# A Just Energy Transition in Coal Regions:

## A Primer

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# Acknowledgements

This primer was drafted by a group of graduate students from the Johns Hopkins University School of Advanced International Studies (SAIS) in cooperation with IISD. Valuable comments and feedback were provided by experts from SAIS, IISD, World Bank, Bates White Economic Consulting, Environmental Defense Canada, and other external organizations: John P. Banks (SAIS), Lynn Wagner (SAIS & IISD), Ahmad Syarif (SAIS), Jonas Kuehl (IISD), Anissa Suharsono (IISD), Lucky Lontoh (IISD), Sandeep Pai (Swaniti Global), Étienne Espagne (World Bank), Galen Erikson (Bates and White Economic Consulting), and Julie Segal (Environmental Defense Canada).

# 1. Introduction: What is a Just Energy Transition?

## 1.1 Climate Change and a Just Energy Transition

Humanity began tracking global surface temperatures in 1880, and the Earth has become warmer at an accelerating pace ever since. The U.S. National Aeronautics and Space Administration (NASA) documented that the Earth's average surface temperature in 2023 was roughly 1.36°C warmer than the late 19th century average, otherwise referred to as pre-industrial levels, making it the warmest year on record.[1] While global warming can occur naturally, the overwhelming evidence reported by the International Governmental Panel on Climate Change (IPCC) has pointed to human activities under industrialization as the primary culprit for rapid warming and climate change over the last two centuries.[2] In particular, the burning of fossil fuels such as coal, oil, and natural gas has contributed to the bulk of increasing greenhouse gas (GHG) emissions—primarily in the form of carbon dioxide (CO2) and methane—which then trap the sun's heat radiating from the Earth's surface and prevent it from reaching back into space, thereby raising global surface temperature (see Figure 1).

This global warming has had severe consequences on human society. In recent years, we have witnessed more frequent and catastrophic climate change-related events impacting communities worldwide, such as melting glaciers, rising sea levels, freshwater scarcity, extreme droughts and flooding, wildfires and intense heatwaves, and more destructive storms.[3] These events result in other related severe collateral damage, including declining biodiversity, disrupted food supplies, forced population displacement, poverty and malnutrition, as well as other public health issues.[4]

To address these pressing concerns, country leaders gathered at the United Nations Climate Change Conference in Paris (COP21) in 2015 and reached the historic Paris Agreement, collectively establishing long-term goals to combat climate change.[5] This legally binding agreement called for a commitment to "substantially reduce global GHG emissions" to maintain the global temperature rise within 2°C above pre-industrial levels, and to "pursue efforts" to keep it within 1.5°C above pre-industrial levels, also commonly referred to as "1.5C."[6] However, achieving this target will present a significant challenge, as the global average temperature had already reached 1°C above pre-industrial levels in 2015. Even more concerningly, the Copernicus Observation

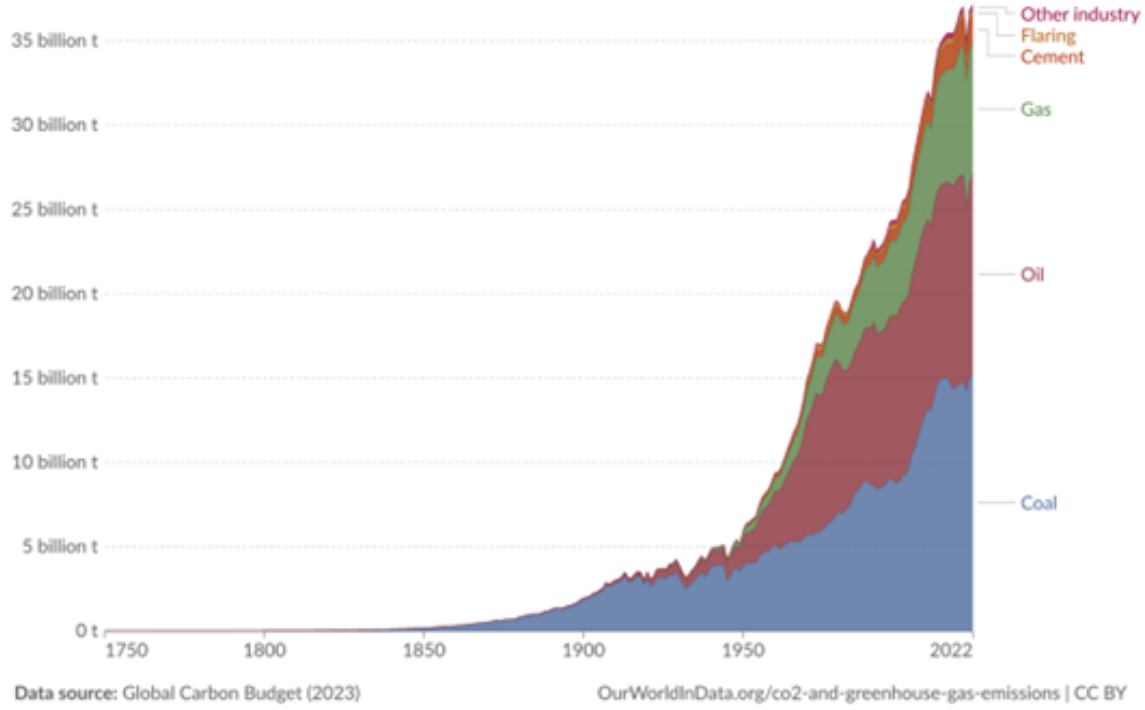
[1] "Global Temperature," *The National Aeronautics and Space Administration*, https://climate.nasa.gov/vital-signs/global-temperature/?intent=121.
[2] "Global Warming of 1.5 ºC," *The Intergovernmental Panel on Climate Change*, https://www.ipcc.ch/sr15/.
[3] "Causes and Effects of Climate Change," *United Nations*, https://www.un.org/en/climatechange/science/causes-effects-climate-change.
[4] "Causes and Effects of Climate Change."
[5] "The Paris Agreement," *United Nations*, https://www.un.org/en/climatechange/paris-agreement.
[6] "The Paris Agreement."

Programme of the European Union (E.U.) reported in February 2024 that the 1.5C threshold may have been breached for the first time based on a 12-month average.[7]

Meanwhile, the global average concentration of GHG is still reaching new records every year, now exceeding pre-industrial levels by over 50%.[8] According to the International Energy Agency (IEA), the COVID-19 pandemic further exacerbated the situation, as countries backtracked on clean energy commitments and resorted to cheaper fossil fuels—especially coal—for power generation to support their economic recoveries .[6] As global coal demand rebounds, the IEA estimates that unabated coal accounts for more than a quarter of global GHG emissions, outrunning any other source of energy.[9]

Therefore, a core element in the global effort to reduce GHG emissions and mitigate climate change is to gradually phase out the use of coal and other fossil fuels and transition towards cleaner energy sources: this is the energy transition.

***Figure 1: Global CO2 Emissions by Fuel Type***




Source: "$CO_2$ emissions by fuel or industry type, World," *Our World in Data*, 2023, https://ourworldindata.org/grapher/co2-by-source.

## 1.2 Defining a Just Energy Transition

[7] "Warmest January on record, 12-month average over 1.5°C above preindustrial," *Copernicus Climate Change Service*, February 9, 2024, https://climate.copernicus.eu/warmest-january-record-12-month-average-over-15degc-above-preindustrial.
[8] "Greenhouse Gas concentrations hit record high. Again," *World Meteorological Organization*, November 15, 2023, https://wmo.int/news/media-centre/greenhouse-gas-concentrations-hit-record-high-again.
[9] "Coal in Net Zero Transitions: Strategies for rapid, secure and people-centred change," *International Energy Agency*, November, 2022, https://www.iea.org/reports/coal-in-net-zero-transitions.

This process of energy transition, however, is fraught with social and economic complexities. Rapid transformation in energy systems and infrastructure could bring disproportionate impacts on communities that are largely associated with, and dependent on, traditional fossil fuel industries. Dealing with these complexities is the focus of a "just" energy transition.

The term "just energy transition" lacks a universally accepted definition, which imposes challenges for guiding stakeholders and policymakers in understanding and planning for such transition. To effectively navigate this conceptual landscape, it is necessary to carefully examine the existing taxonomies and identify the core elements that unify them. Listed below are selected definitions from relevant international organizations.

***Table 1: Existing Definitions of a Just Transition***

| **Name of Organization** | **Definition** (Commonalities highlighted in **Bold**) |
|---|---|
| International Labour Organization (ILO) | A Just Transition means greening the economy in a way that is as **fair and inclusive** as possible to **everyone concerned**, creating **decent work opportunities,** and leaving no one behind.<br><br>A Just Transition involves maximizing the social and economic opportunities of climate action, while minimizing and carefully managing any challenges – including through effective **social dialogue** among all groups impacted, and respect for fundamental labour principles and rights. |
| Intergovernmental Panel on Climate Change (IPCC) | A just transition incorporates key principles, such as respect and dignity for vulnerable groups, the creation of **decent jobs**, **social protection**, employment rights, fairness in energy access and use, and **social dialogue** and democratic consultation with the **relevant stakeholders**, while coping with the effects of asset-stranding and the transition to green and clean economies. |
| International Trade Union Confederation (ITUC) | A just transition ensures environmental sustainability as well as **decent work, social inclusion,** and poverty eradication. |
| African Development Bank (AfDB) | Just transition is a framework for facilitating equitable access to the benefits and sharing of the costs of sustainable development such that **livelihoods of all people, including the most vulnerable**, are supported and enhanced as societies make the transition to low carbon and resilient economies. |
| European Bank for Reconstruction and Development (EBRD) | A just transition seeks to ensure that the substantial benefits of a green economy transition are shared widely, while also supporting **those who stand to lose economically** – be they countries, regions, industries, communities, workers, or consumers. |

| | |
|---|---|
| European Foundation for the Improvement of Living and Working Conditions (Eurofound) | Just transition is the term used to describe the transition to a climate-neutral economy while securing the future and livelihoods of workers and their communities. A just transition to a climate-neutral economy provides and guarantees **better and decent jobs, social protection**, more training opportunities, and greater job security for all workers affected by global warming and climate change policies. |
| World Resources Institute (WRI) | A just transition means equitably distributing the costs and benefits of climate action, ensuring that:<br>• **Social dialogue and stakeholder engagement** takes place among workers, employers, governments, communities, and civil society.<br>• Affected workers and communities receive the support, **social protection,** and investments they need to work and thrive in a zero-carbon future.<br>• Revenue streams that governments currently receive from fossil fuel production will be replaced in equitable ways.<br>• Companies create **decent jobs** and contribute to economic growth while taking positive action on climate change. |

Source: Authors' Summary from sources cited. Bold highlights from the authors.

