Asia-Pacific Economic Cooperation

APEC CHINA 2026

Forge an Innovative and Synergistic Asia-Pacific Energy Community for All

Theme and Priorities for APEC 2026 Energy Sector

PART 01

Background

Background: APEC Vision & Goals

The Putrajaya Vision 2040 and the Aotearoa Plan of Action propose to create strong, balanced, secure, sustainable, and inclusive growth.

- **Double renewable energy share from 2010 by 2030.**
- **Reduce energy intensity by 45% from 2005 levels by 2035.**

Asia-Pacific Economic Cooperation

Background: Achievements & Challenges

Achievements

Renewable energy installed capacity increased by ~180% from 2010 levels; energy intensity decreased by ~38% from 2005 levels.

Challenges

Uncertainties from geopolitical conflicts, climate change, and technological revolution; dual challenge of ensuring secure supply and promoting low-carbon challenge.

Theme & Priorities for APEC 2026

“Forge an Innovative and Synergistic Asia-Pacific Energy Community for All”

Energy for All

Ensuring accessible and sustainable energy for every member.

AI + Energy

Harnessing artificial intelligence to drive energy innovation.

Synergistic Cooperation

Strengthening regional collaboration for shared growth.

PART 02

Priority 1: Energy for All

Priority 1: Energy for All - Background

Why Energy Matters:
Energy is essential for economic development, livelihood improvement, and poverty reduction, serving as a cornerstone for modern society.

APEC's Commitment:
Endorsed in 2020, the Initiative to Enhance Energy Access promotes access to sustainable, reliable, affordable, and modern energy across the region.

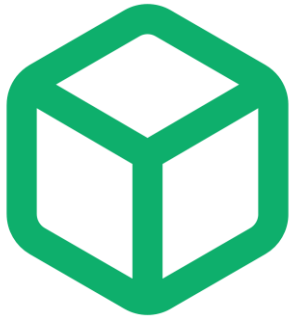
Vision: Ensure no one is left further behind in a sustainable energy future.

Priority 1: Energy for All - Progress

Progress

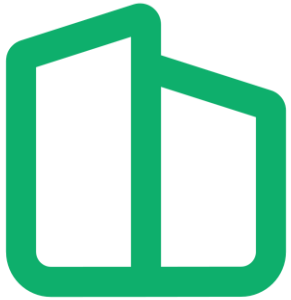
Over 460 million people gained access to electricity for the first time.

Challenges 1： Energy Infrastructure Gaps



Grid Coverage

Limited grid expansion in small islands, rural, and remote areas restricts access to modern energy services.



Power Reliability

Unreliable supplies persist, disrupting daily life and economic activities in developing regions.

Energy Poverty

250 million APEC residents face energy poverty with high consumption burdens.

Challenges 2： Electricity Affordability Disparities

Economic Levels

Varying development levels create divergent capacities to afford electricity prices.

Resource Endowments

Resource availability drives cost gaps, impacting affordability across regions.

Policy Impacts

Energy policies and consumption structures shape uneven affordability challenges.

Challenges 3： Urbanization and Low-Carbon Transition Pressures

Ecological Strain

Rapid urbanization heightens environmental stress, complicating decarbonization.

Growth-Environment

Balancing economic growth with sustainability becomes increasingly difficult.

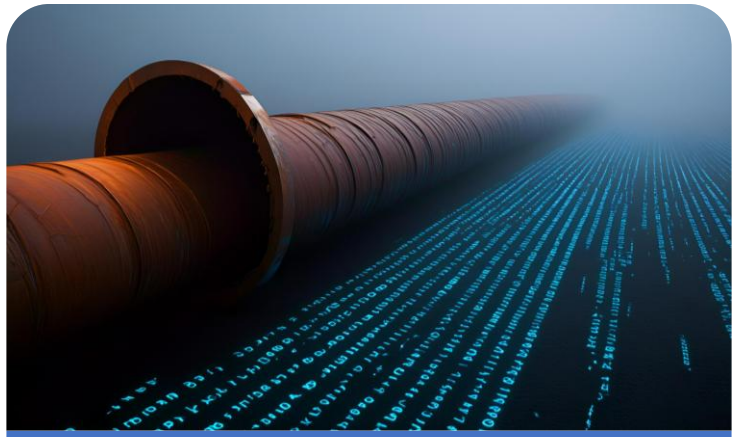
Transition Complexity

Urban expansion adds layers to achieving low-carbon energy transitions.

Challenges 4： Power System Stability Threats

Extreme Weather

Frequent climate events disrupt systems, causing outages in vulnerable economies.



Cybersecurity

Rising threats compromise energy infrastructure safety and operation.

Supply Chains

Disruptions increase risks of rationing and unstable power supplies.

