



► Policy Brief

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Green jobs and just transition policy readiness assessment in the energy sector in Indonesia

Key points

- Indonesia has made significant progress in mainstreaming green economy activities in the country's macroeconomic and national development plans. Indonesia has also increased their global climate commitments – including a net-zero emissions target to be achieved by 2060.
 - This macro level green economy framework is being implemented through industrial, sectoral and energy policies. The energy sector, particularly electricity generation, is largely coal-based and is in period of rapid transformation.
 - Energy transition will create significant employment changes in the energy and electricity sectors – with employment declines in carbon-intensive parts of the sector, for example, in coal generation and coal mining activities, and employment growth in new energy activities, such as renewable energy, energy efficiency and grid augmentation activities.
 - Currently there is limited alignment between the green economy agenda and policies for employment. A just transition – achieving sustainability in ways that is just to the enterprises, workers and communities involved, so that no one is left behind – requires detailed and inclusive planning, and close alignment between green economy, energy, industrial and employment policies.
- Recommendations emerging from this assessment include:
- **Define, collect, and share data on labour market changes** – Create guidelines, including defining green jobs as jobs that both contribute to sustainability but also include the ILO's decent work standards, and use this definition to collect, analyse, interpret and share information on employment impacts of the energy transition.
 - **Target skills development and active labour market policies towards workers impacted by the transition** – This requires skills matching and targeting of impacted and unrepresented workers in the industry (such as women and young people) to increase the inclusivity of the energy transition. Enhanced social protection and wider programmes aimed at diversifying economies and skill bases in communities and regions strongly impacted by decarbonization will also be necessary.
 - **New institutional arrangements for social dialogue and policy coherence** – Just transition planning will require social dialogue between relevant tripartite and social partners, as well as capacity-building of individuals and institutions involved in just transition planning, to ensure active and effective participation and collaboration between all social partners in planning processes, as well as institutional evolution and innovation to create new policies and implementation mechanisms for targeted activities identified in just transition planning processes.

About the project

Indonesia has experienced strong and stable economic development over the past decade; however, there is concern that this development is unsustainable due to a heavy reliance on natural resources, with associated environmental and social impacts.¹

As part of its commitment to the Paris Agreement, the Government of Indonesia, under the leadership of the Ministry of National Development Planning (BAPPENAS), launched the LCD (low-carbon development) Initiative in 2017 to achieve low-carbon development, sustainable natural resource management and poverty alleviation while maintaining economic growth. Under this initiative, BAPPENAS developed various policy scenarios using a system dynamic approach balancing economic, social and environmental considerations. The results of the LCD Initiative are included in the RPJMN 2020–24 national development plan² with green transformation achieved through seven key sector transitions, including energy transition, clean transportation, sustainable forests, sustainable land and agriculture, sustainable water resources, circular economy, and blue economy.³

Indonesia joined the UN Partnership for Action on Green Economy (PAGE) programme⁴ in 2018, with BAPPENAS as the implementing partner. PAGE in Indonesia focused support for translating the LCD Initiative into specific sectoral policies, with a strong focus on the energy sector.

In Indonesia, the energy sector is the second-largest carbon emitter and has recorded the highest annual carbon emissions growth in recent years. National power generation is highly dependent on fossil fuels, and coal dominates the energy mix. Energy transition is a critical mechanism to achieve climate targets as well as Indonesia's green economy ambitions.

The ILO's PAGE activities focus on promoting green jobs and ensuring a just transition. Green jobs are jobs that are good for people, good for the economy, and good for the environment. They are both a mechanism to achieve sustainable development, as well as an outcome, in that they can provide the double dividend of just and decent employment creation with reduced environmental impacts. Developing and implementing policy to promote green

employment is the ambition of governments around the world, including in Indonesia.

Developing a supportive policy ecosystem to enable future green jobs growth and to ensure a just transition is critical; yet in many policy areas and jurisdictions green jobs and a just transition are new concepts and require activities to build awareness and capacity before they can be fully developed.

The ILO as part of PAGE Indonesia's activities undertook a green jobs policy readiness assessment to develop a baseline perspective of current green jobs and the just transition policy frameworks in Indonesia. The assessment focused in detail on the energy sector.