While these organizations have different emphases in defining a just energy transition, they share several concepts in common. Drawing on the key commonalities among these definitions, this primer uses the following working definition:

> ***A just transition achieves a low carbon economy while ensuring socio-economic justice. This includes engaging all stakeholders through inclusive social dialogue and protecting workers and communities through decent work opportunities, social support, and equitable distribution of benefits and costs of the transition.***

## 1.3 Social Externalities of a Coal Transition

A just energy transition entails the process of shifting away from relying on fossil-fuel-based energy systems while considering the social and economic consequences this shift can have on workers, communities, and regional economies. For coal regions, this transition not only prompts changes in energy production and infrastructure, but also requires proactive measures to address the potential social externalities in the forms of job losses, economic transformation, and systematic relocation.

To identify and understand these externalities, scholars have developed different analytical frameworks to study just energy transitions. For instance, McCauley and Heffron[10] developed a framework categorizing elements and concepts of just transition

[10] Darren McCauley and Raphael Heffron, "Just transition: Integrating climate, energy and environmental justice," *Energy Policy* 119 (2018): 2-5.

by 1) distributive, 2) procedural, and 3) restorative justice, while Abram et al[11] further complemented this with the concept of recognitional justice, as articulated below:

***Table 2: Different Concepts of "Justice" in a Just Energy Transition***

| Concept | Definition |
|---|---|
| Distributive Justice | Equitable distribution of both costs and benefits associated with the transition |
| Procedural Justice | Engagement of all relevant stakeholders in decision-making processes of the transition |
| Recognitional Justice | Acknowledgement of structural inequalities (e.g., gender, race) in the current context that may be extended through the transition |
| Restorative Justice | Compensation for past harms and preventive measures for addressing potential harms caused by the transition |

Employing this framework of justice then allows an identification of specific social externalities associated with a coal transition. These are discussed below and summarized in Figure 2.

**Distributive Justice**

The most immediate concern in in a coal transition is job loss and economic hardship for the workforce in coal-related sectors and their families. The financial strain could then have a ripple effect in economic activities supporting the coal industry, as well as potentially create motivations for protests and social unrest.

Though transitioning towards a low carbon economy would create new jobs in the renewable energy sector in place of those in the coal industry, these new jobs may not be located in the same regions owing to the availability of relevant infrastructure and resources.[12] Moreover, the skills required for coal jobs may not directly translate to renewable energy positions, and the strong worker protections and benefits associated with trade unions in coal industries may not be transferrable to the new jobs. This would risk unequal burden sharing and create geographical disparities in the distribution of costs and benefits from the transition, thereby triggering additional externalities such as community decline.

**Procedural Justice**

[11] Simone Abram et al., "Just Transition: A whole-systems approach to decarbonization," *Climate Policy* 22, no. 8 (2022): 1036.
[12] "Finance for a Just Transition and the Role of Transition Finance," *International Labour Organization*, June 16, 2022, https://www.ilo.org/global/about-the-ilo/how-the-ilo-works/multilateralsystem/g20/reports/WCMS_848640/lang--en/index.htm.

While procedural justice highlights effective engagement of stakeholders in *ex-ante* planning for a transition, disproportionate or ineffective communications could lead to unexpected social externalities. For example, the underrepresentation of stakeholder groups such as coal workers and labor unions can weaken the legitimacy of transition initiatives and increase resistance to it. Meanwhile, excluding relevant expertise because of insufficient stakeholder engagement can omit important information and even solutions to a just coal transition. Thus, it is crucial that all affected groups and communities have a say in shaping the transition to ensure that all concerns are addressed.

### Recognitional Justice

Recognitional justice addresses the continuation or even exacerbation of existing inequalities in the current socio-economic setting because of the transition. For instance, women on average constitute less than 20% of the coal mining workforce in most countries.[13] A just coal transition would need to intentionally avoid continuing the structural gender inequality in energy through appropriate action.

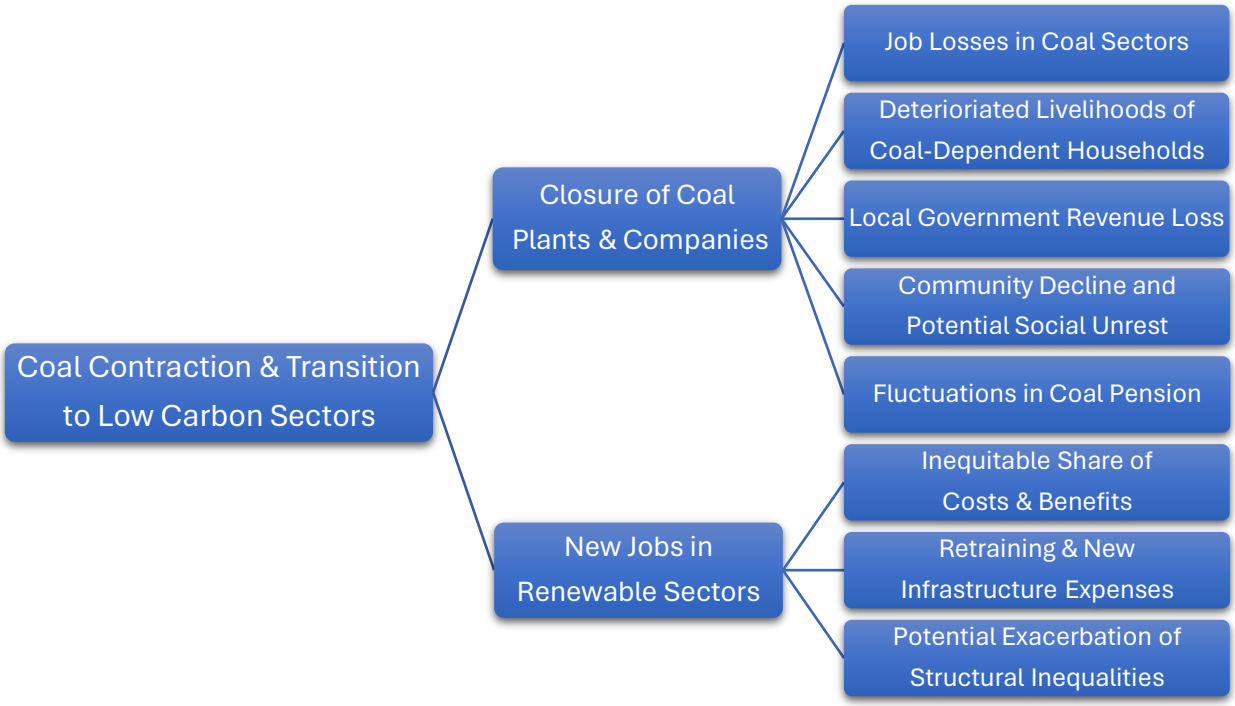
In addition, a coal transition would also impose significant costs on coal pensioners, who are usually underrepresented in just transition discussions, yet whose mobility is even more limited than active coal workers.[14] Failing to recognize the demands of these retired coal pensioners could jeopardize the well-being of a population that nearly equates the current workforce in coal.

### Restorative Justice

Although a coal transition to cleaner energy sources would create new clean energy jobs, skill gaps and mismatches in the existing workforce are expected, which would then require investments in workers' retraining. Meanwhile, the local government would also need to mobilize financing for new energy infrastructure development to accommodate the transition.

***Figure 2: Social Externalities of a Coal Transition***

[13] "Share of women in mining sector employment in selected countries and regions," *International Energy Agency*, November 10, 2022, https://www.iea.org/data-and-statistics/charts/share-of-women-in-mining-sector-employment-in-selected-countries-and-regions-2021.
[14] Sandeep Pai, Kathryn Harrison, and Hisham Zerriffi, "A Systematic Review of the Key Elements of a Just Transition For Fossil Fuel Workers," *Smart Prosperity Institute*, April 17, 2020, https://institute.smartprosperity.ca/transition-for-fossil-fuel-workers.




Source: Developed by authors

## 1.4 Different Stages of Implementing a Transition

Tracing the interplay between different types of justice and social externalities, we may further contextualize the process of a coal transition into different stages based on a framework developed by Pai and Ranjan[15]:

***Table 3: Stages of a Just Transition***

| Stage of Transition | Policy Planning | Policy Implementation | Examples |
|---|---|---|---|
| Implementation | Yes | Yes | U.S., E.U. |
| Planning | Yes | No | Indonesia, South Africa |
| Engagement | No | No | India |

As seen in Table 3, countries transitioning away from coal can be categorized according to their progress Countries currently at the implementation stage, such as the U.S. and some E.U. countries, are those that have enacted policies to implement the transition and aid impacted communities, including through economic diversification programs, retraining initiatives, and infrastructure development. Indonesia and South Africa are

[15] Sandeep Pai and Vinay Ranjan, "Understanding the arc of global just transition: case studies from India, South Africa and the US," *SSRN*, May 31, 2023, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4450353#paper-references-widget.

examples of countries at the planning stage which have actively engaged in discussions about a just transition, yet they have not finalized relevant policies and funding or taken concrete actions. Finally, engagement stage countries are ones where the concept of just transition is novel and no substantial policymaking has taken place.

This framework is helpful for identifying the most relevant policy lessons for countries at different stages of the transition. For example, countries at the planning stage can benefit from the experiences of the implementation stage countries when revising and implementing their just transition policies. Building upon this rationale, this primer will leverage the experiences of the implementation stage countries (e.g., the U.S. and E.U. countries) in a just transition to offer valuable insights for Indonesia as a case study as it navigates its transition away from coal.

# 2. Who are the actors and what are their roles?

## 2.1 Key Stakeholders and Transition Strategies

Understanding the categories of social externalities associated with a coal transition, it is evident that such a transition could influence a diverse range of stakeholders. The high level of alignment and coordination required to make just energy transitions possible in coal regions presents a classic dilemma of both managerial governance challenges and adversarial politics. National or sub-national level government actors, private interests, labor groups and civil society each have their respective needs and expectations in the transition process.

To minimize negative social externalities and give adequate attention to procedural and distributive justice frameworks, the mobilization of these key stakeholders in a deliberative governance forum is vital to just transitions. This has recently been demonstrated through South Africa's Presidential Climate Commission Towards a Just Transition, which is a practical display of how governments should identify key players, bring them together for a dialogue, and diagnose what is hindering progress in forming and implementing just energy transition policies.

