

Just Transition Principles

Prepared for the APEC Energy
Working Group Workshop on
Promoting a Just Energy Transition

May 2023

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Executive Summary

Across the world, many economies are lessening their reliance on fossil fuels for power and energy production and increasing their use of clean energy. This global energy transition impacts a number of sectors and can exacerbate existing socioeconomic and environmental inequities without targeted planning and action.

Just transition is an iterative, continuous process of moving toward a sustainable, resilient, and equitable economy that provides decent, productive, and ecologically responsible livelihoods; nurtures social dialogue; and fairly distributes costs and benefits of the energy system.

The member economies of the Asia-Pacific Economic Cooperation (APEC), a multilateral and intergovernmental economic and trade forum committed to reducing trade barriers, represent significant portions of the world’s population, global nominal gross domestic product, and world trade. The energy mix of APEC economies, which provided 59 percent of the world’s total primary energy supply in 2020, is changing, even as new coal-fired power capacity is added.

This report offers just transition principles from international frameworks that are tailored for APEC economies and provides further points of consideration and examples illustrating how they can be applied in practice.

Principle	Description
1. Pursue positive environmental, social, and economic outcomes	<i>Approach just transition as an opportunity for sustainable redevelopment. Remediate legacy sites to improve outcomes for people and the environment.</i>
2. Deliver equitable benefits	<i>Ensure an equitable distribution of benefits and costs of the energy transition. Evaluate how different groups will be impacted in the process.</i>
3. Support inclusion and gender equity	<i>Facilitate inclusion of marginalized groups and gender equity in workforce and decision-making. Prioritize gender-responsive transition plans to prevent gender-based discrimination.</i>
4. Enable participatory decision-making	<i>Lead transition initiatives in consultation with local stakeholders. Prioritize the development of bottom-up approaches that emphasize social dialogue. Include considerations for just transition in energy system planning and policies across the whole of government.</i>
5. Create resilient firms, institutions, and communities	<i>Incorporate resilience into climate adaptation and mitigation efforts. Enable local resilience along with international collaboration.</i>
6. Provide support for labor and workforce development	<i>Foster good livelihoods, develop demand-driven skills for labor-matching, and protect and enhance workers’ rights. Ensure workers have a voice over decisions that affect them.</i>
7. Safeguard community health	<i>Integrate community health outcome targets in climate policies and programs. Support local clean energy access.</i>
8. Protect the human rights of affected communities	<i>Ensure human rights and protections for workers all along the transition supply chain. Support the unique needs of affected people, including indigenous and local communities, and preserve their right to self-determination.</i>

Acknowledgments

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Acronyms and Abbreviations

APEC	Asia-Pacific Economic Cooperation
COP	Conference of the Parties
GDP	Gross domestic product
IRA	Inflation Reduction Act
ILO	International Labour Organization
POWER	Partnerships for Opportunity and Workforce and Economic Revitalization
PPWE	Policy Partnership for Women and the Economy
UNFCCC	United Nations Framework Convention on Climate Change

Contents

Executive Summary	ii
Acknowledgments	iii
Acronyms and Abbreviations	iv
1.0 Introduction	1
2.0 Global State of Just Energy Transition Best Practices	6
2.1 APEC Economy Energy Transition Commitments	8
3.0 Just Energy Transition Principles for APEC	9
3.1 Pursue positive environmental, social, and economic outcomes	9
3.2 Deliver equitable benefits	10
3.3 Support inclusion and gender equity	11
3.4 Enable participatory decision-making	11
3.5 Create resilient firms, institutions, and communities	12
3.6 Provide support for labor and workforce development	13
3.7 Safeguard community health	13
3.8 Protect the human rights of affected communities	14
4.0 Conclusion	14
5.0 References	16

Figures

Figure 1.	APEC region total primary energy supply, data from EGEDA (2023b). Fossil energy share comprises coal, coal products, crude oil, and natural gas. Non-fossil share calculated as total primary energy supply less fossil share.	1
Figure 2.	Coal-generating capacity additions and retirements in APEC region, data from Global Energy Monitor (2023a, 2023b).	2
Figure 3.	Installed renewable electricity capacity and APEC share, data from International Renewable Energy Agency (2022).	3
Figure 4.	Electricity generation mix by APEC economy in 2020, data from EGEDA (2023a).	4
Figure 5.	Global just transition frameworks.	7
Figure 6.	APEC economy decarbonization commitments (Lang et al. 2023).	8

Tables

Table 1.	Just transition principles.	5
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1.0 Introduction

A global transition from fossil energy to clean energy is unfolding. *Just transition* is an iterative, continuous process of moving toward a sustainable, resilient, and equitable economy that provides decent, productive, and ecologically responsible livelihoods; nurtures social dialogue; and fairly distributes costs and benefits of the energy system. It is aimed at supporting affected workers along the supply chain and communities most affected by the energy transition. Though the Asia-Pacific Economic Cooperation (APEC) region as a whole is largely representative of global energy transition trends, APEC’s member economies – and communities within them – will have their own transition nuances. Approaches to just transition must therefore recognize both the global and the local transition dynamics.

The APEC region contains 38% of the world’s population, generates 62% of global nominal gross domestic product (GDP), and accounts for 48% of world trade in goods and commercial services (APEC Policy Support Unit 2022a). Energy production and consumption in APEC are commensurate with these figures. APEC economies represented 59% of the world’s total primary energy supply in 2020 (APEC Energy Working Group 2023) and approximately 50% of world’s total final consumption in 2019¹ (APEC Energy Working Group 2023; International Energy Agency 2021a).

Fossil fuels dominate APEC’s energy mix at 86% of total primary energy supply (Figure 1) and 75% of electricity generation (APEC Energy Working Group 2023).