The objectives of the assessment included:

- providing a snapshot of green jobs and just transition policy frameworks and activities in Indonesia, including policy coverage and policy coherence; and
- assessing "readiness" and highlighting areas of best practice and opportunities for supporting green jobs and just transitions.

Policy assessment is a critical activity, because as with other sustainability policy issues, the ability to deliver and implement policy encouraging green jobs and just transitions requires:

- policy coordination across previously unconnected and fragmented sectors and parts/levels of government;
- integration of ecological, social and economic concerns in policy; and
- reform of institutional settings and compositions to better support the development and implementation of activities to address greening and a just transition.

¹ BAPPENAS, *Low Carbon Development: A Paradigm Shift Towards a Green Economy in Indonesia*, 2019, 29.

² BAPPENAS, *Low Carbon Development: A Paradigm Shift Towards a Green Economy in Indonesia*, 2019, 9.

³ BAPPENAS, *Laporan Kajian Peta Jalan Transformasi Indonesia Menuju Indonesia 2045 – Adil, Hijau, dan Maju*, 2021.

⁴ The Partnership for Action on Green Economy (PAGE) was launched in 2013 as a response to the call at Rio+20 to support those countries wishing to embark on greener and more inclusive growth trajectories. PAGE brings together five UN agencies – [UN Environment Programme](#), [International Labour Organization](#), [UN Development Programme](#), [UN Industrial Development Organization](#), and [UN Institute for Training and Research](#) – whose mandates, expertise and networks combined can offer integrated and holistic support to countries on inclusive green economy, ensuring coherence and avoiding duplication.

Results and conclusions

Defining and measuring green jobs

The ILO defines green jobs as decent jobs in economic sectors and activities that contribute to the preservation and restoration of the environment in traditional sectors such as agriculture and manufacturing and new, emerging green sectors such as renewable energy and energy efficiency (see figure 1). Decent jobs refer to work that meets the ILO decent work criteria; that is, work that pays a fair income, guarantees a secure form of employment and safe working conditions, ensures equal opportunities and treatment for all, includes social protection for the workers and their families, offers prospects for personal development and encourages social integration, and workers are free to express their concerns and to organize.⁵

Figure 1. About green jobs



Source: ILO, "What Is a Green Job?".

Assessing the decent work aspects of green employment requires looking at the characteristics of green employment at three different levels – individual, enterprise and economy.

At the individual job level, one needs to assess whether the new employment is fairly remunerated and with all the relevant workplace benefits and rights, and whether

workers have a safe working environment in which to undertake their work.

At the enterprise level, one needs to assess enterprise commitments and capacity to support decent working conditions alongside environmental sustainability – including fair wages, safe working environments with health risks minimized and free from all forms of discrimination and violence and harassment. To ensure safe working conditions there is a need to include climate change risks in occupational safety and health (OSH) policies, and new occupations in renewable energy or energy efficiency must have their occupational risks and hazards mapped and mitigated. Other relevant commitments and actions include those aimed at addressing gender equality, providing career development and training, and supporting social dialogue processes for enterprise decision-making.

At the economy level, one needs to assess how employment generation and upgrading employment quality are linked to the green development agenda within the economy. The focus needs to not only be on employment creation but also employment quality, which can be improved by increasing formalization of employment, ensuring that regulatory and policy systems develop a supportive culture for rights at work, and ensuring that policy mechanisms provide for social protection and social dialogue processes.

Statistically, green jobs are a subset of employment in environmental activities that meet decent work requirements. However, statistically determining decent work can be challenging and requires a methodology that considers the components of decent work at the economy, enterprise and individual levels – either through assessments (for example, of the presence of regulations for rights at work) or via proxies (such as, estimates of the percentage of formal employment by sector, or minimum wages). The ILO has identified ten characteristics of decent work for measurement purposes,⁶ with a mix of qualitative and quantitative data required to measure these indicators. These characteristics were applied qualitatively in an ILO green jobs mapping study in Indonesia in 2013.⁷

⁵ ILO, *Decent Work Indicators: Guidelines for Producers and Users of Statistical and Legal Framework Indicator*, second edition, 2013.

⁶ ILO decent work indicators are available at: http://actrav.ilo.org/english/about/about_fundamentals.html. See also ILO, *Decent Work Indicators for Asia and the Pacific: A Guidebook for Policymakers and Researchers*, 2008.