A successful attempt at enacting deliberative or collaborative governance also hinges on an evenly applied acknowledgment of stakeholders' point of view, including their constraints, concerns and incentives. For example, this stakeholder analysis approach is codified and recommended by the EU's European Institute for Innovation and Technology in its efforts to "implement large-scale, integrated and transformative climate action" across 400 European cities. In another approach to assess a coal region's typical set of stakeholders, a "credentials" based network analysis asks the following questions about each group[16]*:*

- **Key role in the system:** What are their needs in relation to the system?
- **Main objectives:** What would be their motivations in getting involved?
- **Expectations:** What would they expect from an alternative to the current state?
- **Concerns:** What are the concerns driving their future decisions?
- **Relations:** Who are the stakeholders related to?

Table 4 presents a summary of how each stakeholder relates to energy transition interventions in coal regions when the dialogue has begun but the dynamics are still messy and unorganized. Carrying out this type of credential analysis, decision makers and conveners can also assess how influential some actors are and attempt to understand their commitment levels to seeing or facilitating a transition.

[16] De Vicente Lopez, Javier and Matti, Cristian (2016). Visual toolbox for system innovation. A resource book for practitioners to map, analyze and facilitate sustainability transitions. Transitions Hub Series. Climate-KIC, Brussels 2016.

***Table 4: Summary of Key Stakeholders in a Just Coal Transition***

| | Governments and Regulators | Coal mine or plant workers | Civil Society and Environmental Protection groups | Multilateral financial Institutions | Utility and Mining Companies |
|---|---|---|---|---|---|
| **Role** | Reviewing electricity and energy governance models and improving decarbonization commitments and plans | Maintaining a strong and organized network of employees to minimize the adverse effects of coal industry job loss on members | Advocate for addressing the environmental impacts caused by mining and coal use; they advocate for land rehabilitation | Develop governance and incentive structure for coal transition transactions which demonstrate their support of social and climate outcomes | Determine a clear timeline for plant closures, relief packages for workers, as well as development of a worker transition plan |
| **Main objectives for engagement** | Strengthening transparency and accountability architecture | Job protection; Ensuring stakeholder consultation is not an afterthought | Lessening the adverse impacts of the transition on most vulnerable communities' livelihoods, health and well-being | Unlocking investment in community transition efforts for new economic development potential | Secure financial support and build community consensus on intended future use of coal plant sites |
| **Expectations from JET Solutions** | Just and equitable distribution of energy, increased access to finance and investment interest | Allocation of resources and efforts toward re-skilling workers; secured financing for worker retraining and relief | Reduction of energy poverty as a result of Just Energy Transition efforts coordination between governments and the private sector to implement adaptation and resilience projects | A standard approach to assessing the fair value of coal assets which takes into consideration current/future market and regulatory conditions | Ability to transfer knowledge and technology from application in coal-fired plants to local SMEs as well as to the current and potential labor force |
| **Concerns and fears** | Risk of developing grand projects for clean energy generation like green hydrogen only to benefit funding countries through exports | Policies may "socialize risks and privatize profits" prioritizing the needs of businesses and cutting out worker's needs | Continuation of coal mining may reduce options for alternative economic activities in the region (tourism, agriculture) | major optics problem related to providing financing to coal plant owners if they do not yet have a climate-aligned future business strategy | Distrustful of phasedown efforts which would lead to replacement with higher-emitting local assets |
| **Key relationships** | Can be heavily influenced by key business associations | Trade Unions often maintain powerful connections to, and influence on local politicians | Civil society has important relationships with vulnerable communities, media, and international NGOs to increase pressure for action on governments | Government regulators; international investors | Government officials and elected politicians; networked with key energy intensive industry players and business owners |

*Source: produced by authors

Naturally, when these stakeholders are in conversation with one another, their ability and will to affect change becomes apparent. This is the second stage of a "credentials" network analysis, it begs the questions: What is the stakeholder's ability to **influence** decisions? Do they have a high or low **interest or commitment** level in the issue?

What is the stakeholder's likelihood for adaptability or change through the process? Based on these criteria, some patterns emerge to showcase productive engagement strategies that governments, donors, and advocacy groups alike can harness to convene stakeholders. The following section explores some of the pivotal roles played by these stakeholders to ensure progress on just energy transitions. The voice of local communities and both unionized and informal workers in coal mining regions is pivotal for procedural, distributional, and restorative justice to take shape in just energy transitions. Often, these stakeholders may be organized, galvanized, and represented by civil society groups or trade unions, which can play an outsized role in securing a seat at the negotiation table.

### 2.1.1 Governments and Regulators

Strong policy support and political commitment are the keys to the success of a just energy transition.[17] The following is a summary of the role governments should play in developing and supporting a just energy transition process.

**1) Directing Investment**

Carrying out a just energy transition requires reliable and sufficient financial support. Lack of funding is often the single greatest barrier to transitions. For example, it can slow down economic diversification progress and delay the creation of new green jobs. Additionally, government support can boost the transition commitment of the coal sector and investment confidence of the financial sector.

One example of government financial support is the European Commission's *Just Transition Fund*. It was established as the first pillar of its *Just Transition Mechanism*.[18] Through loans, grants, and financial instruments, the *Fund* aims to disburse €19.2 billion to finance 70% of coal regions between 2021 to 2027. The *Fund* also creates the Just Transition Fund Regulation Committee to advise regions and companies on assessing the funding eligibility and scope of just transition projects. In 2023, Western Macedonia in Greece became the first region to receive financial support under the *Fund's* Public Sector Loan Facility Program. The region will use €80.7 million to finance 15 projects in six municipalities, hoping to transition away from carbon-intensive activities, including lignite mining and coal-fired power plants.[19] The primary goal of these projects is to provide alternative economic pathways and employment opportunities through economic diversification.

[17] Amanda N. Ullman and Noah Kittner, "Are Global Efforts Coordinated for a Just Transition? A Review of Civil Society, Financial, Government, and Academic Just Transition Frameworks," *Energy Research & Social Science* 108 (February 1, 2024): 103371, https://doi.org/10.1016/j.erss.2023.103371.

[18] "Just Transition Fund - European Commission," accessed March 26, 2024, https://single-market-economy.ec.europa.eu/industry/strategy/hydrogen/funding-guide/eu-programmes-funds/just-transition-fund_en.

[19] "The Transition towards a Greener Future of Western Macedonia," accessed March 26, 2024, https://ec.europa.eu/regional_policy/whats-new/newsroom/11-07-2023-the-transition-towards-a-greener-future-of-western-macedonia-is-the-first-project-supported-by-the-european-union-s-public-sector-loan-facility_en.

### 2) Setting National Strategy and Clarifying Responsibilities

To ensure country ownership of just energy transition processes, governments play a crucial role in decision-making and clarifying responsibilities across a diverse array of agencies at the national, regional, and local levels. National governments can develop policies to address mine closure procedures, perpetual mine management plans, and related issues such as health, environmental mitigation, land reclamation, social protection, and labor transition.

Specifically, experience to date suggests that national governments should identify two key agencies to implement a just energy transition: one for coal mine closures and another for social protection and labor programs.[20] For instance, in Poland, the Inter-Ministerial Coal Steering Committee (IMCSC) plays a pivotal role in coordinating and mobilizing various levels of government during the phase-out of coal-fired power plants. [21] Similarly, the Canadian government established the Task Force on Just Transition for Canadian Coal and Power Workers, aiming to directly engage with local communities and workers in determining the best strategies. [22]

### 3) Implementing Active Labor Market policies (ALMPs)

In order to overcome labor market challenges (for example, skills mismatch, and lack of access to jobs) posed by a sudden and progressive implementation of decarbonization policies, the International Labour Organization (ILO) advises national governments to adopt Active Labor Market Policies (ALMPs), with a keen focus on labor market integration.[23] The goal of ALMPs is to ensure the continuous upgrading of worker's skills, improved quality of job matching, and sustaining labor market performance. Examples of policies include long-term service planning short-term emergency response and income support.

To enhance resilience and prepare the labor market for the transition, the Philippines enacted the Green Jobs Act in 2016. This legislation incentivizes businesses to create green jobs by offering tax deductions for skills training. [24] Similarly, in 2014, Spain expanded the scope of its Green Jobs Program to include unemployed and furloughed workers, further emphasizing the importance of investing in green employment opportunities.[25]

### 4) Diversifying Economies

[20] "Managing Coal Mine Closure: Achieving a Just Transition for All" (World Bank, December 12, 2018), https://www.worldbank.org/en/topic/extractiveindustries/publication/managing-coal-mine-closure.
[21] "Managing Coal Mine Closure."
[22] Jannis Beutel et al., "Just Transition Toolbox for Coal Regions" (Wuppertal Institute), accessed February 20, 2024, https://www.coaltransitions-toolbox.org/.
[23] "The Role of Active Labour Market Policies for a Just Transition." International Labour Organization, 2023. https://researchrepository.ilo.org/esploro/outputs/encyclopediaEntry/995318704502676.
[24] *The Role of Active Labour Market Policies for a Just Transition*. Geneva: International Labour Organization. Green Jobs Programme, 2023. https://doi.org/10.54394/VOWE8267.
[25] *The Role of Active Labour Market Policies for a Just Transition*. Geneva: International Labour Organization. Green Jobs Programme, 2023. https://doi.org/10.54394/VOWE8267.

The phase-out of coal-related industries necessitates the identification of new clean energy opportunities and the creation of additional markets to employ affected workers. Economic diversification and the adoption of new markets can therefore transform the economy from high-carbon to low-carbon technologies, processes, and products, leading to shifts in traditional job roles.[26]

The government plays a crucial role in exploring new avenues in accordance with prevailing circumstances, addressing existing systemic injustices, and providing decent jobs in emerging markets such as green infrastructure, environmental conservation, and sustainable tourism.

In South Africa, the coal sector is a significant source of government revenue and provides wage-competitive employment to approximately 100,000 people nationwide. [27] Consequently, the energy transition plan advocates for provincial diversification as a viable pathway for coal-dependent communities. Specifically, the Plan identifies high-potential sectors with fewer barriers to expansion, including agriculture, tourism, manufacturing, and renewable energy production. To kickstart the diversification process, the provincial government engaged in consultations with labor groups and communities.[28]

***Figure 3. Government-led Just Energy Transition Examples***[29][30]

[26] Sanjay Prabhakar Mande, "Implementation of Just Transition and Economic Diversification Strategies - A Compilation of Best Practices from Different Countries" (United Nations Framework Convention on Climate Change, March 24, 2023), https://unfccc.int/documents/624596.
[27] Sandeep Pai et al., "Understanding Just Transitions in Coal-Dependent Communities," October 28, 2021, https://www.csis.org/analysis/understanding-just-transitions-coal-dependent-communities.
[28] Sandeep Pai et al., "Understanding Just Transitions in Coal-Dependent Communities," October 28, 2021, https://www.csis.org/analysis/understanding-just-transitions-coal-dependent-communities.
[29] "Governance Model of Implementation of RE:START Strategy in Czech Republic" (Brussels, April 8, 2019), https://energy.ec.europa.eu/document/download/6c508611-41ef-449c-8978-0faa64f6386a_en.
[30] "Redundancy Support (PACE)," March 2018, https://webarchive.nrscotland.gov.uk/20220725092747/http://www.gov.scot/policies/employment-support/redundancy-support-pace/.