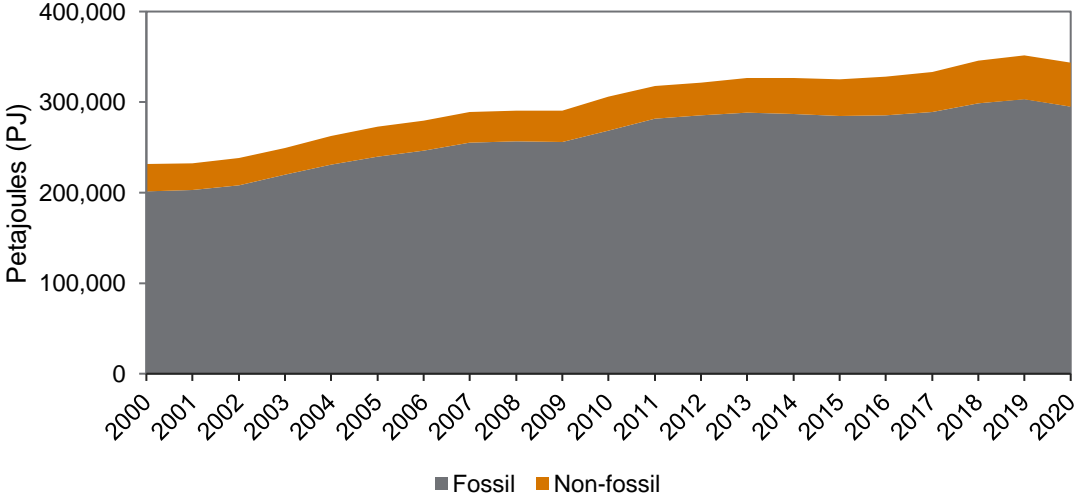


Figure 1. APEC region total primary energy supply, data from EGEDA (2023b). Fossil energy share comprises coal, coal products, crude oil, and natural gas. Non-fossil share calculated as total primary energy supply less fossil share.

Coal deserves particular attention in APEC’s energy story for several reasons. It is the largest component of the region’s total primary energy supply (34%) and electricity generation (42%) (APEC Energy Working Group 2023). As a whole, the region continues to add capacity for coal-fired electricity generation, but at a decreasing rate (Figure 2). The slowing rate of additions may indicate an approaching peak. Significant coal power plant retirements and mine closures have

¹ Calculated as APEC total divided by world total, with latest available world data.

already occurred in the region, particularly in the United States. Coal communities may therefore be an initial focus of just transition efforts in APEC.

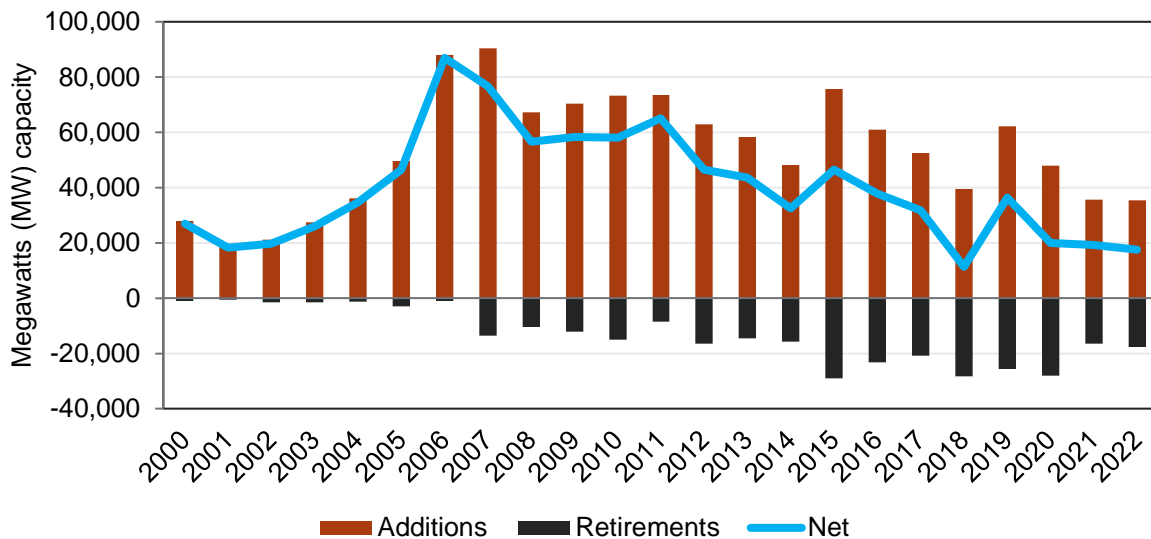


Figure 2. Coal-generating capacity additions and retirements in APEC region, data from Global Energy Monitor (2023a, 2023b).

Though fossil fuels dominate the current energy mix and the region continues to add coal capacity, APEC is experiencing accelerated growth in renewable energy. From 2010 to 2020, the share of renewable energy in the APEC region’s final energy consumption rose from 6% to 9.5%, and in electricity generation from 16% to 25% (APEC Energy Working Group 2023). These trends are consistent with APEC’s goal of doubling the share of renewable energy in the energy mix by 2030, compared to 2010 (APEC 2014)¹. Both the world and APEC are adding renewable electricity capacity at an increasing rate, and APEC’s share of these additions has increased over the last 20 years, reaching 60% of global installed capacity in 2021 (Figure 3).²

¹ APEC’s target defines modern renewables to include hydropower but exclude traditional biomass, which is combustion of woodfuels, agricultural by-products, and dung.

² The renewable electricity capacity statistics in this figure represent solar, wind, hydro, marine, geothermal, and bioenergy.

