

## **Just Energy Transition Initiative**

### **Introduction:**

Mindful of the commitment of APEC Leaders in APEC Putrajaya Vision 2040 to promote strong, balanced, secure, sustainable, and inclusive growth, and in recognition that more intensive efforts are needed for economies to accelerate their clean, sustainable, just, affordable, and inclusive energy transitions, APEC economies develop this Just Energy Transition Initiative (JETI) through the Energy Working Group to promote efforts to advance energy transitions in the APEC region that engage the workforce, private sector companies and investors, and communities in an equitable and inclusive way, including MSMEs, women and others with untapped economic potential, such as Indigenous Peoples as appropriate.

For use in this context, just transitions may be considered as a continuous process of moving toward a sustainable, resilient, and equitable economy that provides decent, productive, and ecologically responsible livelihoods; and equitably distributes costs and benefits of the energy system within respective APEC economies consistent with their domestic circumstances. Just energy transitions support an orderly improvement of efficient energy production, transmission, distribution, and consumption intending to deliver sustainable development, support inclusive workforce development and decent work, eliminate energy poverty, achieve carbon neutrality, and ensure energy security, leaving no one behind.

International collaboration is critical for the development of a wide variety of energy sources and technologies, including but not limited to those listed under Thematic Area 5.

The JETI aims to support APEC economies in achieving their intended just energy transition milestones through capacity building, knowledge sharing, and best practices.

**Objective:**

The main objective of the Just Energy Transition Initiative (JETI) is to help APEC member economies share just energy transition best practices, undertake their respective transition pathways, and accomplish their domestically relevant goals. The Initiative aims to organize and perform activities including studies, workshops, and knowledge sharing to enhance participation, information sharing, and policy best practices on just energy transition across APEC economies. The Initiative will be guided by the Non-Binding Just Energy Transition Principles that were initially discussed at the 13<sup>th</sup> APEC Energy Ministers' Meeting (EMM13) in August 2023 in Seattle, WA, and welcomed by the APEC Ministers in November 2023 in San Francisco, CA.

**Non-Binding Just Energy Transition Principles for APEC Cooperation:**

1. Take into account domestically defined economic growth priorities
2. Pursue positive environmental, social, and economic outcomes.
3. Deliver domestically defined equitable benefits.
4. Support inclusion and gender equality.
5. Create resilient firms, institutions, and communities.
6. Provide support for decent work and workforce development.
7. Promote healthy lives and well-being for all.

## **Just Energy Transition Initiative Activities:**

As the Just Energy Transition Initiative is being established as the newest EWG initiative (following the Energy Security Initiative and the Energy Smart Communities Initiative), Just Energy Transition may be added to the next update of the EWG Strategic Plan, the EWG Work Plan, the terms of reference of the EWG and its sub-bodies, and the criteria for the EELCER sub-fund, as appropriate. Activities supporting the Just Energy Transition Initiative may be included where appropriate as an element of current and future EWG workstreams. Initially, a series of APEC projects, including *background studies* and *workshops*, may be conducted to share ideas and information on JET best practices in thematic areas. Each background study and workshop will provide information on economies' experiences, lessons learned, and success stories to nurture capacity building on JET across the APEC region. The following JET thematic areas and corresponding activities are envisioned and more may be added as determined by the EWG. Members can consider integrating public-private cooperation and cross-fora cooperation into their activities. We acknowledge that energy financing is an important aspect of energy transitions and respect the work performed by other APEC fora in furtherance of this goal.

The following thematic areas include a range of possible topics for collaborative projects and activities. Inclusion here does not constitute endorsement by all APEC members of any particular energy source, technology, or activity.

### **JETI Thematic Area 1: Just energy transition and energy security**

**Background Study and Workshop:** This background study and workshop will focus on projects and activities across APEC on energy

security from the perspectives of energy importers and exporters and how they have navigated balancing energy transitions (i.e., share on lessons learned, challenges, and recommendations). This thematic area will consider the Energy Security Initiative and its relationship to just transitions.

### **JETI Thematic Area 2: Fossil fuel power plants and just energy transition**

**Background Study and Workshop:** The background study and workshop on this topic will discuss three key areas in the fossil fuel power plant transition landscape:

- Fossil fuel-to-X (i.e., organic and voluntary decommissioning of fossil fuel power plants and repurposing, including as flexibility sources, and redeveloping them with renewable energy and other zero- and low-carbon technologies, including those listed in Thematic Area 5, below.
- Workforce and jobs (i.e., plans, policies, and actions that mitigate workforce and job impacts, and job reconversion plans to ensure economic and community revitalization.
- Catalyzing technologically and economically feasible investments in new industries and financial support mechanisms for the voluntary repurposing and redevelopment of fossil-fuel-fired power plants.

### **JETI Thematic Area 3: Just energy transition for gender equality, well-being, and inclusive sustainable development**

**Background Study and Workshop:** This background study and workshop will integrate the various elements of well-being (e.g.,

energy, food, water, transportation, etc. (i.e., quality of life) and address how member economies are integrating these in their projects and plans to ensure equitable access to resources, and opportunities, and decent work. Priorities on women, MSMEs, Indigenous Peoples as appropriate, people with disabilities, those from remote and rural communities, and others with untapped economic potential will be discussed in light of energy transitions.