⁷ ILO, "Green Jobs Mapping Study in Indonesia – Advance Draft", July 2013.

Green jobs and energy transition in Indonesia

The energy sector is key to a successful transition to a low-carbon economy; however, for Indonesia this transition also needs to contribute to development goals, such as equitable access to affordable, reliable and sustainable energy. This requires balancing commitments to the Paris Agreement for decarbonization, while also achieving the Sustainable Development Goals.

Energy policy in Indonesia

Indonesia's Long-Term Strategy for Low Carbon Resilience highlights that reducing carbon emission from the energy sector will be achieved in four main ways:

- i. implementation of energy efficiency measures;
- ii. use of decarbonized electricity in transport and buildings;
- iii. fuel shift from coal to gas and renewables in industry; and
- iv. enhancement of renewable energy in power, transport and industry.

Government policy has targeted these areas for programme and policy development. The Government has also developed strategies for further implementing the energy transition:⁸

- Mainstreaming key policies essential for the transition, such as accelerating renewable energy development; improving power grid infrastructures, including expanding integrated transmission networks and smart grids among islands; and increasing the use of battery-based electric vehicles into the national energy strategy.
- Setting long-term, gradual and staged measures for transitioning away from coal power while developing CCS/CCUS⁹ and clean technologies for fossil fuels.
- promoting innovative financing facilities such as establishing special mission vehicles (SMVs) or public financing corporations, issuing green bonds, setting up environmental funds, and collaborating with international partners in de-risking the renewables business.

Currently, the Ministry of Energy and Mineral Resources, in coordination with the National Energy Council (Dewan Energi Nasional, or DEN), is investigating alternative policy scenarios and a road map for energy transition to achieve net zero emissions (NZE). Although there is not yet a clear timeline on when this road map will be completed and integrated into the revised National Energy Policy,¹⁰ the Ministry has signaled key directives actions will create a timeline for transition over the next 10–15 years.¹¹

Sectoral employment impacts

The energy transition will involve direct impacts across sectors such as mining and quarrying; electricity generation, including renewables; transport; and construction. Although employment in these sectors is relatively lower than in other sectors, such as agriculture, manufacturing and retail,¹² they are closely linked to other economic sectors and have strong multiplier effects. Changes in electricity generation, transport and construction in the energy sector will have flow on impacts in other sectors. For example, electric vehicles entail very different value chains than internal combustion engine vehicles in the automotive sector. Therefore, this will result in changes in forward- and backward-linked industries and demand for oil products, thus modifying consumer spending patterns.

These changes will shift jobs along the value chain throughout the transition period. Data analysis highlights that more than 165,000 coal mining workers and around 1.2 million workers in the coal mining supply chain will be directly impacted.¹³ Changes in electricity supply will also affect workers in the electricity generation sector; there will be jobs losses, job shifts and some job growth. For large employers, such as state-owned electricity enterprises, this will substantially change employment and operations in these enterprises, with decreased domestic demand for coal, increases in jobs related to renewable energy, and shifts in occupations within these enterprises, especially in the technical functions, which require different processes and competencies.

Given the geography and the timeline of the transition, the employment impact in the electricity supply sector may differ in various regions and over time. For example, coal mining regions such as East Kalimantan, West Kalimantan

⁸ ILO, *Green Jobs and Just Transition Policy Readiness Assessment in the Energy Sector*, forthcoming.

⁹ CCS refers to carbon capture and storage, and CCUS refers to carbon capture, use and storage.

¹⁰ There are several versions of the Energy Transition for NZE milestones expressed by officials of MEMR on different occasions, as documented in the press releases of the Ministry; however, there are no significant differences in key policies, targets and timelines.

¹¹ ILO, *Green Jobs and Just Transition Policy Readiness Assessment in the Energy Sector*, forthcoming, 30.

¹² See figure 6 in Chapter 2 for the sectoral employment shares.

¹³ Statement from the workers' representative during tripartite consultation meeting on 28 June 2022.

and South Sumatra may experience job losses in the coal mining and quarrying sectors; while regions such as West Papua, Central Sulawesi and Maluku will experience an increase in jobs due additional demand for their copper and nickel reserves. Employment in renewable energy production may also follow a similar path, as the choice of renewable development is directly correlated with the available resources, and the development of geothermal, hydro and wind electricity infrastructure will be defined by geography. Policy considerations based on geographic hotspots of impact and opportunity need to be carefully assessed when planning the transition.