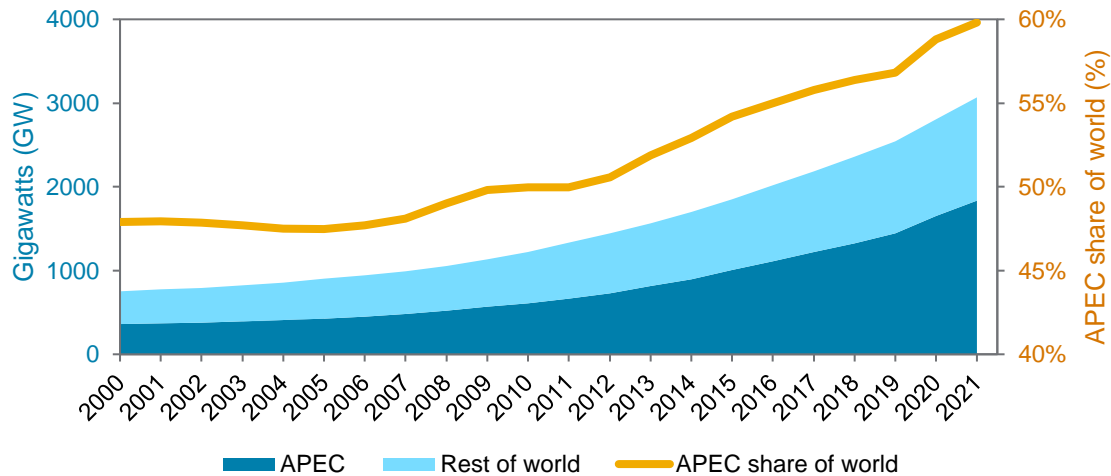


Figure 3. Installed renewable electricity capacity and APEC share, data from International Renewable Energy Agency (2022).

These simultaneous energy stories in the APEC region – historical fossil fuel predominance, potential fossil-fuel peaking, and renewable energy ascension – are indicative of the global energy transition. Fossil fuels dominate current world energy supply and demand, yet renewable energy is increasing steadily due to a number of forces, including falling costs and expanding government and corporate commitments for greenhouse gas emissions reductions. World scenarios based on current policies anticipate that demand for the three major fossil fuels will peak or plateau in the foreseeable future: coal in the coming years, natural gas by 2030, and oil by the mid-2030s (International Energy Agency 2022b). Increasing electrification of the transportation, industrial, and buildings sectors implies an expanded role for a clean¹ electricity grid. These global trajectories will affect APEC’s energy story and its approach to just transition.

APEC is a collection of 21 member economies with varying characteristics. Just transition will likely take different forms in different economies. The APEC region contains both strong net energy exporters and importers, for which the shift to clean energy has different implications. Similarly, member economies have different energy mixes; some already have a significant share of renewable energy, while others use predominantly fossil energy, implying additional effort ahead for a clean and just energy transition. This variation is reflected in the electricity generation mixes across economies (Figure 4). APEC economies are also entering the energy transition from different development positions, with different development priorities. The diversity of APEC economies underscores that approaches to just transition must recognize local circumstances.

¹ Clean energy in this discussion refers to non-fossil and abated fossil fuel sources.

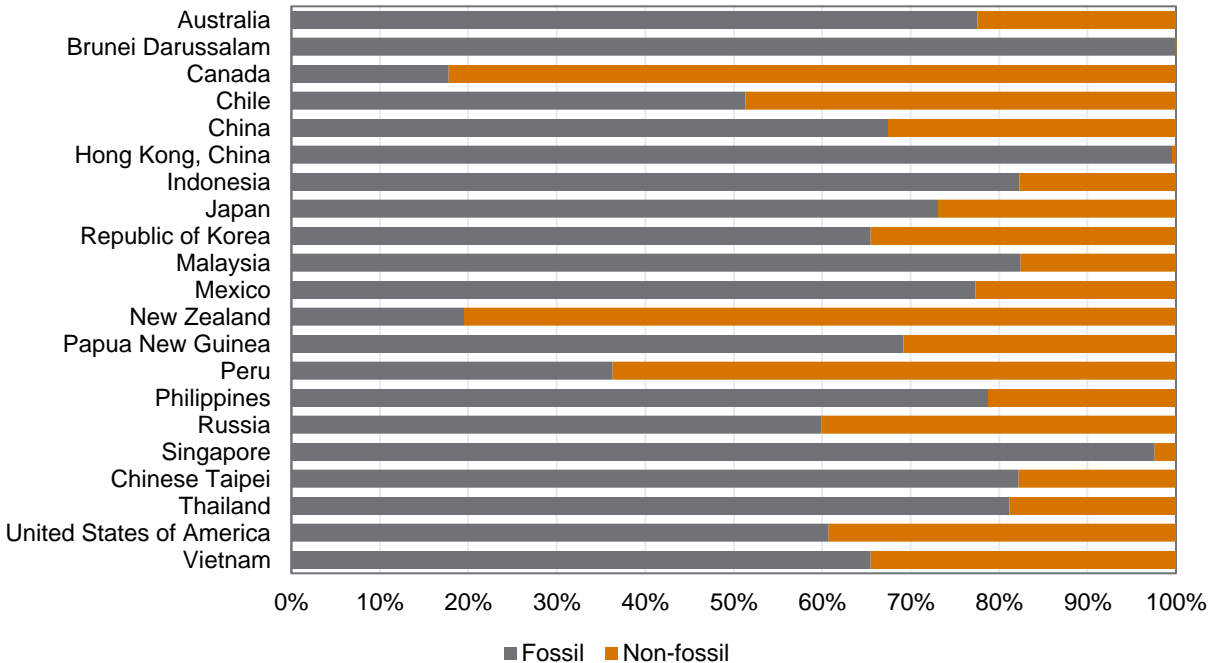


Figure 4. Electricity generation mix by APEC economy in 2020, data from EGEDA (2023a).