Deliverable 1: High-Quality Universal Energy Services

Core Aspiration

Aim to meet people’s aspiration for a better life through high-quality energy use.

Modern Energy System

Build a service system characterized by:**reliable, resilient, adequate, high-quality, inclusive, affordable, and environmentally friendly.**

Deliverable 1: High-Quality Universal Energy Services

1.Enhancing electricity reliability in rural and remote areas

2.Promoting inclusive energy service for special areas and vulnerable groups

3.Ensuring stable electricity supply for the industrial sector

4.Advancing sustainable urban energy development

5.Establishing affordable electricity pricing mechanisms

Deliverable 2: Recommended Solutions for Enhancing Power System Resilience

Inclusive & Sustainable Development

Serve as a reference for developing inclusive, resilient, clean, and low-carbon power systems.

Systemic Risk Mitigation

Support economies in mitigating systemic risks including climate change, cyber threats, and supply chain vulnerabilities.

Smart Grid Monitoring Center

Deliverable 2: Recommended Solutions for Enhancing Power System Resilience

1.Strengthening technical and equipment support systems

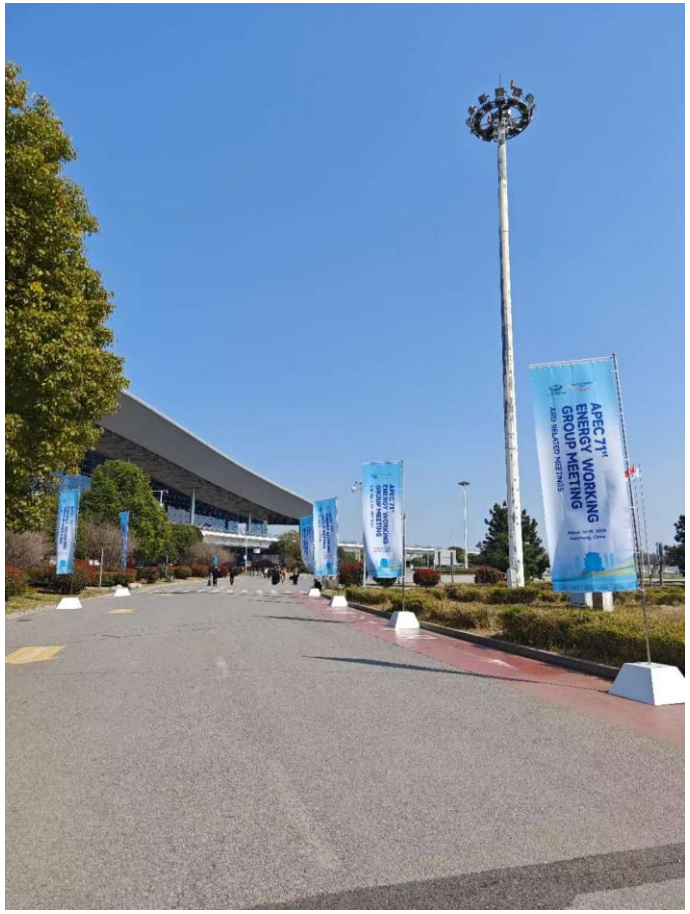
Promote standardization and project implementation of UHV and Flexible HVDC transmission technologies.

Upgrade the main grid framework and expand inclusive coverage across urban and rural areas.

UHV Transmission Tower - A key infrastructure

Deliverable 2: Recommended Solutions for Enhancing Power System Resilience

- **2.Enhancing inclusive policy frameworks**
  Integrate inclusive resilience building into top-level design to form a multi-level electricity market system that supports resilience for all stakeholders.



Deliverable 2: Recommended Solutions for Enhancing Power System Resilience

3.Actionable Implementation Solutions

Deeply implement flexible retrofitting of coal-fired power units, optimize natural gas peak-shaving power plants, accelerate pumped storage hydropower stations, and promote diversified development of new energy storage technologies.

PART 03

Priority 2:AI + Energy

Priority 2: AI + Energy - Background

- Technological innovation is the key driving force for the green, digital, and intelligent energy transition.
- APEC economies are advancing collaboration across conventional and renewable energy development, establishing a comprehensive framework for energy innovation.

Priority 2: Global Trends

IEA reports global data center electricity consumption reached ~415 TWh in 2024, accounting for 1.5% of total global electricity use.

By 2030, data center electricity consumption is expected to more than double to ~945 TWh, driven by AI and digital expansion.

Electricity demand from AI-serving data centers is projected to increase over fourfold by 2030.

IRENA projects AI applications in energy will reduce global CO_2 emissions by ~1.5 billion metric tons by 2030.

Priority 2: Global Trends

New Capacity

In 2024, global newly installed renewable energy capacity hit a record 585 gigawatts, marking a 15.1% year-on-year increase, driving unprecedented expansion.