#### **JETI Thematic Area 4: Rural electrification and energy access**

**Background Study and Workshop:** This background study and workshop will focus on efforts that balance the need for energy transition with electrification, including integration of higher shares of renewable energy into energy systems, especially for those economies that lag behind in electricity generation and access. Under this thematic area APEC economies can share resources for capacity building to maximize their use of domestically available resources, such as financial programs, policy development, and program implementation for rural electrification and energy access.

#### **JETI Thematic Area 5: Technical solutions for just energy transition**

**Background Study and Workshop:** This background study and workshop is intended to cover various technology, policy, and skills and workforce development solutions that contribute to just energy transition. This work could cover topics that include:

##### Policy Frameworks

- Demand response and demand side management
- Clean/sustainable energy policy and regulatory frameworks
- Digital and green transition in the energy sector

- Financing
- Strategies to advance workforce development and quality jobs in order to support technical solutions

#### Sustainable Technologies

- Technical solutions/equipment needed for the safe and stable operation of power systems, including those with a high ratio of rooftop solar integration
- Energy efficiency and low-carbon solutions
- Carbon capture and storage (CCS)/Carbon capture, utilization and storage (CCUS)
- Regional Interconnectivity, including to facilitate cross-border electricity trading projects

#### Fuels and Energy Sources

- Distributed energy resources
- Clean and low carbon hydrogen, and its derivatives, such as ammonia
- E-fuels, e-methane and other fuels that can readily mix with and lower the emissions of existing fossil fuels
- Biomass, biofuels, biogas and biomethane
- Natural gas and LPG
- Fossil fuels with abatement and removal technologies and offset mechanisms

- Research, development and deployment of nuclear energy for interested economies, adhering to nuclear safety, security, safeguards, and peaceful uses, including opportunities for integration of nuclear energy and other clean energy technologies, such as variable renewables.

#### Grids and Storage Microgrids

- Smart grid
- Renewable integration
- Energy storage

In addition to the above activities, a new section has been added to the ESCI Knowledge Sharing Platform (ESCI-KSP) homepage to support knowledge sharing of just energy transition best practices. In addition, the criteria for the ESCI Awards program have been revised to add a criterion for just energy transition, which was used for the sixth ESCI Awards announced earlier in 2024.

# 公正能源轉型倡議

## JUST ENERGY TRANSITION INITIATIVE

### 1. 前言

注意到 APEC 領袖們於「2040 太子城願景 (Putrajaya Vision 2040)」的承諾，為促進強健、均衡、安全、永續和包容的經濟成長，同時了解到經濟體們需投入更多努力加速潔淨、永續、公正、可負擔和具包容性的能源轉型，APEC 經濟體透過能源工作組 (EWG) 發展公正能源轉型倡議，致力於加速 APEC 區域潔淨能源轉型，讓勞動力、私部門企業和投資者，以及社群團體，包括微中小型企業、婦女、和其他經濟潛力尚未開發的人如原住民族，得以公平和包容性的方式參與。

在此背景下，APEC 經濟體視公正轉型為一個持續邁向永續、韌性和公平經濟的過程，提供良好、有生產力及對生態負責任的生活模式，且在 APEC 經濟體內，依其內部情勢，公平地分配能源系統的成本和效益。公正的能源轉型支持有序地提高效率能源生產、傳輸、分配和消費，目的係促進永續發展，支持包容性的勞動力發展和良好工作，消除能源貧困，實現碳中和，並確保能源安全，不遺落任何人。

國際合作對於發展多種能源來源和技術至關重要，包括但不限於主題領域五中列出之技術。

本倡議旨在透過能力建構、知識共享和最佳實踐，支持 APEC 經濟體實現公正能源轉型之里程碑。

### 2. 目的

公正能源轉型倡議 (JETI) 之主要目的係協助 APEC 會員經濟體分享公正能源轉型之最佳實踐，落實各自轉型路徑，並實現其內部相關目標。本倡議旨在規劃和執行相關活動包括研究、研討會和知識共享，以促進 APEC 經濟體之間在公正能源轉型方面的參與、資訊共享



和政策最佳實踐。本倡議係依據「不具約束力 APEC 公正能源轉型合作原則（Non-Binding Just Energy Transition Principles for APEC Cooperation）」，該原則最初在 2023 年 8 月於美國華盛頓州西雅圖舉行的第 13 次 APEC 能源部長會議（EMM13）上討論，並於 2023 年 11 月在美國加州舊金山舉行的 APEC 部長會議上獲得支持。

#### 不具約束力 APEC 公正能源轉型合作原則：

- (1) 考量經濟體內部經濟成長優先順序；
- (2) 追求正向的環境、社會和經濟成果；
- (3) 提供經濟體內部公平利益；
- (4) 支持包容性與性別平等；
- (5) 創造具韌性的企業、機構和社區；
- (6) 為良好的工作和勞動力發展提供支持；
- (7) 促進所有人生命健康和福祉。