### 2.1.2 Multilateral Financial Institutions

The nature of activities carried out by Multilateral Financial Institutions (MFIs) uniquely positions them to promote just energy transitions. This is because they adopt a long-term perspective, offer support for policy development, and mitigate government-induced policy risks. [31] In particular, MFIs play a central role in providing the financial and technical assistance necessary for economies dependent on coal.

#### 1) Policy-based Financing and Capacity Building

Policy-based financing is the financial support provided by MFIs to countries based on their commitment to implementing energy transition policy reforms. By linking financing to just energy transition objectives such as job creation or economic diversification, policy-based financing creates incentives for governments to reduce environmental, social, and worker impact during and after a coal phaseout.

#### 2) Technical Assistance and Knowledge Sharing

MFIs have available a range of financial instruments, including equity financing, guarantees, debt financing, and retained earnings. They also have convening power and are a source of specialized technical assistance, including modeling the impacts of the low-carbon transition on labor. For example, with its analytical capabilities, the World Bank can estimate the gross and net impacts of direct, indirect, and induced jobs associated with the transition in MENA countries such as Morocco and Egypt.[32]

#### 3) Monitoring and Evaluating Program Outcomes

[31] Béla Galgóczi, "Just Transition on the Ground: Challenges and Opportunities for Social Dialogue," *European Journal of Industrial Relations* 26, no. 4 (December 1, 2020): 367–82, https://doi.org/10.1177/0959680120951704.
[32] Tu Chi Nguyen, Ashok Sarkar, and Cornelia Jesse, "Clean Energy Transition and Jobs in MENA Region," https://thedocs.worldbank.org/en/doc/22d8b82e814d5374ab2b681d62e1d55c-0380022021/original/CKEx-May-19-Post-COVID-Recovery-of-Jobs-MENA-Region.pdf.

Monitoring and evaluating program outcomes are crucial aspects of ensuring that transition strategies can be held accountable and that the benefits and burdens of the transition are distributed fairly among different groups within society. By assessing the effectiveness of interventions, MDBs can identify lessons learned and best practices to inform future investments and support continuous improvement.

***Figure 4. Multilateral Financial Institution-led Just Energy Transition Examples***[3334]


### 2.1.3 Coal workers

Coal mining and coal plant workers can at times be represented by powerful unions with the capacity to drive local or national level politics, or to influence business class. The main goal of trade unions is to represent the interests of workers. Therefore, they can either oppose policy changes they believe are harmful to workers or help resolve conflicts of interest to prepare for transitions. Trade unions' expertise in various industries and their role as mediators for decision-making are recognized as crucial aspects of transition processes.[35] Throughout the years, trade unions have leveraged their voice, developed regional partnerships, and implemented important agreements on reskilling programs and social protection measures. Informal workers in coal regions

[33] Natalia Van-Baumberghen, "Assessment of Social Impacts in the Context of the Transition to Zero Emissions Mobility" (JASPERS, December 11, 2023), https://jaspers.eib.org/knowledge/publications/assessment-of-social-impacts-in-the-context-of-the-transition-to-zero-emissions-mobility.
[34] "A Polish Coal Town Reimagines Its Future" (World Bank, November 1, 2022), https://www.worldbank.org/en/news/immersive-story/2022/11/02/a-polish-coal-town-reimagines-its-future.
[35] Jonathan Tasini, "A Trade Union Guide of Practice for a Just Transition" (IndustriALL Global Union, September 2022), https://www.industriall-union.org/sites/default/files/uploads/images/FutureOfWork/JustTransition/guide_of_practice_en_web.pdf.

may run the risk of being underrepresented, so active stakeholder engagement and listening with diverse cohort of worker communities is integral.

### 1) Facilitating Social Dialogues

Union groups play an important facilitator role between the government, employers, and workers. In preparation for mine and power plant closures, the primary goal for unions is to identify concerns, address workers' needs, and ultimately reach a transition plan reflecting the interests of workers.

### 2) Advising on Job Creation and Training

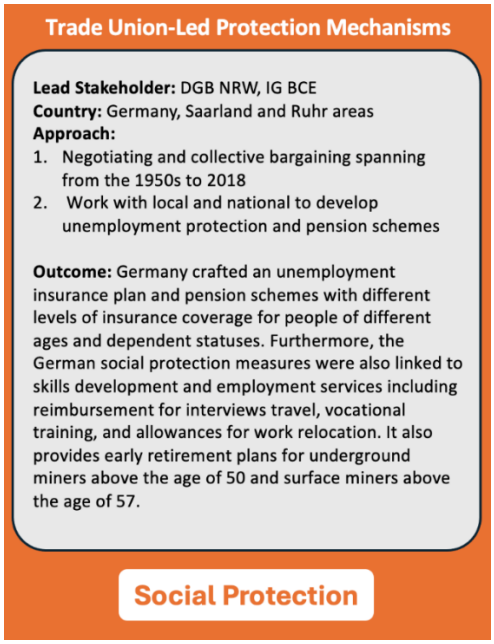
Unions prioritize job security, fair wages, and decent working conditions. They are well-positioned to ensure that newly created jobs align with workers' livelihoods and needs. Through direct communication and longstanding collaboration with employers, they have insight into the educational institutions and skills required to prepare workers for emerging sectors.[36]

### 3) Demanding Social Protection and Assistance

In addition to consulting with workers and facilitating transition plans, unions can also assist workers in demanding social assistance and protection. For example, Jharkhand, located in eastern India, holds a significant portion of India's coal wealth, and the majority of coal mining companies are fully unionized. This implies that every major decision, from wages to production targets, must consider the union perspective.[37]

***Figure 5. Trade Union-led Just Energy Transition Example***[38]

[36] Tasini, Jonathan. "A Trade Union Guide of Practice for a Just Transition." IndustriALL Global Union, September 2022. https://www.industriall-union.org/sites/default/files/uploads/images/FutureOfWork/JustTransition/guide_of_practice_en_web.pdf.
[37] Priyanka Shankar, "Ajay Kumar Rastogi on Leading India's First Just Transition Task Force," *Mongabay-India* (blog), February 22, 2023, https://india.mongabay.com/2023/02/interview-ajay-kumar-rastogi-on-leading-indias-first-just-transition-task-force/.
[38] "Low Carbon Task Force in Yorkshire and Humber," Text, Trades Union Congress, April 19, 2018, https://www.tuc.org.uk/news/low-carbon-task-force-yorkshire-and-humber.




### 2.1.4 Civil Society

#### 1) Safeguard Just Transition

Civil society can be a powerful force in ensuring thorough consideration and implementation of justice concerns. Civil society groups can regularly monitor and provide advice on social protection measures aimed at supporting individuals and communities affected by the transition. These measures may include income support, job training programs, and access to essential services. Additionally, civil society organizations can offer direct assistance and support services to those in need. In regions where civil society actors wield significant influence, they can advocate for laws and regulations that safeguard workers' rights, foster fair labor practices, and guarantee access to clean energy for all.

#### 2) Advocacy and Awareness-raising

Civil society entities possess the knowledge and skills to advocate for the concerns of marginalized groups. They can empower communities to actively participate in the transition process and advocate for their interests. In areas where language and media present challenges for other stakeholders to take apart, local civil societies can effectively leverage local networks and a wide range of communication tools. This could involve building community capacity, facilitating grassroots organizing, and supporting community-led initiatives for just transition.[39]

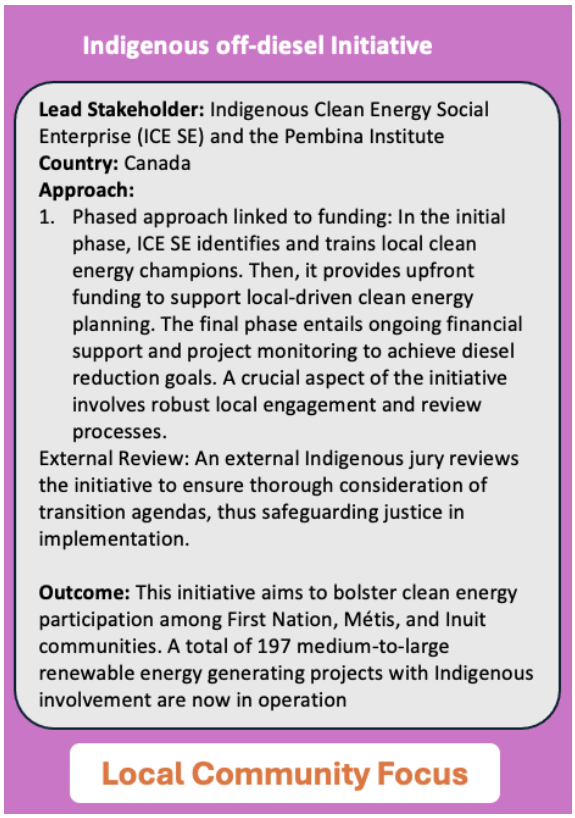
#### 3) Provide Context-Specific Solutions

Local civil society groups understand communities best. They can engage with local communities and involve workers in decision-making processes. Additionally, some civil

[39] Tasini, "A Trade Union Guide of Practice for a Just Transition."

society groups have the capacity to conduct research and analysis to identify the unique social, economic, and environmental dynamics of different communities. This includes assessing factors such as affordability, job opportunities, and environmental justice issues. [40] Therefore, civil societies can ensure that solutions are tailored to local contexts.