Policy readiness for promoting green jobs

Policy readiness is a multi-level construct, but essentially refers to the ability of a policy framework to signal and implement change. Within the study context, the change in question relates to the energy transition, but more specifically to managing the employment implications of this transition by promoting green jobs and a just transition.

As outlined by the ILO just transition guidelines, the policy mix for ensuring a just transition is broad. It includes measures to produce green jobs in traditional and emerging sectors as well as measures to reduce the impacts of job losses and industry phase-outs on workers and communities. This encompasses many policy fields, including development and employment policy, energy policy, industry policy, training and skills development, and sectoral level policies and policies at different jurisdictional levels. In addition to a policy mix, policy coherence and coordination are also critical issues in the successful implementation of policies for promoting green jobs. See the table opposite for the readiness assessment for Indonesia.

Implications and recommendations

A just transition will require system level change, and assessing the existing capacity of policy and associated institutions (governments and other constituents and stakeholders) to undertake greening and just transition planning is a necessary first step in building capacity for green jobs.

The study findings highlight that a green economy framework is firmly in place for Indonesia's macroeconomic and development planning activities, and this is also

translating into industrial sector policies, especially around energy and climate change, as Indonesia's ambitions and global commitments in these areas have increased over the past decade.

Policy area	Readiness context in Indonesia ¹⁴
Development policies establish the green agenda	Development and fiscal plans have set the green economy agenda, including aligning it with national commitment for Nationally Determined Contributions (NDCs) and NZE.
Industrial and sector policies for greening	Industrial and sectoral policies have been established but need to be aligned with the transition target. An NZE target has been set, but a clear road map for energy transition is still being developed.
Enterprise policies and initiatives for greening	Policies to promote enterprises in investing and shifting to greener energy systems are available (especially in finance, incentives and awareness); however, many crucial aspects necessary to ensure a conducive investing climate are still missing.
Skills development for greening	Emerging and partial initiatives had been implemented, especially in TVET, but comprehensive planning and policies for skills development to support green jobs and energy transition are lacking.
Active labour market policies for greening	No specific programmes that are intended to encourage green jobs and assist just transition were identified.
OSH for climate change issues	The ILO Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187), and the Maritime Labour Convention 2006, as amended, have been ratified, but implementation only focuses on curative action. Social dialogues to address OSH related to climate change issues are emerging at the tripartite and bipartite level.
Social protection	The ILO Social Security (Minimum Standards) Convention, 1952 (No. 102), is still to be ratified, but unemployment benefits have just been introduced. Labour protection focuses on formal employment via formal mechanisms in which informality is not addressed.
Cross-cutting issues: Labour rights and standards, and social dialogue processes in greening	The ILO Tripartite Consultation (International Labour Standards) Convention, 1976 (No. 144), is in force and effective for industrial relationships, but the involvement of tripartite constituents in green economy plans and policy, especially in regard to energy transition, is very limited

¹⁴ This table provides a colour coded summary of the findings, with green representing significant elements of the framework element in place and readiness for activities to promote green jobs and just transition, yellow representing need for additional processes and policies which in many cases are identified/in development, grey representing no adequate policy elements identifiable from analysis to date.

In Indonesia, these macro and industry/sectoral policies and plans have not been aligned at the same pace as the planning around the employment implications of transition, and this creates risk of policy incoherence and implementation blocks in a just transition going forward.

Based on this assessment, the following recommendations are made for green employment policy and industry support to further develop the green jobs potential and just transition planning in the broader Indonesian economy, and specifically in the energy sector transition.

Recommendation 1 – Create guidelines providing an operationalized green jobs definition for labour market and employment analysis. Gaining effective labour market analysis of green jobs is critical – but if the definition of green jobs does not also contain decent work elements, then the sustainable development aspects of this new employment will be limited. BAPPENAS, as the central planning agency, can create guidelines for use in Indonesia on how green jobs can be defined and operationalized, including assessments and proxies for decent work elements, as per previous ILO work. Building capacity and labour market information in green jobs will be an iterative and learning process, and this will require evaluation processes over time to review and refine these guidelines.