Market Dominance

Renewables accounted for 92.5% of global new power capacity in 2024; by year-end, total renewable installations reached 4,448 gigawatts, comprising 46.2% of the global total.

Cost Competitiveness

91% of new renewable energy projects in 2024 featured lower costs than fossil fuel alternatives, accelerating economic viability and adoption.

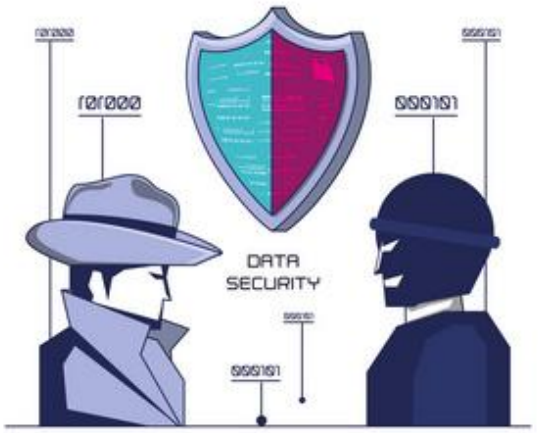
Priority 2: AI + Energy - Challenges

Integration & Governance Hurdles

AI-energy integration faces fragmented technology application, inconsistent data governance, incomplete security systems, and lack of cross-border coordination.

VRE Penetration Exploration

Development pathways for high VRE (Variable Renewable Energy) penetration power systems are still in the exploration stage.



Deliverable 1: APEC Action Plan on Collaborative Governance for AI-Energy Synergy

This action plan aims to strengthen international AI-energy collaboration through alignment of development strategies, governance frameworks, and technical standards.

Green Data Center Concept

1.Strengthening Secure & Clean Energy Supply for AI Computing Centers

Guide coordinated planning, deployment, construction, and operation of computing centers alongside low-carbon energy sources. Establish widely recognized standards for green and low-carbon coordination between computing and electricity

2.Advancing Clean, Low-Carbon, Secure & Efficient Energy Systems

Encourage the opening of high-value AI application scenarios in the energy sector to enhance overall system efficiency, flexibility, and resilience.

3.Building a Key Technology Supply System

Strengthen innovation in AI models tailored to energy sector applications.

4.Shaping a regional energy landscape for the benefit of all

Encourage the development of an open, coordinated, and widely recognized open-source ecosystem. Accelerate training for interdisciplinary professionals in AI and energy. Promote financial and policy support for AI and energy sectors.

Deliverable 2: Recommendations for Developing New-Type Power Systems Adapted to High VRE Penetration

Technical solutions

Explore advanced grid platforms compatible with high VRE penetration. Facilitate coordination among bulk grids, distribution networks, and microgrids to enhance flexibility and resilience in resource allocation.

Policy Frameworks

Encourage tailored energy policy research informed by VRE development practices to improve the enabling environment for resource development, investment, and technology application.

Regional cooperation

Enhance knowledge sharing and peer learning among member economies regarding system planning, operational practices, and market design

PART 04

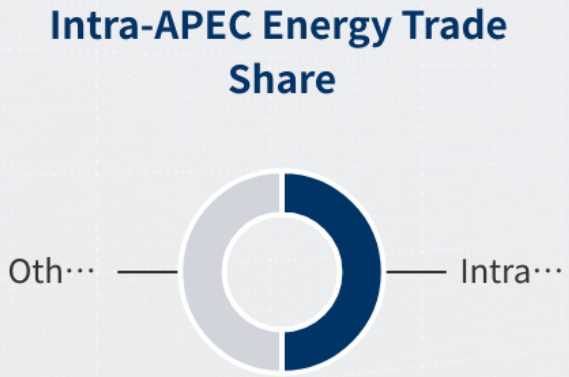
Priority 3: Synergistic Cooperation

Priority 3:Synergistic Cooperation-Background

Energy trade is a cornerstone of APEC economic integration, facilitated by robust maritime logistics.

APEC economies vary widely in their development stages and energy resource endowments, creating strong complementarities and deep integration of interests.

EWG data highlights the significance of regional trade:



Over 50%

of global energy trade occurs within APEC economies, demonstrating a highly integrated market.

Four Key Deliverables

To advance this agenda, we propose the following four deliverables:

01. Voluntary Principles for Enhancing APEC Energy Synergy

02. APEC Cooperative Framework for Jointly Driving Cities towards Zero Carbon

03. The Asia-Pacific Clean Energy Training Institute

04. Non-Binding Principles for Promoting Energy Security Coordination

Deliverable 1: Voluntary Principles for Energy Synergy

These voluntary principles serve as a reference for promoting practical energy cooperation across the Asia-Pacific region, focusing on five core principles, key collaboration areas, and implementation through existing mechanisms.