Just transition is a challenge and an opportunity. Fossil-fuel assets will be retired or redeveloped, in some cases before the designed end of their useful life. As fossil-fuel assets retire, there will be impacts on the associated jobs and communities. The loss of these local jobs and revenues can be significant, as they often provide local stability and identity. Clean energy jobs are not inherently a direct substitute for fossil-fuel jobs. They may be generated in different locations, last for different lengths of time, pay different wages, and have different multiplier effects in local economies, compared to the fossil fuel jobs impacted by the transition.

Simultaneously, clean energy growth creates new development and employment opportunities. In 2019, jobs in the energy sector (direct and indirect) represented 2% of global employment; half of these jobs were associated with clean energy, and this share is rising (International Energy Agency 2022a). Future world employment and GDP are both greater under modeled decarbonization scenarios, compared to reference scenarios (International Renewable Energy Agency 2018; International Energy Agency 2021b, 2022a).

The clean energy transition has the potential to achieve further benefits through reduced energy price volatility and reduced impacts to human and ecosystem health, if carried out consistent with principles of just transition.

APEC and its member economies are already addressing just transition. The APEC Finance Ministers’ Process is addressing the specific actions of financing for just transition. This paper discusses overarching principles that can help guide the multi-sectoral approach to just transition more broadly. We build on previous work by APEC (APEC Policy Support Unit 2022b), its member economies, and others.

A set of eight just transition principles (Table 1) were identified for discussion based on an interagency review of existing global just transition frameworks and best practices. Principles were expanded with points of consideration and examples relevant to APEC (see Section 3.0).

Table 1. Just transition principles.

Principle	Description
1. Pursue positive environmental, social, and economic outcomes	<i>Approach just transition as an opportunity for sustainable redevelopment. Remediate legacy sites to improve outcomes for people and the environment.</i>
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7. Safeguard community health	<i>Integrate community health outcome targets in climate policies and programs. Support local clean energy access.</i>
8. Protect the human rights of affected communities	<i>Ensure human rights and protections for workers all along the transition supply chain. Support the unique needs of affected people, including indigenous and local communities, and preserve their right to self-determination.</i>

2.0 Global State of Just Energy Transition Best Practices

“A just transition for all towards an environmentally sustainable economy...needs to be well managed and contribute to the goals of decent work for all, social inclusion and the eradication of poverty.”

International Labour Organization (2015)

“Taking into account the imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities...”

Paris Agreement (2015)

Across the world, many economies are reducing their use of fossil fuel-generated power and expanding their deployment of renewable and clean energy sources. The global transition away from fossil fuels and toward the increasing use of clean sources of energy is not solely rising out of state actions to reduce the impacts of climate change. Prevailing macroeconomic conditions and technological advances have lowered the cost of renewable energy generation and improved competitiveness in energy markets around the world, including in economies where new coal capacity is being added.

The wide-ranging impacts of this energy transition present a number of opportunities, but one challenge is to avoid exacerbating existing social, economic, and environmental inequalities or creating new ones by incurring costs unfairly or failing to share the subsequent benefits. This is particularly true for economies in different stages of development, whose growth may rely on the extraction of raw materials and/or industrial processes that primarily benefit other parts of the world.

The emphasis on fairly distributed costs and benefits during major economic changes arose with the concept of a just transition in the United States during the labor movement of the 1970s (Henry et al. 2020). This focus was strengthened when labor groups aligned with environmental justice groups in the 1990s to enhance protections for quality jobs, workers, and the environment (Mazzochi 1993).

Just transition as a concept has been interpreted differently over the years. As it diffused through unions and federations in the 2000s, its use expanded in international sustainable development and climate negotiations. As just transition crystallized and gained mainstream use, decent jobs and equitable treatment of workers remained a central tenet (Morena et al. 2018).

In 2015, the International Labour Organization (ILO) and parties to the United Nations Framework Convention on Climate Change (UNFCCC) recognized the importance of making the coming energy transition a just one. In October 2015, the ILO released guidelines for a just transition. Shortly thereafter, the Paris Agreement, an international climate change agreement, was adopted by 195 parties including all APEC economies that are currently United Nations member states (UNFCCC 2015). The Agreement seeks to limit global temperature increase to between 1.5°C and 2°C above pre-industrial levels by decreasing greenhouse gas emissions and to increase resilience to climate impacts (UNFCCC 2023). The preamble to the Agreement establishes the framing for the articles and includes an acknowledgement incorporating just transition. Momentum toward achieving global decarbonization milestones through a just transition has been building since late 2015, including the Katowice Climate Change

Conference (UNFCCC Conference of the Parties 24) and the Glasgow Climate Change Conference (UNFCCC COP26).

In the intervening years, a number of international organizations have developed frameworks to address the competing challenges of secure and reliable energy; low and reasonable costs; and social, economic, and environmental priorities (Henry et al. 2020). They have identified important markers that make the energy transition just and equitable, a number of which are overlapping between the frameworks and some of which are unique based on the perspective of the establishing organization.

In the process of identifying underlying principles of just transition for this report, several prominent frameworks were analyzed to find themes that have informed policy and practice since 2015. These frameworks were developed by a variety of organizations, including the International Labour Organization, the Organisation for Economic Co-operation and Development, the Stockholm Environment Institute, and the International Energy Agency. Other frameworks were created as part of international climate efforts. Figure 5 shows a timeline of their relative release dates.