Recommendation 2 – Assessment and information inputs into just transition planning. Just transition planning requires information and analysis that characterizes the impacts of decarbonization and environmental sustainability. There will be requirements for this information to be available at the national, sectoral and regional levels – so capacity to collect and interpret this information needs to be available throughout the economy. Information will also need to be collected on a regular basis, and be able to be disaggregated by age, gender and geography, to allow for evaluation of progress as just transition plans are implemented. Strategies and plans for this data collection, as well as identifying agencies and teams responsible for these activities, will need to be implemented and resourced as part of just transition planning. The users of this information will include a diverse range of actors in the economy; therefore, strategies for knowledge sharing and effectively communicating with these diverse audiences will also be required.

Recommendation 3 – Linking skills development with the just transition planning agenda. Identifying and developing the appropriate range and volume of skilled individuals to support the energy transition will be a key component for just transition. Skills development

activities will need to be targeted to those workers and communities currently in carbon-intensive sectors to provide the means for and access to new labour market opportunities. Further targeting of new green job opportunities to under-represented labour force groups in the energy sector, such as women and young people, will extend the inclusivity of the energy transition.

Green skills will be required across the full spectrum of educational institutions and training forms – including formal high school and tertiary education, TVET for those entering the workforce, and on-the-job training for those already working. Current initiatives are ad hoc and not systematically connected and would benefit from a comprehensive national green skills agenda anticipating industry needs.

Recommendation 4 – Social protection and active labour market policies for a just transition. Indonesia's social protection system can be further improved to better serve marginalized communities and workers in the informal sector, as well as to enhance the social guarantee provided to those workers highly impacted by the energy transition. This includes enhancing access to income protection coverage and stronger linkages to training and active labour market policies to allow for job transitions.

Recommendation 5 – Individual and institutional capacity-building for just transition planning. This study highlights how different levels of awareness and understanding of a just transition among different actors in the economy is hampering effective, just and inclusive energy transition planning. To mobilize support and to ensure meaningful participation from workers and business owners, targeted awareness-raising and capacity-building is essential. In addition, capacity-building for policymakers is also critical, since just transition planning will require new sets of skills for each of these groups.

Recommendation 6 – Effective and inclusive social dialogue processes for just transition. Just transition processes will trigger structural changes that affect not only jobs, but the wider economic system. Effective social dialogue processes are needed to navigate these changes. Dialogue processes will need to include tripartite partners, but also other relevant social partners such as sectoral regulators, communities, academics, and other actors who can provide critical knowledge and knowledge translation activities within just transition planning processes.

Methodology

This project utilized a qualitative policy readiness assessment methodology – Green Jobs and Just Transition Policy Readiness Assessment. These assessments map and analyse existing policy systems for green jobs and just transition planning. This form of policy readiness assessment is important, because a supportive policy ecosystem is critical in enabling future green jobs growth and to ensure a just transition; yet in many policy areas and jurisdictions green jobs and just transition are new concepts and require activities to build awareness and capacity before they can be fully developed and implemented.

Therefore, assessing the existing capacity of policy and associated institutions (governments and other constituents and stakeholders) to undertake greening in labour markets and plan for a just transition is a necessary component in building capacity for green jobs. The policy readiness assessment can take a specific sector focus and/or a geographic focus to allow for analysis of regional and local policies and how these interact with the national level policy framework.

The methodology begins with analysis of existing policy context and a narrative of its development, policy stakeholder mapping and then a series of key informant interviews and focus group discussions specifically focused on the policy ecosystem for green jobs and just transition – this also includes identifying gaps, forthcoming policy measures, and analysis of the coordination and coherence of this policy ecosystem. This assessment develops a baseline perspective of the current green jobs and just transition policy framework and can inform other assessment activities, interventions and capacity-building.

This study was undertaken in 2021–22 and included a range of interviews and focus groups as well as a tripartite validation workshop in July 2022.

Other useful resources

- ASEAN and ILO. 2021. *Regional Study of Green Jobs Policy Readiness in ASEAN: Final Report*.
- ILO. 2015. *Guidelines for a Just Transition Towards Environmentally Sustainable Economies and Societies for All*.
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- ———. Forthcoming. *Green Jobs and Just Transition Policy Readiness Assessment in the Energy Sector in Indonesia*.
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