***Figure 6. Local Civil Societies-led Just Energy Transition Example***[41]




## 2.1.5 Utilities and Mining Companies

### 1) Utilize Investment Opportunities to Accelerate a Just Transition

Utility and mining companies are the direct stakeholders implementing – and impacted by - just energy transitions. As such, they can play an important role in understanding and arranging the financing needed to decommission fossil-fueled power plants and transition the workforce. They can plan early and investigate financing opportunities. If they face financing challenges, they can work together with investors and MFIs to promote the development of new financial products.[42] Additionally, they can form alliances and partnerships to better balance risks and returns, tackle issues related to

[40] "3 Ways Civil Society Organizations Are Crucial to an Equitable Energy Transition," September 5, 2023, https://cdn.jwplayer.com/previews/ofpkAZuN-ncRE1zO6.
[41] Henderson, Chris, and Terri Lynn Morrison. "Accelerating Transition: Economic Impacts of Indigenous Leadership in Catalyzing the Transition to a Clean Energy Future Across Canada." Indigenous Clean Energy (ICE) Social Enterprise, June 2020. https://indigenouscleanenergy.com/wp-content/uploads/2022/06/ICE-Accelerating-Transition-Data-Report-web.pdf.
[42] Interviews with Investors in the field, September 2023.

scalability, and enhance transparency regarding potential projects that are financially viable.[43]

**2) Transparent Communication and Direct Engagement with Workforce**

Companies should recognize the necessity of engaging with workers who are at risk of being left behind.[44] They can collaborate directly with their employees, unions, and industry associations to gain a clear understanding of the specific needs of their workforce, as seen in the case on figure 6. Such direct communication can assist companies in responding with targeted training and skills development programs. [45]

**3) Knowledge-Sharing with Other industry Stakeholders**

Leading companies can also share their best practices and strategies for a just transition with industry peers and organizations. Similarly, they can publicly announce progress toward meeting those goals to enhance industry standards.[46]

***Figure 6. Utilities-led Just Transition Example[47]***


[43] Bron York, "Energy Utilities: A Just Energy Transition," *Sustainability Transparency Network*, n.d., https://www.sustainability.com/globalassets/sustainability.com/thinking/pdfs/sa-commonthreads-deepdive-energy.pdf.
[44] York.
[45] York.
[46] Igor Lakic, "A Just Energy Transition Takes an Ecosystem," BCG Global, February 27, 2023, https://www.bcg.com/publications/2023/exploring-challenges-of-just-transition.
[47] "Futur-e: From Energy to Tourism, Launch of Conversion Project of Former Porto Tolle Power Plant," June 28, 2019, https://www.enel.com/media/explore/search-press-releases/press/2019/06/futur-e-from-energy-to-tourism-launch-of-conversion-project-of-former-porto-tolle-power-plant.

# 3. What are the lessons? 10 Key Takeaways

As illustrated, implementing a just energy transition is a complex and challenging task. There is an intricate web of social and economic externalities closely linked to multiple stakeholders, from governments, corporations, unions, consumers, and civil society groups, each with its own concerns, goals, and strategies. Research and experience indicate, however, that there are core guidelines that can help achieve accountable, sustainable, and inclusive energy transitions. We summarized our key takeaways based on the sequence of the implementation to guide stakeholders on:1) planning a just transition strategy 2) safeguarding inclusive just transition during implementation 3) managing just energy transition once implemented 4) thinking about future directions to achieve just energy transition.

## 3.1 On Transition Strategies

1) **Industrial policy is essential for coal transitions, but governments should carefully select the types of financial assistance and weigh the effects on communities.**

National governments are in a strong position to support the coal sector in the transition process. They can leverage industrial policy and direct investment for the development of clean energy industries.[48] However, industry policy experts advise that these policies should carefully consider the impacts of tax incentives and subsidies on existing and other sectors.[49]

2) **Inconsistent and soft guidelines for just energy transitions create a gap between government goals and results.**

The experience of just energy transitions reveals that many initiatives have relied solely on top-down strategies and non-binding guidelines. As a result, these processes often encounter insufficient financial support for companies to carry out projects to rehabilitate affected areas and provide additional workforce training. In the case of Jharkhand, India, there were only guidelines governing the environmental remediation process, and company financial allocations for mine closure were inadequate. Furthermore, some of these guidelines set ambitious targets at the national level but are realistically unattainable at the company or local level. These ambiguities and inconsistencies create more complexities and often result in conflicting outcomes, hindering the transition.

3) **Social dialogue should start as early as possible to facilitate meaningful**

[48] "ITUC Just Transition Center: Just Transition Experiences." n.d.
[49] Interview with Expert, February 2024

**decision-making and avoid politicization.**

Social dialogue is widely recognized as a crucial mechanism for understanding and addressing the concerns of all stakeholders in just energy transitions. However, for this social dialogue to be successful, it should occur early in the transition process. Given the significant political power of trade unions in many countries, early and adequate consultation regarding the just transition agenda is essential.

For example, in South Africa, coal mining-related unions belong to one of the primary national labor federations, and 70% of power plant workers are represented by the politically powerful National Union of Mineworkers (NUM). Moreover, many South African politicians have previously held senior positions in NUM. However, inadequate and delayed consultation with unions has made the coal transition dialogue a contentious political issue.[50]

## 3.2 On Transition Inclusivity

**4) Don't neglect informal workers in coal regions.**

In the coal region, informal employment surpasses formal employment by threefold. Unlike formal workers, those in informal roles typically endure extremely low wages, minimal to no labor protections, lack of social security benefits, and operate without organization. Moreover, many informal workers in this sector are often migrants whose families rely on coal for their basic sustenance.[51] Therefore, it's imperative to acknowledge these informal workers and contractors as pivotal stakeholders by companies, governments, and trade unions. By involving them in the negotiation process, stakeholders can determine the necessary access for compensatory measures and skills training.

**5) Ensure gender and ethnic inclusivity and avoid discriminatory patterns.**

The coal industry is traditionally dominated by male workers. Therefore, strategies on coal transitions have been primarily focused on male miners, often overlooking their partners and other female workers, who account for 20% of formal jobs in the sector.[52] Studies have shown that when male miners lose their jobs during the coal transition, the workload for women often increases to compensate for the overall decline in household income.[53][54] Therefore, compensation schemes must address workers' households, and

[50] Pai et al., "Understanding Just Transitions in Coal-Dependent Communities."
[51] Srestha Banerjee, "Just Transition and Informal Workers in Coal Regions in India" (International Forum for Environment, Sustainability & Technology, April 2022), https://iforest.global/wp-content/uploads/2022/05/Informal-workers-in-coal-regions-in-India_final.pdf.
[52] "Gender Equality and Inclusion for a Just Transition in Climate Action: A Practical Guide" (International Labour Organization, December 2023), https://www.ilo.org/wcmsp5/groups/public/---dgreports/---gender/documents/publication/wcms_905739.pdf.
[53] "Just Transition: An Essential Pathway to Achieving Gender Equality and Social Justice." International Labour Organization, April 2022. https://www4.unfccc.int/sites/SubmissionsStaging/Documents/202204141910---ILO%20submission%20-%20Just%20transition%20-%20An%20essential%20pathway%20to%20achieving%20gender%20equality%20and%20social%20justice.pdf.
[54] "A Gender-Responsive Just Transition for People and Planet." UN Women, November 2023. https://www.unwomen.org/sites/default/files/2023-11/policy-brief-a-gender-responsive-just-transition-for-people-and-planet-en.pdf.

job training programs should also be available to all people in the affected region, not only former (male) coal miners.

In regions where ethnic and minority groups also make up the workforce, stakeholders also need to assess if transition strategies perpetuate a discriminatory pattern. An ILO case study on the proposed 2015 U.S. Clean Power Plan indicated that coal clean-up operations appear to perpetuate discriminatory patterns, with a high representation of African American workers.[55]

To ensure benefits are fairly distributed during the transition, it's crucial for ethnic minorities and Indigenous Peoples to have a voice in decision-making. The impacts of a decarbonization transition can have varied impacts on different ethnic and indigenous groups. [56] For example, a study by the Stockholm Environment Institute shows that some transition projects neglect the impact of clean infrastructure on indigenous communities and exhibit power imbalance dynamics. [57] La Guajira, a Colombian region with a significant Wayúu Indigenous population, was chosen by the government to spearhead the nation's energy transition, given its plentiful wind resources. However, as clean energy projects progressed, language barriers between the Wayúu community and private companies led to arbitration and ineffective meditation.[58]

## 3.3 Just Transition Management

**6) Be aware of labor market rigidities.**

Labor market rigidities can pose significant challenges during a just energy transition, such as a drastic shift away from coal. These rigidities refer to obstacles that hinder the smooth operation of the labor market, making it difficult for workers to move between jobs and for employers to adjust their workforce efficiently. This situation can be particularly challenging for policymakers to address.[59]

For instance, during South Africa's clean energy transition period from 2008 to 2019, the labor market experienced an increase in temporary jobs by 30%. However, the growth in permanent jobs was much slower, accompanied by a notable decline in youth employment (aged 15-35).[60] Faced with wage and livelihood pressures, many young people resorted to temporary work with the hope of securing permanent contracts.

[55] Mande, "Implementation of Just Transition and Economic Diversification Strategies - A Compilation of Best Practices from Different Countries."
[56] Salamanca, Albert, Bobby Farnan, and Claudia Strambo. "Five Considerations for a Just Transition for Indigenous Communities and Ethnic Minorities." Stockholm Environment Institute, November 14, 2022. https://www.sei.org/perspectives/just-transition-indigenous-communities/.
[57] Cabré, Muñoz, and José Vega-Araújo. "Considerations for a Just and Equitable Energy Transition." Stockholm Environment Institute, May 2022. https://www.sei.org/wp-content/uploads/2022/05/energy-transitions-stockholm50backgroundpaper.pdf.
[58] Cabré, Muñoz, and José Vega-Araújo. "Considerations for a Just and Equitable Energy Transition." Stockholm Environment Institute, May 2022. https://www.sei.org/wp-content/uploads/2022/05/energy-transitions-stockholm50backgroundpaper.pdf.
[59] Elizabeth Bulmer et al., "Global Perspective on Coal Jobs and Managing Labor Transition out of Coal: Key Issues and Policy Responses" (World Bank, December 1, 2021), https://openknowledge.worldbank.org/entities/publication/fed57ec7-e4ef-5895-82f7-c2028e62b6f1.
[60] Bulmer et al.

**7) Funding and investment should specifically target support to displaced workers.**

To address the socio-economic externalities of a just energy transition, both private capital and public finance need to consider measures that track the progress of the transition's objectives. Not only should financial institutions identify social externalities of coal power plant closures like job loss, they should also consider the nature of outcome targets which can serve as evidence of the results being achieved. However, based on our interview, less capital is linked to reemployment outcomes[61]. Financial institutions don't often adopt metrics that measure progress around employment needs, training opportunities, or dialogue held with affected community members. As a result, financing sources are often solely used for adding more renewable generation while neglecting key targets such as retraining of the workforce. Therefore, financing and investment should incorporate a justice target to ensure finance is meaningfully contributed to workforce development.