### 3. 公正能源轉型倡議活動

隨著公正能源轉型倡議成為 EWG 繼能源安全倡議（Energy Security Initiative）和能源智慧社區倡議（Energy Smart Communities Initiative）之後的最新倡議，其可適時納入下一次能源工作組戰略計劃（EWG Strategic Plan）、能源工作組工作計劃（EWG Work Plan）、能源工作組及其下屬機構職權範圍，以及能源效率、低碳與能源韌性措施子基金（EELCER）標準中。支持公正能源轉型倡議的活動可在適當情況下納入當前和未來 EWG 工作流程的重點。初始階段，可透過 APEC 一系列計畫中包括背景研究和研討會的部分，分享本倡議各主題領域最佳實踐之想法和資訊。每項背景研究和研討會將提供各經濟體有關經驗、教訓和成功案例，以促進 APEC 區域在公正能源轉型方面的能力建構。以下納入之公正能源轉型主題領域及其相應活動，

後續可視 EWG 決定是否新增相關內容。會員體們可考慮將公私合作和跨論壇合作整合至其活動中。我們認知到能源融資係能源轉型中重要的一環，並尊重其他 APEC 論壇為促進該目標所做的工作。

以下主題領域涵蓋一系列合作計畫和活動的可能議題，其並不代表所有 APEC 會員體對任何特定能源來源、技術或活動的支持。

### **主題領域一：公正能源轉型與能源安全**

**背景研究和研討會：**聚焦於 APEC 在能源安全方面的計畫和活動，從能源進口方和出口方的角度探討其如何平衡能源轉型，即經驗教訓、挑戰和政策建議之分享。此主題領域將考慮能源安全倡議及其與公正轉型的關係。

### **主題領域二：化石燃料電廠與公正能源轉型**

**背景研究和研討會：**探討化石燃料電廠轉型的三個重點領域如下，

- 化石燃料轉型，即化石燃料電廠自動和自願退役及其重新利用，包括將其作為彈性資源，並用再生能源和其他零及低碳技術重新開發這些電廠，以下述主題領域五中列出的技術為例。
- 勞動力和就業，即減輕對勞動力和就業影響的計畫、政策和行動，以及確保經濟和社區振興的職業轉換計畫。
- 催化新產業中技術上和經濟上可行的投資，並為自願改造和重建的化石燃料發電廠提供財務支持機制。

### **主題領域三：性別平等、福祉和包容性永續發展**

**背景研究和研討會：**整合各種福祉元素（即生活品質），例如能源、糧食、水資源及運輸等，並探討會員經濟體如何在其計畫和方案中整合這些元素，以確保公平獲得資源、機會，以及良好工作的途徑。在能源轉型的背景下，將優先討論對女性、中小微型企業、原

住民族、身心障礙人士、偏遠和農村社群，及其他潛在經濟價值未被開發群體之影響。

#### 主題領域四：鄉村電氣化和能源取得途徑

**背景研究和研討會：**聚焦平衡能源轉型與電氣化之間需求的努力，包括將更高比例的再生能源整合到能源系統中，特別是對於在電力生產和獲取方面落後的經濟體。在此主題領域下，APEC 經濟體可分享能力建構資源，以最大化利用其內部可行資源，如財務計劃、政策發展以及鄉村電氣化和能源途徑的計畫執行。

#### 主題領域五：技術解決方案

**背景研究和研討會：**旨在涵蓋促進公平能源轉型的各種技術、政策、技能和勞動力發展解決方案，其可涵蓋主題包括，

##### 政策框架

- 需求回應和需求端管理
- 潔淨/永續能源政策和監管框架
- 能源部門數位和綠色轉型
- 融資
- 促進勞動力發展和優質工作策略，以支持技術解決方案

##### 永續性技術

- 安全和穩定電力操作系統所需的技術解決方案/設備，包括高比例屋頂太陽能整合系統
- 能源效率和低碳解決方案
- 碳捕捉與封存（CCS）/碳捕捉、利用與封存（CCUS）
- 區域相互連結性，包括促進跨境電力交易計畫

## 燃料和能源的來源

- 分散式能源
- 潔淨及低碳氫能和其衍生物，如氨
- 電力衍生燃料（**e-fuels**）、電力衍生甲烷（**e-methane**）和其他可與現有化石燃料混合並降低其排放的燃料
- 生質能、生質燃料、沼氣和生質甲烷
- 天然氣和液化石油氣
- 具備減排和去除技術及抵消機制的化石燃料
- 對於有興趣的經濟體進行核能的研究、開發和部署，遵循核安全、安全性、保障措施，及和平使用原則，包括核能與其他潔淨能源技術整合的機會，如變動性再生能源。

## 電網和儲存

- 微電網
- 智慧電網
- 再生能源併網
- 儲能

除上述活動外，能源智慧社區倡議知識分享平台（ESCI-KSP）網站首頁業已新增公正能源轉型區塊，以支持公正能源轉型最佳案例的知識分享。此外，針對 ESCI 評選活動計劃的評分標準也進行修訂，新增公正能源轉型加分項目，該標準已套用於稍早辦理的 2024 年第 6 屆 ESCI 評選活動。