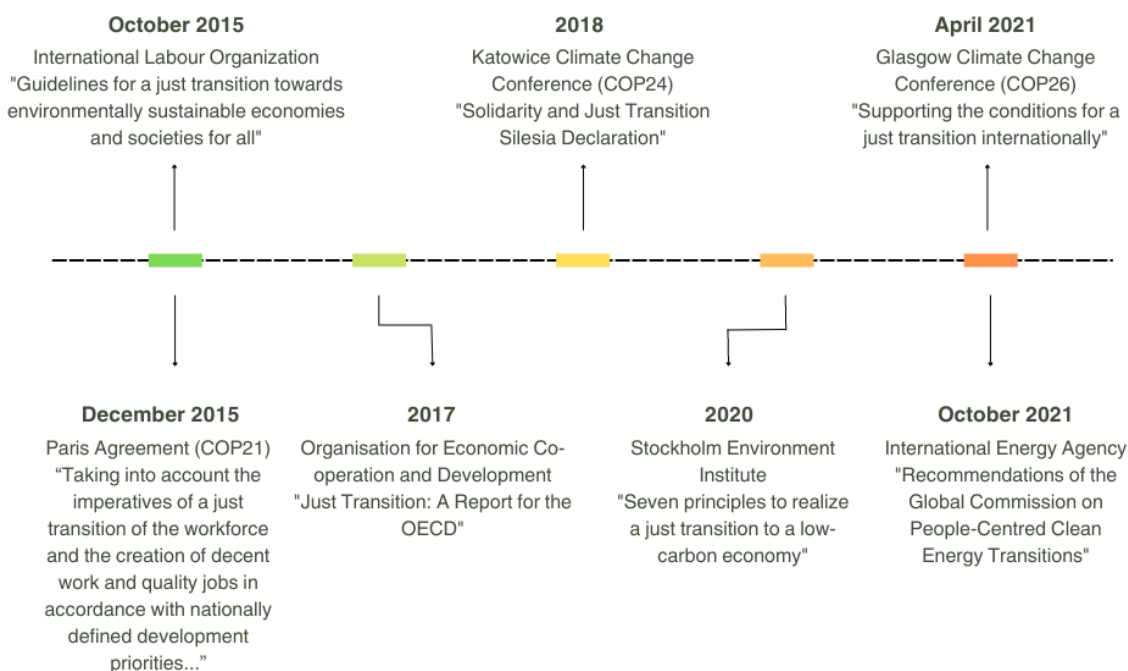


Figure 5. Global just transition frameworks.

These frameworks were created to establish a shared understanding and meaning for just transition, and to provide policy guidance and recommendations for implementation (Reid and Liew-Kie-Song 2022). A number of common values were identified during the analysis of framework principles. All frameworks mentioned some form of social dialogue, decent jobs, and support for workers. The majority included information on tailoring approaches for the needs of specific communities (83%) and a focus on equity and inclusion (67%). Half indicated support for socioeconomic development and opportunities, while a third (33%) mentioned climate resilience and worker and/or human rights.

Each framework also included unique values that reflected the perspective of the specific organization. These ranged in scope from community renewal to a focus on innovation and shared technology; environmental concerns around decarbonization and remediation; financial considerations that include establishing just transition funds and avoiding carbon-lock in, stranded assets, and cost transfer from the private to the public sector; and elements of cooperation on the international level and within domestic policy environments.

2.1 APEC Economy Energy Transition Commitments

In addition to the broader economic forces accelerating the energy transition, the shift toward decarbonization is occurring in APEC economies as part of government-level climate and environmental policy. All APEC economies have committed to or are discussing some form of emissions reduction target.

Targets as defined by their economies of origin vary in phrasing and shared meaning, particularly in regard to whether measurement is in emissions by units of GDP and if all greenhouse gases are included in goals. These targets do not always mention equity actions or policies, indicating that decarbonization goals do not directly imply commitment to a just transition.

Thirteen economies have incorporated a target to reach net zero greenhouse gas emissions by a specific date either in law, policy documents, or other discussion (Figure 6). A number have committed to other goals, including an emissions reduction goal, carbon/greenhouse gas neutrality, or reduction targets against a specific emissions date. A number of APEC economies have yet to reach their estimated peak greenhouse gas emissions due to ongoing development; as a result, their laws and policies include target dates for reaching this peak in addition to projected dates of net zero emissions (Lang et al. 2023).