The ILO recommends elements such as retraining and redeployment schemes that institutions can utilize to track their progress[62]. These elements, however, can only emerge in a clear and applicable way only when financial institutions have participated in, or leveraged a sound engagement strategy to seek the perspectives of affected communities.

## 3.4 On Future Directions

**8) Leverage the power of collaborative governance.**

The transition for coal regions is marred by various, at times competing socio-economic, technological, and environmental issues. The existing initiatives at the global, national and hyper-local level also introduce a series of complex inter-woven priorities and power structures that can't be untangled by government, civil society, or the private sector alone. The ILO introduced the tripartite policy coherence guideline to ensure social dialogue takes place between actors who influence the macroeconomic or industry specific trends, those who represent employment and labor market needs, as well as those who advocate for social justice and social protections. This is also underpinned by the procedural justice aspect of organizing and bargaining collectively for protection against job losses and displacement. The true essence of collaborative governance, beyond empty gestures, is designed to provide an architecture for multi-stakeholder initiatives which coalesce to solve a challenge. Those who have used collaborative governance principles note its relevance for complex problems. To engage in positive-sum bargaining in just transitions for coal regions, the International Energy

[61] [34] Interview with expert, October 2023

[62] [35] Grantham Research Institute on Climate Change and the Environment. "Making Transition Plans." London School of Economics and Political Science. Accessed April 9, 2024. https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2022/10/Making-Transition-Plans-Just-2.pdf.

Agency (IEA) recommends for advanced economies like South Korea a high-level "Committee on Carbon Neutrality" which gives way to four social dialogue organizations focused on sub-national level dialogue, local government-level dialogue, collective bargaining at the industry level, and finally corporate/management level negotiations[63]. In practice, both the ILO and IEA, along with nations like South Africa and South Korea are showing the value of collaborative governance, which requires the following six key guiding principles[64]:

(a) After initiation by a responsible public agency or institution, the impacted stakeholder group should form a governing body or forum to make decisions on a place-based just energy transition strategy

(b) participants include non-state actors, including those in academia, thinktanks, and international organizations

(c) participants engage directly, preferably face-to-face, to build trust and identify areas where they can achieve mutual gains, ultimately commonly defining the problem.

(d) By committing to a shared process, stakeholders are not merely consulted but also provide direct input to decision making, leading to the creation of formal strategic plans or visions of success

(e) By utilizing a deliberative process, the form also aims to make decisions by consensus

(f) the focus of collaboration should be on a public policy or public management-oriented outcome which shapes decisions on communities in coal regions

**9) Develop a unified vision and definition of a just energy transition throughout the process to avoid manipulation and ensure proper allocation of resources.**

Definitions of just energy transitions have evolved over time. Many institutions and agencies have their own uniquely tailored definitions and criteria, while some have a specific focus on social protection, some might lack stringent requirements. As such, governments and companies directly responsible for transition strategies have much freedom to choose. If they adopt a less strict or inconsistent definition, the strategy would lead to insufficient protections, a less ambitious vision, and missed opportunities for a more equitable transition. Therefore, a clear and unified definition throughout the policy initiative ensures that all stakeholders understand the goals, reduces ambiguity, and enables more effective planning and resource allocation.

**10) Unleash private sector potential and tap into more resources.**

[63] International Energy Agency (IEA). Strategies for Coal Transition in Korea. [Report]. IEA, 2023.
[64] Chris Ansell and Alison Gash, "Collaborative governance in theory and practice", Journal of Public Administration Research and Theory, 2007, pp. 543-571

Funding poses a significant challenge for emerging market economies to launch just transition initiatives. While countries and governments can partner with financial institutions to craft ambitious long-term visions, the implementation process often proves time-consuming. Interviews with experts indicate that governments should actively seek opportunities within the private sector to engage both domestic and foreign companies in launching clean energy projects that generate positive employment outcomes. These projects can swiftly come to fruition and serve as exemplary models, signaling the nation's transition capability and bolstering investor confidence.

# 4. The Case of Indonesia: How Do We Make Just Transition Work?

Indonesia's Just Energy Transition Partnership (JETP), launched in November 2022, is the largest financial package for a coal transition globally to date, and heralds a critical pivot towards sustainability by aiming to reduce the country's reliance on coal. First, it's a significant initiative due to Indonesia' status as a major coal-producing and consuming country, highlighting the challenges and opportunities in shifting away from fossil fuels toward renewable energy in a major emerging economy. Indonesia's JETP program is also challenging given that coal-related industries constitute a substantial part of its economy. For example, coal accounts for 16% of the country's total exports.[65] Moreover, the transition impacts diverse stakeholders, including local communities, the government, and industries, each with differing perspectives on how to implement a decarbonization transition.

For these reasons, it is illustrative to examine Indonesia's efforts to develop and implement a just energy transition, specifically away from coal. This section provides background on Indonesia's coal transition plans and offers commentary on its progress and remaining challenges.

## JETP's Comprehensive Investment and Policy Plan

The Indonesian government created a JETP Secretariat to oversee the implementation of the JETP. In November 2023, the Secretariat released the Comprehensive Investment and Policy Plan (CIPP), underpinned by a substantial $20 billion initial investment, equally sourced from international public funds and private investment through the Glasgow Financial Alliance for Net Zero (GFANZ), signifying a robust commitment towards mitigating greenhouse gas emissions, ensuring energy security, and catalyzing economic growth through accelerated deployment of renewable energy and strategic retirement of coal-fired power plants.[66] The JETP Secretariat has since estimated that additional funding of over $680 billion to 2050 is required for the JETP, even though it did not make clear how this funding would be obtained in the future.[67]

The release of the CIPP has elicited a range of responses, reflecting the complexities inherent in implementing such an ambitious program. Coal is heavily emphasized in the CIPP: of the CIPP's 8 "overarching policy enablers", one is to "manage a coal phase-out."[68]

Using the analytical framework and lessons discussed in this primer, this section provides an assessment of Indonesia's JETP. Although still at a relatively preliminary stage, the

[65] Susanto, Deni Aditya, and Randy Admi. "The determinants of Indonesia's coal exports demand to six Asian countries." *Journal of Developing Economies* 6, no. 1 (2021): 66.
[66] JETP Indonesia (2023), Just Energy Transition Partnership Indonesia: Comprehensive Investment and Policy Plan.
[67] JETP Indonesia, 2023.
[68] JETP Indonesia, 2023.

JETP has already revealed some achievements as well as shortfalls. By examining the JETP case, the discussion aims to highlight its potential as a model for just coal transitions while acknowledging the hurdles Indonesia faces in achieving its ambitious goals.

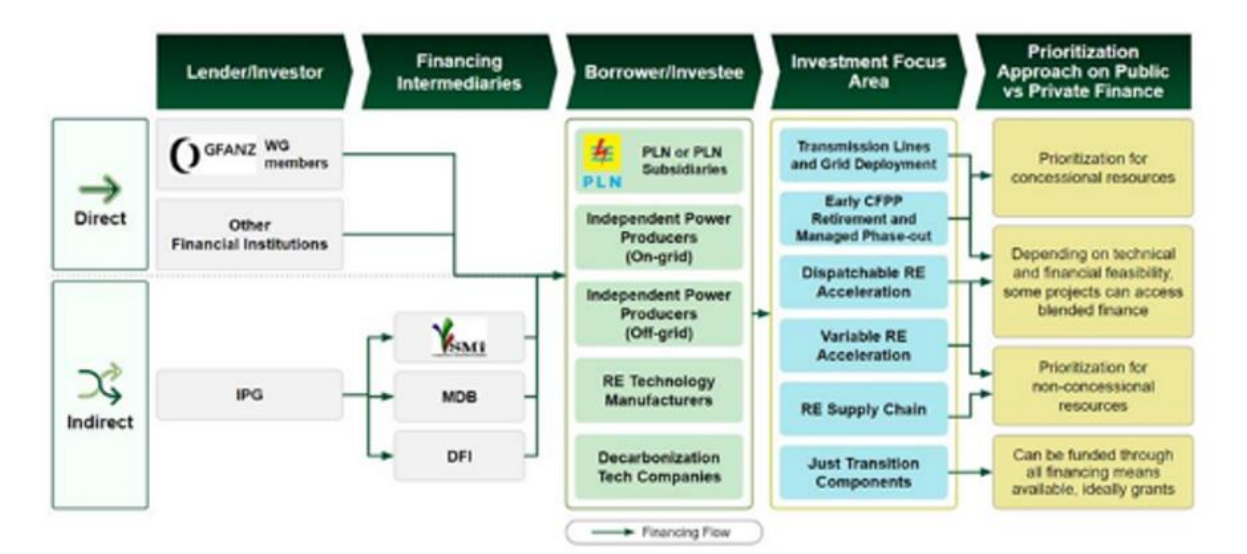
Specifically, this section evaluates Indonesia's progress on its JETP using the 10 key takeaways from the previous section (see Figure 7). The evaluation assesses progress as "promising", "concerning", and "to be determined". It is important to note that since Indonesia's JETP is still at an early stage, many of its plans are yet to be executed and thus further ongoing assessment and monitoring of the CIPP is required. As a result, this some findings are labeled "to be determined."

**Figure 7: Indonesia's JETP Status on the 10 Key Takeaways**

| Key Takeaways | Indonesia's JETP Status |
|---|---|
| #1 Industrial policy & Choice of Financial Assistance | Promising |
| #2 Consistency of Guidelines | To Be Determined |
| # 3 Engagement of Social Dialogue | Promising |
| #4 Anti-Discrimination and Gender Inclusivity | Concerning |
| #5 Engagement with informal workers | To Be Determined |
| #6 Prevention of Labour Market Rigidities | Concerning |
| #7 Funding and Investment Specifically on Displaced Workers | To Be Determined |
| #8 Collaborative Governance | Promising |
| #9 Developing a unified vision | Concerning |
| #10 Unleash private sector potential | To Be Determined |

## Takeaway #1: Industrial policy & Choice of Financial Assistance (Promising)

**Figure 8: Indonesia JETP CIPP Overall Finance Flow**




Source: JETP Indonesia, 2023.

The Indonesian government has made impressive progress in establishing clear pathways to raise the initial $20 billion to commence its JETP program.[69] Figure 8 illustrates the overall financing mechanisms used.

Concessional Loans: Of the initial funding, more than $6.9 billion of concessional loans have been identified.[70] These are loans with favorable terms to protect the borrower, especially in a newly growing industry (low interest rates or longer grace periods).

Non-concessional loans: Due to the Indonesian government's emphasis on the non-disruption of the market, non-concessional loans are made using private financial resources but through public institutions.[71] The goal is to see profitable projects and make investments accordingly.