APEC Mechanism Implementation

Utilizing existing frameworks to drive regional energy synergy.

Regional Energy Cooperation & Synergy

Five Core Cooperation Principles

- **"For All"** —recognizing differences in resource endowments and developmental stages.
- **"Openness"** —fostering a transparent and inclusive energy market.
- **"Synergy"** —encouraging coordinated action among governments, businesses, and social entities.
- **"Pragmatism"** —focusing on replicable and actionable initiatives.
- **"Universal Benefit"** —ensuring energy benefits reach all groups.

Deliverable 2: APEC Cooperative Framework for Jointly Driving Cities towards Zero Carbon

This framework aims to facilitate urban energy transformation, share zero-carbon urban development experiences, and scale up related technologies.

Zero Carbon Building, Hong Kong

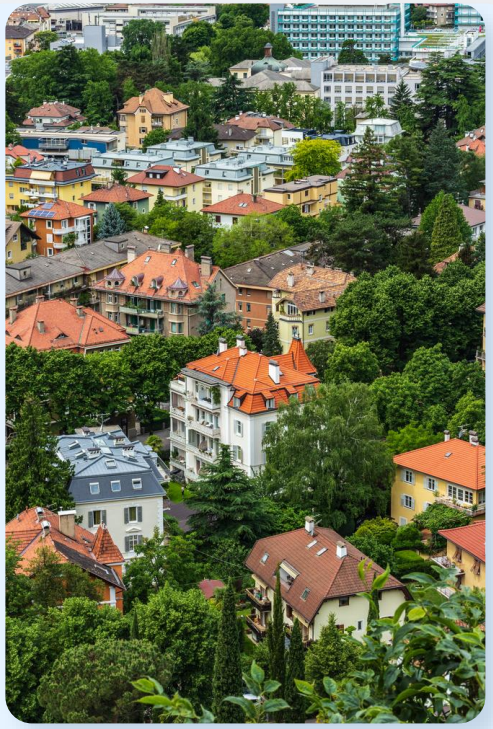
Deliverable 2: APEC Cooperative Framework for Jointly Driving Cities towards Zero Carbon

1.Building clean, low-carbon, secure, resilient, and efficient urban energy systems

2.Advancing green, zero-carbon, and intelligent urban development

3. Establishing urban economy-energy-carbon accounting systems and market-based mechanisms

4. Building a synergistic cooperation platform for APEC cities towards zero carbon



Example: Merano Smart Green Community

Deliverable 3: Clean Energy Training Institute

01.APEC Leadership & Regional Cooperation Focus

The Institute will be firmly focused on APEC's priorities and regional cooperation needs, aligning strategies with regional development goals.

02.Industry-Academia Led Co-Development

Led by a strong partnership between industry and academia, combining practical industry experience with academic excellence to drive innovation.

Deliverable 3: Clean Energy Training Institute

03

Needs-Based Regionalized Curriculum Design

Tailored to specific economic needs and regional contexts for relevance.

04

Inclusive Multi-Stakeholder Collaboration Platform

Engaging diverse partners to foster collective impact and innovation.

05

Sustainable Long-Term Funding Mechanism

Establishing financial stability to ensure the Institute's enduring success.

Deliverable 4: Non-Binding Principles for Energy Security Coordination

Jointly explore ways and mechanisms for multiparty synergy in addressing energy security risks.

Strategic Petroleum Reserve Facilities

Deliverable 4: Non-Binding Principles for Energy Security Coordination

1.Information & Resource Sharing

Promote seamless information and resource sharing across departments to break down silos and ensure a unified security posture.

2.Energy Risk Warning

Enhance energy risk warning systems using advanced data analytics to anticipate potential disruptions and proactively mitigate threats.

3.Emergency Response Coordination

Establish coordination mechanisms for emergency response to ensure unified action and rapid deployment during crises.

4.Energy Infrastructure Interconnection

Support the interconnection of energy infrastructure to build a more robust, resilient, and efficient network system.

Expected Outcomes

- the APEC Energy Ministerial Meeting Joint Statement for EMM16.
- Develop multiple deliverables on the three priorities.

Asia-Pacific
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Thank You

Forward Work Plan

Comprehensively compile and study all comments and suggestions; welcome additional written feedback **before the end of March**.

Distribute zero drafts of outcome documents for comments starting **from late April 2026.**

Organize multi-round thematic virtual consultation sessions **from June to August 2026.**

Virtual Consultation & Planning

Beijing Energy Meeting Week

- **72nd APEC EWG Meeting :** 8-9 September
- **16th APEC Energy Ministerial Meeting:** 10-11 September
- **Side Events:**APEC Fund Project Seminar, Forums, other professional activities.