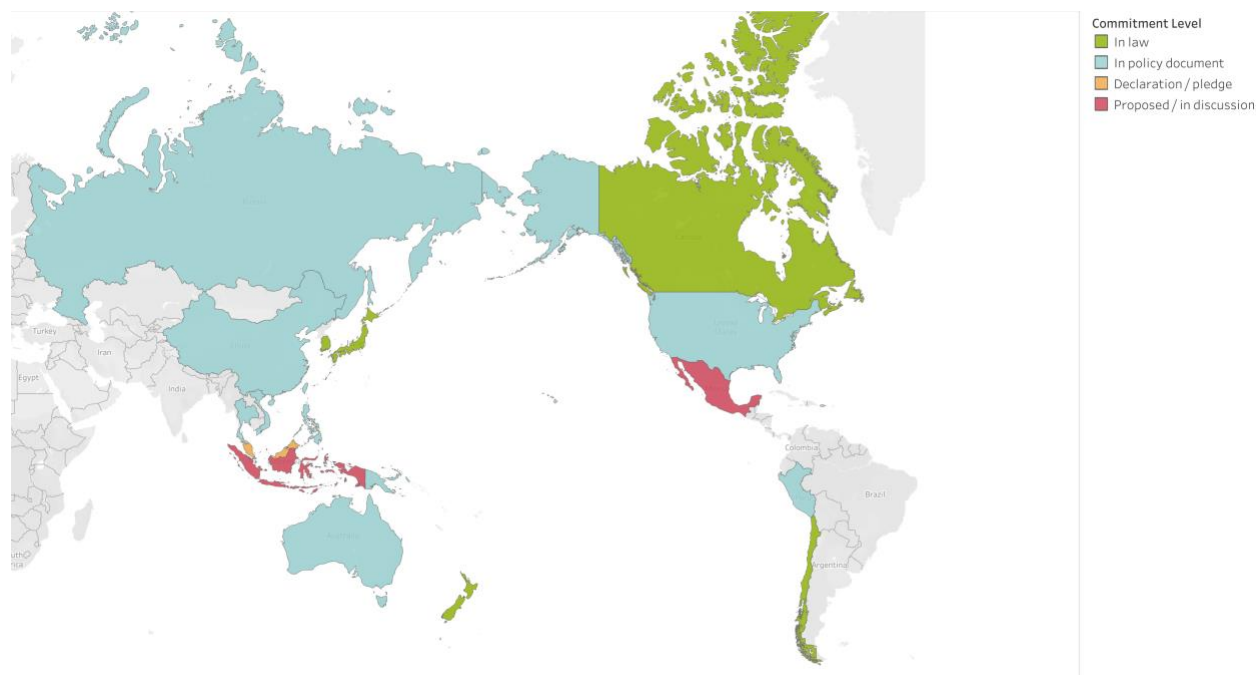


Figure 6. APEC economy decarbonization commitments (Lang et al. 2023).

APEC economies have engaged in various actions supporting a just transition, including social dialogue and stakeholder engagement; establishing government institutions to support the transition and ensure fairness and social inclusion; and creating high-level partnerships and commitments between governments, international governing bodies, and non-governmental organizations (Vasquez and Hernando 2022). The principles in the APEC Putrajaya Vision 2040 and the Aotearoa Plan of Action included sustainable and inclusive growth that promotes resilience, equity, human resource development, and a commitment to addressing climate change (APEC 2020a). In the 2022 Leaders' Declaration, APEC Leaders recognized that more intensive efforts are needed to address climate change and sustainable energy transitions that reduce greenhouse gas emissions.

3.0 Just Energy Transition Principles for APEC

For the purposes of discussion in ongoing APEC conversations, we define *just transition* as follows:

Just transition is an iterative, continuous process of moving toward a sustainable, resilient, and equitable economy that provides decent, productive, and ecologically responsible livelihoods; nurtures social dialogue; and fairly distributes costs and benefits of the energy system.

Following the above definition, principles for just transition were developed to balance the shared circumstances across APEC economies as well as their unique attributes. The principles are overlapping and synergistic, and function together as well-rounded considerations that can apply to the wide variation of conditions in these economies. Examples provided for each principle speak to these conditions and may offer ideas for future implementation during the energy transition.

The just transition principles identified for discussion are listed below, followed by detailed descriptions of each.

1. Pursue positive environmental, social, and economic outcomes.
2. Deliver equitable benefits.
3. Support inclusion and gender equity.
4. Enable participatory decision-making.
5. Create resilient firms, institutions, and communities.
6. Provide support for labor and workforce development.
7. Safeguard community health.
8. Protect the human rights of affected communities.

3.1 Pursue positive environmental, social, and economic outcomes

Approach just transition as an opportunity for sustainable redevelopment. Remediate legacy sites to improve outcomes for people and the environment.

Approaching energy transition as a redevelopment opportunity, rather than a retirement burden, is a fundamental shift that can open up the benefits of the transition. Though fossil fuel

retirements will have impacts on local communities, the transition to clean energy is expected to raise overall employment and GDP through new investment (International Renewable Energy Agency 2018). The shift from a fossil-based energy system and infrastructure to clean systems is an opportunity to incorporate environmental, social, and economic sustainability in new investments. Proper planning can identify how these opportunities can be directed to impacted communities.

Transitioning from fossil to clean energy goes a long way toward improving future outcomes by reducing carbon pollution, but additional action is necessary to assure improvements in local livelihoods and ecosystems. Remediating legacy sites can bring about environmental, social, and economic benefits. Remediation provides the near-term benefit of economic activity, and remediation jobs are often aligned with the skills and equipment of workers in transitioning fossil industries (Haggerty et al. 2018). Remediation can also deliver long-term benefits by attracting redevelopment or restoring natural ecosystems. Social benefits also arise by relieving local communities of legacy and future environmental burdens (Heffron and McCauley 2017).

There are existing examples within APEC of remediation as part of a just transition. Canada and the United States have programs to address orphan oil and gas wells, which can be significant sources of methane and other pollution (REGROW Act 2021; Government of British Columbia 2022). Plugging these wells therefore provides both global and local environmental benefits. The programs also employ workers with skills and equipment transferred from the oil and gas industry. The U.S. Energy Infrastructure Reinvestment loan guarantee program supports clean redevelopment of existing or former energy infrastructure and can support environmental remediation in connection with redevelopment (U.S. Department of Energy Loan Programs Office 2022).

3.2 Deliver equitable benefits

Ensure an equitable distribution of benefits and costs of the energy transition. Evaluate how different groups will be impacted in the process.

Energy transition offers positive impacts on the environment, economy, society, and the wellbeing of the population. These benefits could include lower emissions, cleaner air and reduced health-impacting pollutants, new jobs and economic opportunities, lower energy burden and enhanced energy efficiency, and reduced dependency on imported energy, among others. Just transition requires an equitable distribution of these benefits across the population. Designing implementation plans that deliver benefits equitably can ensure that no one is left behind in the transition.