Equity Investments: Direct investments to companies that are involved in Indonesia's JETP program are mostly done either as a direct purchase into the company or through private-equity funds.[72]

Another promising characteristic of the JETP program is the Energy Transition Mechanism (ETM), a strategic framework designed for early retirement of carbon intensive assets such as coal-fired power plants. [73] The ETM provides an investment structure that utilizes innovative financial mechanisms. For example, it operates through a model that scales concessional finance, private investments, and grants from the government to enhance commercial viability for renewable energy projects and diminish

[69] JETP Indonesia, 2023.
[70] Seiler, Annika, Hannah Brown, and Samuel Matthews. The JETPs of South Africa and Indonesia: A Blueprint for the Move Away from Coal? No. 302. Center for Global Development, 2023.
[71] Seiler, Annika et al., 2023.
[72] Seiler, Annika et al., 2023.
[73] Watel-Dehaynin, Tristan. "Moving towards a more sustainable model of energy production & consumption: a case for Indonesia." PhD diss., Massachusetts Institute of Technology, 2023.

the economic loss for early retirement of coal assets.[74] As such, it focuses on both building renewable and clean energy products as well as on supporting the retirement of coal-related projects.[75]

In addition, it is promising that Indonesia has, over the past several years, cooperated with various countries on technology transfer to prepare for the advancement of JETP. For example, Indonesia has signed multiple deals with numerous Chinese State-Owned Enterprises (SOE) or privately-owned companies for construction of major renewable energy projects such as battery manufacturing plants and floating solar projects.[76] Moreover, following President Widodo's visit to Washington DC in November 2023, Indonesia has also enhanced its technological cooperation with the United States on areas such as carbon capture and storage (CCS) and responsible mining and mineral processing.[77]

However, the country may face certain supply chain disruptions and commodity price turbulence in pivotal technological parts such as PV panels.[78] Therefore, it is important for a country with Indonesia's size and capability to be able to produce many of the key renewable elements domestically, especially given its rich storage in critical minerals and metals.[79] First, Indonesia is well-aware of other countries' dominance in renewable supply chain, particularly China, and outlined a cautious and feasible supply chain development plan, as it is listed as one of its focus areas of its investment. It would concentrate investments in the latter stage of the renewables supply chain, such as solar energy. It would take advantage of its large workforce and seek to reduce the labour-intensive cost of the supply chain, as assembly makes up 40%-50% of the cost.[80] By 2030, Indonesia is aiming to have most of its solar PV panels supplied domestically while leaving some room for imports to engage in international competition.[81]

## Takeaway #3: Engaging in Social Dialogues (Promising)

Robust stakeholder recognition is considered as one of the most critical approaches for a just energy transition. The JETP Secretariat has made progress in building a general framework for evaluating the progress of each stakeholder, including (1) cultural heritage, (2) displacement and resettlement, (3) local and customary communities, (4) labor and working conditions, (5) biodiversity, (6) climate change and disaster risk, (7) community health, (8) pollution prevention, and (9) economic diversification[82].

The list of the general stakeholders is in Figure 9:

[74] Mulia, Aldi Haydar, Sekarini Wukirasih, and Widhi Hanantyo Suryadinata. "Whither Just Transition? A Case Study of Energy Transition Mechanism (ETM) Country Platform in Indonesia." Global South Review 5, no. 1: 31-46. 2023.
[75] Mulia, Aldi Haydar, Sekarini Wukirasih, et al. 2023.
[76] JETP Indonesia, 2023.
[77] Damayanti, Ismi. "Indonesia Launches Southeast Asia's 'largest' Floating Solar Plant." Nikkei Asia, November 9, 2023. https://asia.nikkei.com/Business/Energy/Indonesia-launches-Southeast-Asia-s-largest-floating-solar-plant.
[78] "Fact Sheet: President Joseph R. Biden and President Joko Widodo Announce the U.S.- Indonesia Comprehensive Strategic Partnership." The White House, November 13, 2023.https://www.whitehouse.gov/briefing-room/statements-releases/2023/11/13/fact-sheet-president-joseph-r-biden-and-president-joko-widodo-announce-the-u-s-indonesia-comprehensive-strategic-partnership/.
[79] JETP Indonesia, 2023.
[80] JETP Indonesia, 2023.
[81] JETP Indonesia, 2023.
[82] JETP Indonesia, 2023.

**Figure 9: List of Stakeholders Provided by Indonesian JETP CIPP**[83]


*Source: (JETP Secretariat and Working Groups, 2023)*

**Figure 9.1-4 JETP Implementation Stakeholders**

The most significant of them on a local level would be the civil society organizations and grassroots groups (CSOG) and the workers and trade unions (WTU). According to the CIPP, the CSOG groups are mainly in charge of "monitoring and ensuring the JETP implementation abides by the principles of just transition."[84] The focus, it seems, is more on the environmental side as the report discusses maintaining pollution and emission thresholds and conservation of biodiversity.[85]

[83] JETP Indonesia, 2023.
[84] JETP Indonesia, 2023.
[85] JETP Indonesia, 2023.

## Takeaway #4: Anti-Discrimination and Gender Inclusivity (Concerning)

Gender equality and non-discrimination are addressed by the JETP secretariat. In fact, the very first principle of the Indonesian JETP, as listed in its CIPP, is “Leaving No One Behind”, which is supposed to take “everybody into account” and make sure the just transition is done in an “inclusive, nondiscriminatory, equitable, and accountable” manner.[86] However, the CIPP still lacks a framework for concrete action. In addition, even where funding is available, it is unclear how it will be used and its impact. For example, Canada has provided a $5.5 million grant to promote women empowerment in the just energy transition, but there are no transparent plans for how this money will be spent and how the Indonesian government will supplement it with additional funds.[87]

## Takeaway #6: Prevention of Labour Market Rigidities (Concerning)

One of the general concerns for Indonesia JETP plan is insufficient focus on vocational training for those whose jobs will be impacted.[88] Although the CIPP mentions the significance of “technical vocational education and training”, it does not specifically mention how financial resources are going to be allocated for such programs, and how such programs can be supported through the local workers and labor unions.[89] In the description for stakeholders, it largely neglects the local stakeholders, especially trade and labour unions, as important sources for finding future occupations for workers who work in coal power plants and mines.[90] Also, no significant cooperation between Indonesian JETP Secretariat and local labor unions are disclosed. This is a common concern expressed among experts familiar with Indonesia’s JETP. Although the government recognizes the existence and the importance of local stakeholders such as the unions, the secretariat is not making timely progress in compensating or providing job training for workers.[91] Moreover, the challenge of coordination between the central government and regional governments, as well as the lack of government funding has hindered [92] the government’s financial and political capabilities to appropriately re-locate

[86] JETP Indonesia, 2023.
[87] JETP Indonesia, 2023.
[88] From Interview
[89] JETP Indonesia, 2023.
[90] JETP Indonesia, 2023.
[91] From Interview
[92] From Interview.

workers[93] Moreover, because of the issue with captive coal plants[94], many of the workers' impacts have been neglected by the government simply due to the lack of information on the conditions of these labor groups.[95]

## Takeaway #8: Coalitional Governance (Promising)

Indonesia has made progress on "collaborative governance." The establishment of the JETP Secretariat brought together different departments within the government, and the Secretariat has incorporated international organizations such as the MDBs to play a pivotal role, especially with financing and policy support. Indonesia is actively seeking international cooperation, whether bilaterally or multilaterally. This section summarizes the most significant international cooperation of Indonesia's JETP thus far.

**ADB:** The Asian Development Bank (ADB) is a pivotal multilateral institution supporting Indonesia's JETP. Firstly, the JETP Secretariat coordinates efforts between the Ministry of Energy and Mineral Resources and the ADB.[96] Among other activities, it oversees the establishment of the "Finance Working Group" within the JETP Secretariat to help identify financial requirements and arrange any changes in financial allocation[97]. The Secretariat also coordinates with multiple sovereign funds, such as from the United Kingdom, Germany, and Denmark, among others, and has attracted nearly $3 billion in the ETM's fund (the Climate Investment Fund Accelerated Coal Transition), providing a key foundation for Indonesia's JETP.[98]

**Belt and Road Initiative:** As one of Indonesia's most significant bilateral trading partners. China has various joint projects with Indonesia in areas such as renewable energy, infrastructure, and EV vehicles. For example, in November 2023, just weeks after the publication of the CIPP, Indonesia's state-owned electricity distribution company signed a major memorandum of understanding (MOU) with China's biggest electricity infrastructure company on the development of wind power in Indonesia.[99] The potential for Indonesia's wind power comes to over 155 GW, a critical factor for Indonesia's clean energy transition.[100] Also, the tie between governments is extremely strong. After President Widodo met with President Xi Jinping in October 2023, China has promised to assist Indonesia in accelerating energy transition and deepen cooperation in solar energy.[101] China has also expressed its interest in helping Indonesia with modernization

[93] From Interview.
[94] Indonesia's captive coal power plants, often used by industries for on-site electricity, is considered as one of its main environmental challenges due to significant greenhouse gas emissions and air pollution. Since they are not incorporated into the national grid by PLN, it is extremely difficult to evaluate their contribution of CO2 emissions in Indonesia.
[95] From Interview
[96] JETP Indonesia, 2023.
[97] JETP Indonesia, 2023.
[98] JETP Indonesia, 2023.
[99] Octavia, Cindy Frishanti, and Farhan Arda Nugraha. "PLN, Powerchina Collaborate for Wind Energy Development in Indonesia." Antara News, November 14, 2023. https://en.antaranews.com/news/298614/pln-powerchina-collaborate-for-wind-energy-development-in-indonesia.
[100] Octavia, Cindy Frishanti, and Farhan Arda Nugraha, 2023.
[101] Shuai, Zhong., Qiu Huasheng, Shen Lei, Hu Shuhan, and Zhang Hongli. "Proposals toward Key Cooperation in Resources and Environmental Areas Between China and Indonesia." Bulletin of Chinese Academy of Sciences (Chinese Version) 34, no. 1 (2019): 94-103.

and poverty alleviation in rural areas, which is an important measure to diminish the reliance on the coal industry for many regions in Indonesia.[102]

