatives, particularly those in HRDWG?
2. How well does the *Strategy* align with other multilateral agreements on education of the same time frame?

Efficiency

1. To what extent have the APEC education projects and initiatives utilized APEC funding and the EDNET platform?
2. How well do APEC Secretariat support EDNET members to develop and implement projects?

Effectiveness/Impact

1. To what extent are the approaches outlined in the action plan employed in the member economies' engagement in EDNET?
2. To what extent have the outcomes of the projects and initiatives met the targets corresponding to each objective? Are the targets and indicators designed in the action plan still valid and relevant to the work of EDNET and circumstances of APEC members?
3. To what extent do these actions promote regional cooperation?
4. What are the enabling/inhibiting factors to the outcomes?
5. What implementation gaps remain?

Sustainability

1. How likely are the implementation of the *Strategy* to be continued without the support of APEC funding and coordination?
2. What impact from the implementation of the *Strategy* have lasted and how?
3. Has the *Strategy* resulted in capacity building and policy level changes?

Annex 3: Mid-Term Review of APEC Education Strategy

Case Study Template

The case study could be either for a policy, a reform, a project or an initiative as long as it is aligned with the *APEC Education Strategy* and its action plan.

Relevance

What problems does the case seek to address.

Context

When, where and related social and economic factors.

Key players

Who or what agencies play pivotal role and how.

Approach and Strategies

What approaches and strategies are used to address the above problem.

Impact

The key products or services as a result of the case and the specific impacts, changes or benefits that the case has delivered.