The just transition principle of delivering equitable benefits also requires the identification of historical inequities in the energy system in order to repair past harm and avoid perpetuating inequities into the future. This proactive planning for equity will be more effective and cost efficient than taking a reactive approach to address disparities Hansen et al. (2022). APEC economies can deliver equitable benefits in the transition by providing access to reliable and clean energy for all, and by creating fair procedural mechanisms for communities to participate in energy sector decision-making.

Promoting equity is highlighted in APEC's Policy Support Unit study from 2022. The policy brief, titled "Transitioning to a sustainable economy while ensuring inclusion," describes just transition as a framework that maximizes "the advantages of transitioning to a low-carbon economy while promoting *equity* and inclusivity" (APEC Policy Support Unit 2022b). The U.S. Justice40

Initiative – a requirement of Executive Order 14008, “Tackling the Climate Crisis at Home and Abroad” – dedicates 40% of overall benefits of certain federal investments to flow to disadvantaged communities to ensure benefits are distributed equitably (The White House 2022b).

3.3 Support inclusion and gender equity

Facilitate inclusion of marginalized groups and gender equity in workforce and decision-making. Prioritize gender-responsive transition plans to prevent gender-based discrimination.

Gender equity is an essential element of a just transition. Taking the global workforce as an example, women account for only 16% of the traditional energy sector labor force and only 32% of the renewable energy sector jobs (IRENA 2019). This inclusion and gender equity principle follows APEC’s La Serena Roadmap for Women and Inclusive Growth and the Policy Partnership for Women and the Economy (PPWE) key pillars on women empowerment, which include access to capital, access to market, skills and capacity building, women’s leadership and agency, and innovation and technology (APEC 2023). An inclusive and gender-equitable transition will emphasize the need to address gender gaps in income, skills, jobs, and opportunities.

The need to pursue inclusion and gender equity stems from the understanding that participation of women is critical for a successful energy transition. Women are key drivers of innovative solutions and can spearhead efforts for a just transition (IEA 2018). As such, it is essential to remove barriers (be it legal or otherwise) for women so they can fully participate in the transition workforce and decision-making. In addition, efforts on inclusion should also emphasize the need to support and empower indigenous peoples, people with disabilities, and remote and rural communities. APEC economies can adopt targeted policies and set implementation plans that accelerate the participation of women and other groups with untapped economic potential in the clean energy sector (i.e., “equal opportunity, equal pay, and equal leadership”) (IEA 2018).

Where the APEC PPWE pillars provide the basis for gender equity (APEC 2023), APEC’s Aoteaora Plan of Action describes what it means to advance inclusion beyond gender. The Plan of Action states, “APEC’s growth is high quality and inclusive, bringing palpable benefits and greater health and wellbeing to MSMEs, women and others with untapped economic potential, such as indigenous peoples as appropriate, people with disabilities, and those from remote and rural communities” (APEC 2021b). While these APEC resources are good examples for inclusion and gender equity, there are additional external resources to reference for best practices. Goal 5 of the United Nations’ Sustainable Development Goals provides an overarching guiding principle that aims to “achieve gender equality and empower all women and girls by 2030” (United Nations 2022). The European Bank for Reconstruction and Development’s Strategy for the Promotion of Gender Equality 2021-2025 offers three focus areas for supporting gender equity: providing gender-responsive financial systems, promoting skills and sustainable livelihoods, and ensuring access to inclusive public services (EBRD 2021).

3.4 Enable participatory decision-making

Lead transition initiatives in consultation with local stakeholders. Prioritize the development of bottom-up approaches that emphasize social dialogue. Include considerations for just transition in energy system planning and policies across the whole of government.

Incorporating stakeholders from affected communities and representative groups into decision-making during the just transition can provide a number of benefits. This participation can provide knowledge shared by experts based on their local experiences that is otherwise unobtainable, legitimize policies in the eyes of the public, and improve buy-in from communities that are directly impacted by or involved in implementing the energy transition (Godfrey and Chen 2022).

Stakeholder involvement can also help assure that vulnerable workers and indigenous peoples are represented in policy and implementation actions. Building on local knowledge has the added benefit of improving institutional resilience, in which an economy's ability to manage change and its capacity to deliver results "credibly, legitimately, and adaptively" (Anderson and Tollenaere 2020).

To facilitate a phase-out of coal-powered electricity, Canada established the Task Force on Just Transition for Canadian Coal Power Workers and Communities, which brought together representatives from the public, private, labor, government, and academic sectors to engage with community members and workers. The task force identified impacts, opportunities, and funding streams, and made recommendations for supporting them during the energy transition (Government of Canada 2019).

3.5 Create resilient firms, institutions, and communities

Incorporate resilience into climate adaptation and mitigation efforts. Enable local resilience along with international collaboration.

Resilience – the ability to withstand and recover from shocks – is now recognized as integral to both climate adaptation and mitigation. Climate-resilient development pathways are strengthened by the involvement of civil society, government, and the private sector (Schipper et al. 2022) and involve both local and global resilience.

The energy transition is likely to bring strong resilience benefits to local communities. Distributed energy resources, including renewable energy and storage, are expected to improve energy system resilience (Moreno et al. 2022; Maharjan et al. 2015) and simultaneously support climate mitigation. Reduced reliance on fossil fuels also reduces susceptibility to price and supply shocks. This benefits individuals and organizations and may especially benefit APEC member economies that are net fossil fuel importers.

Global resilience can be strengthened through continued international collaboration. Dispersed supply chains and trade relationships can enhance resilience, as can corporate procurement policies that include a focus on just transition principles of resilient and equitable investment. When harmonized across member economies, these policies can be a force for supporting climate-resilient goods and services (Prattico 2019). International knowledge sharing can also foster resilience through exchange of practices and experiences that may improve the resilience of other member economies in the energy transition.