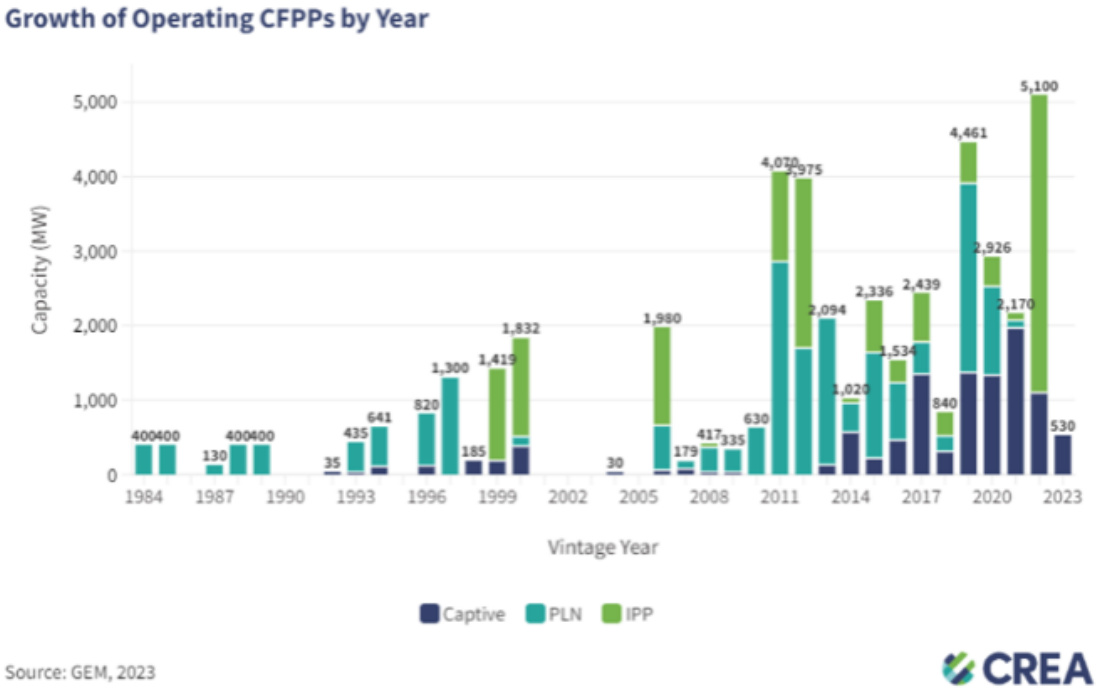
**US-Indonesia Comprehensive Strategic Partnership:** The US, following President Widodo's historic visit to the White House, jointly announced the US-Indonesia Comprehensive Strategic Partnership with the Indonesian government in supporting its new JETP program.[103] There are many areas the US targeted supportive of the JETP. For example, the US Trade and Development Agency (USTDA) will work with the PLN in establishing renewable energy mini grids in numerous remote areas.[104] Such projects also fit the JETP's criteria for being commercially competitive as it is conducted via a public-private partnership with the US Department of Energy and TQ Automation.[105] Another area of support, which is mainly technical, is the establishment of a bilateral workplan in November 2023 between the US and Indonesian government agencies that aims to accelerate the technologies for carbon capture and storage, which mitigates the environmental impact of coal use and ensures employment safety for some workers in fossil fuel power plants.

## Takeaway #9: Developing a Unified Vision (Concerning)

A significant issue for the JETP is the lack of coordination in policy implementation between the subnational and the national levels.[106] The lack of attention at the subnational levels, such as the regions that heavily rely on the coal industry economically, remains to be addressed. Specifically, research has indicated that the challenge for the central government is addressing the reluctance of local governments in implementing JETP[107] It would be essential for Indonesia to create effective regulatory frameworks to encourage local action and public participation.[108] Moreover, changes must be made on Indonesia's regional autonomy laws and regulations to grant subnational governments clearer authorities in energy governance, accompanied by accountability mechanisms and enhanced capacities. These changes will better ensure Indonesia's national policy can be implemented smoothly and fully at a local level.

**Figure 10: Growth of Operating CFPPs by Year in Indonesia**[109]

[102] Shuai, Zhong., Qiu Huasheng et al., 2019.
[103] "Fact Sheet: President Joseph R. Biden and President Joko Widodo Announce the U.S.- Indonesia Comprehensive Strategic Partnership." The White House, November 13, 2023.https://www.whitehouse.gov/briefing-room/statements-releases/2023/11/13/fact-sheet-president-joseph-r-biden-and-president-joko-widodo-announce-the-u-s-indonesia-comprehensive-strategic-partnership/.
[104] The White House, 2023.
[105] The White House, 2023.
[106] Setyowati, Abidah B., and Jaco Quist. "Contested transition? Exploring the politics and process of regional energy planning in Indonesia." Energy Policy 165 (2022): 112980.
[107] Setyowati, Abidah B., and Jaco Quist, 2022.
[108] Setyowati, Abidah B., and Jaco Quist, 2022.
[109] Hasan, Katherine, Jobit Parapat, and Lucy Hummer. "Emerging Captive Coal Power: Dark Clouds on Indonesia's Clean Energy Horizon." Centre for Research on Energy and Clean Air, October 19, 2023. https://energyandcleanair.org/publication/emerging-captive-coal-power-in-indonesia/.




Relating to the need to develop a unified vision, another issue that has received wide criticism from NGOs is how the Indonesian government has overlooked captive coal-fired power plants (CFPP).[110] These are power stations that are operated off-grid by private actors, which could be a significant obstacle for Indonesia's effort to pivot to clean energy. Since these private power plants are not under the control of PLN, they do not have the obligation to abide by the national energy policies, especially JETP.[111] Most of these plants are used to support the meal processing industry in Indonesia, which is one of the pillars of its economy. Also, they have rapidly become more important in Indonesia, with capacity skyrocketing from 1.3 GW in 2013 to more than 13.7 GW in 2023 (See Figure 10).[112] Currently, CFPPs account for more than 25% of total coal capacity in Indonesia.[113] In its program, the JETP Secretariat recognizes that CFPPs are a major challenge for the coal transition, and it has designed several policies to incorporate 26 CFPPs into the PLN grid, which would reduce over 10.5 million tons of CO2 after the plants were shutdown.[114] However, compared to its vast proportion within the country's industry, this amount is still considered insignificant. Unfortunately, the CIPP has not yet provided a clear solution for

[110] Jong, Hans Nicolas "Indonesia Pushes Carbon-Intensive 'false Solutions' in Its Energy Transition." Mongabay Environmental News, December 5, 2023.
[111] Jong, 2023.
[112] Hasan, Katherine, Jobit Parapat, and Lucy Hummer. "Emerging Captive Coal Power: Dark Clouds on Indonesia's Clean Energy Horizon." Centre for Research on Energy and Clean Air, October 19, 2023. https://energyandcleanair.org/publication/emerging-captive-coal-power-in-indonesia/.
[113] Jong, Hans Nicolas "Indonesia Pushes Carbon-Intensive 'false Solutions' in Its Energy Transition." Mongabay Environmental News, December 5, 2023.
[114] JETP Indonesia, 2023.

this major issue although the government "will carry out a more detailed study and roadmap."[115]

# 5. Applying Forward Looking, Just Energy Transition Strategies to Future Implementations

As countries are increasingly grappling with the new processes, targets, and engagement avenues for comprehensive social dialogue to deliver on both local development goals and international climate commitments, coming to a consensus on what it means to promote a just transition is more important than ever. The two broad approaches governments, donors, and leading multilateral institutions are embracing to drive country-owned just energy transitions for coal regions fall into two categories: prioritizing training opportunities, and integration of social protection.

1) **Provide Training and Reemployment Opportunities**

In this approach, the goal is to create additional greener job opportunities both within and outside the fossil fuel industries. In the short term, coal mining companies and coal plants are the main actors. They can add additional smaller-scale green assets and provide related training opportunities. In doing so, companies can transition a portion of their employees without facing large layoffs. However, in the long term, transition strategies require collective efforts from governments, trade unions, and other financial institutions. The energy transition requires companies to identify and repurpose existing coal-intensive assets, or a complete phaseout and closure. As such, all employees would be affected. Therefore, actors should consider diversifying the economy, identifying new green job opportunities, and providing large-scale training to minimize exposure to unemployment.

For this labor and skill-focused approach, localities still need to determine and generate evidence on the following question:

- What are the limits to both capital and labor mobility amidst efforts to shift workers from one set of jobs to another? Similarly, how easy is it to transfer the skills of coal workers to new economic sectors?

2) **Integrate Social Protection and Ensure Inclusivity**

[115] JETP Indonesia, 2023.

In this second approach, the goal is to holistically consider workers and their households that would be affected by the transition. In the early stage, trade unions typically host social dialogues with workers affected and work with mining companies to design social protection mechanisms, including fair compensation schemes, early retirement plans, wellness services, and others.

Systemic evidence is also needed for the soundness of policies which seek to target the social wellbeing of marginalized communities in coal affected regions:

- What happens to localities which lose dominant coal industries, thereby reducing their tax base and in turn eroding available public funds? What shape should social safety nets take in these instances?

Finally, policy making in the age of the energy transition faces a series of hurdles that can only be addressed with shift in mindsets and strategies. Researchers at the International Monetary Fund have proposed the concept of risk management-oriented policy making[116]. Policy makers in the energy space need to shift toward the following approaches to meet the current global energy transition moment:

- Focused on managing risks: Traditional energy policymaking has often been reactive, responding to crises as they arise. The lessons highlighted in this primer point to the need for policy making to be more proactive, aiming to identify and manage risks before they become crises.
- Holistic: Traditional energy policymaking has often been siloed, with different government departments responsible for different aspects of energy policy. Governments, multilateral development banks and investors need to take on a more cohesive and cross-functional approach, considering all the risks associated with the transition to a low-carbon economy.
- Forward-looking: Traditional energy policymaking has often been focused on the short term. By being more forward looking and identifying the positive-sum outcomes of future opportunities, considering the long-term risks and opportunities associated with the transition to a low-carbon economy.
- Collaborative: Traditional energy policymaking has often been top-down, with decisions made by a small group of people. Many impactful cases of just transition efforts have demonstrated the path needs to be collaborative, involving stakeholders from all affected sectors of society.

Transitioning regions away from coal requires hyperlocal coordination bolstered by the explicit intent of the state and its policy makers to adhere to procedural, distributive, and restorative justice principles. Energy consumers and vulnerable communities run the risk of being exposed to social externalities which may slow down economic growth and

[116] Espagne, E., W. Oman, J.-F. Mercure, R. Svartzman, U. Volz, H. Pollitt, G. Semieniuk, and E. Campiglio. (2023). Cross-Border Risks of a Global Economy in Mid-Transition. IMF Working Paper No. 2023/184.

worsening instability, perpetuating the perception climate-friendly policies are not driven by the governed but imposed by private interests or politically expedient officials.

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