Resilience principles are reflected in APEC's Putrajaya Vision 2040, adopted in 2020, which calls for an "open, dynamic, resilient and peaceful Asia-Pacific community" (APEC 2020b). Resilience is reiterated in the 2022 Bangkok Goals on Bio-Circular-Green Economy, where it is integrated with reference to supply chains, energy security, and climate adaptation and mitigation (APEC 2022).

3.6 Provide support for labor and workforce development

Foster good livelihoods, develop demand-driven skills for labor-matching, and protect and enhance workers' rights.

It is important to understand how the energy transition impacts communities and workers in relation to jobs, income, local revenue, and economic development. Although energy-related jobs are projected to grow globally, with an estimated 26 million additional jobs by 2030 (Öunmaa 2021), the energy transition will still cause job losses and a decline in tax revenue from fossil-fuel-intensive activities. Even when replacement jobs are available, they might result in a skills mismatch and lower wages, or require relocation. As such, the economies, workers, and communities that stand to bear these losses will need support to assure that their livelihoods and quality of life are maintained fairly in the transition.

A just transition must advance policies and programs that develop demand-driven skills and workers' prospects. Initiatives that utilize local educational institutions for upskilling/re-skilling workers, work-based learning opportunities, and incentivizing employers to invest in affected regions would help produce equitable labor outcomes. It is also equally important to explore opportunities for rehiring and transitioning workers to different activities within their current firms. Local economic development can be improved by place-based policies that redevelop and repurpose assets for community revitalization.

The benefits provided by the U.S. Inflation Reduction Act (IRA) are examples of how to support workers and facilitate regional economic development. The IRA includes tax credits for projects that are sited in an energy community and has requirements for wages and apprenticeship to foster good quality jobs (The White House 2022a). The Partnerships for Opportunity and Workforce and Economic Revitalization (POWER) initiative is another example of a U.S. federal investment mechanism that supports regional economic growth and re-employment of affected workers (EDA 2016). Japan's green growth strategy plans to employ thousands of workers in clean energy industries (METI 2021).

3.7 Safeguard community health

Integrate community health outcome targets in climate policies and programs. Support local clean energy access.

The energy transition can help mitigate health inequities that are exacerbated by climate change. Communities that experience the first and worst impacts of climate change often face a combination of social, economic, health, and environmental inequities. Air pollution from burning coal, oil, natural gas, and other fuels is responsible for the deaths of 8 million people worldwide each year (Karn Vohra 2021). Communities impacted most by air pollution are those that are already vulnerable: people with chronic medical conditions, women, people with underlying health issues, and low-income populations. These affected communities can achieve improved health outcomes if fossil fuels are replaced by renewable power. The benefits of improving air quality are tangible, immediate, and monetizable – especially when considered in combination with other benefits of clean energy transitions such as decarbonization, environmental justice, and achieving sustainable development goals.

Moving away from reliance on fossil fuels would not only benefit community health, but would also support improvement in socio-economic conditions. As such, the principle of safeguarding community health requires the implementation of programs that advance energy efficiency,

affordable alternative forms of energy in vulnerable communities (e.g., localized power with distributed energy resources/microgrids), and the prioritization of improved health outcomes in climate policies and energy transition efforts including setting standards for occupational health protection and safety.

APEC's High Level Meeting in 2021 on Health and the Economy confirmed the importance of incorporating health equity into funding decisions (APEC 2021a), affirming the recognition that support for community health helps build social and human capital. The U.S. Environmental Protection Agency's Intergovernmental Working Group on Environmental Justice is another example of an effort to mitigate adverse human health impacts while increasing local community capacity (EPA 2022).

3.8 Protect the human rights of affected communities

Ensure human rights and protections for workers all along the transition supply chain. Support the unique needs of affected people, including indigenous and local communities, and preserve their right to self-determination.

Achieving the decarbonization goals of the energy transition will call for a vast expansion in the manufacturing and production of clean energy technology, much of which incorporates minerals that must be extracted from deposits around the world (Arrobas et al. 2017). Enforcing conditions for workers and human rights includes the responsibility of states to protect against abuse within their jurisdiction and take "appropriate steps to prevent, investigate, punish and redress such abuse through effective policies, legislation, regulations and adjudication," per the United Nations' Guiding Principles on Business and Human Rights (United Nations 2011).

Human rights in the just transition span a wide arc of actions, including improved safety regulations, environmental protections and waste management, labor rights, and due diligence from early in the supply chain to the finished goods to account for the rights of people involved in production and manufacturing (United Nations 2011). To avoid replicating the inequities associated with a fossil-fuel-based economy, the just transition should account for the needs of indigenous and local communities and incorporate them throughout the design, planning, and implementation process. This includes establishing grievance mechanisms and complying with principles of free prior and informed consent and ensuring that community voices are valued in decision making.

The New Zealand Confederation of Trade Unions incorporated the perspective of Māori indigenous and treaty rights, knowledge, and customs while developing climate change policy to reflect and respect Māori as rights-holders who disproportionately work in industries affected by climate change (Smith 2017).

4.0 Conclusion

The just transition principles described in this report can help inform work that assures the current energy transition, and its future iterations, are fair and equitable. We understand these are not a set list of principles, and the list could be modified with additional inputs as new information arises. Each of the principles presented here and its associated examples provide potential options for implementation plans that can advance the just transition concept from a guiding framework to actionable next steps.

The process of implementing just transition principles is multi-faceted. Implementation approaches should be tailored to the unique social, economic, and environmental circumstances of APEC member economies and their respective regional and local community perspectives. Further effort and coordination with stakeholders of all levels is vital to ensuring a just energy transition.

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