



Financing Indonesia's low carbon economy



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Neither the Government of Indonesia alone, nor with the current support of bilateral and multilateral development organizations, will suffice for a rapid, successful movement towards a low carbon economy. Additional private capital, domestic and foreign, and smart blended financing will be required, especially for investment in sustainable infrastructure. This requires, in turn, the immediate set up of mechanisms of governance and participation for mainstreaming low carbon policies, in order to set a clear, stable policy environment that attracts and guides private finance.

The LCDI Report estimates that Indonesia's low carbon pathway requires a total amount of low carbon development investments that would average US\$21.9 billion per year for the period 2020-2024, which is about 1.7% of GDP. Thereafter, required LCDI investments represent about 2.3% of GDP through 2045.

Most significantly, the low carbon pathway requires a lower investment to GDP ratio overall, compared to business-as-usual. In other words, a low carbon economy gives Indonesia more return for less investment.

Last, but certainly not least, LCDI policies and interventions must encourage and support the limited number of people who may be negatively impacted by Indonesia's shift to a low carbon economy: In particular, those workers and communities who rely upon high carbon sectors and on activities that deplete Indonesia's natural resources. They will need support as they build new capabilities and opportunities emerge for them to participate in and benefit from the new low carbon economy. Only by ensuring a just transition can Indonesia fully realise the economic and social benefits that a low carbon economy delivers.



About the LCDI Report

The LCDI Report is based on the results of the analysis produced under the technocratic process coordinated by BAPPENAS to support the development of the RPJMN 2020-2024. It includes contributions from WRI Indonesia, Global Green Growth Institute Indonesia, KnowlEdge Srl, New Climate Economy and partners. Other institutions contributing to LCDI and the RPJMN process include International Institute for Applied System Analysis (IIASA), World Agroforestry (ICRAF), System Dynamics Bandung Bootcamp, Sarana Primadata Group (SPD), United Nations Development Program (UNDP).

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Bappenas



LOW CARBON
DEVELOPMENT
INDONESIA



A STRONG, EQUITABLE, AND LOW CARBON ECONOMY FOR INDONESIA

A paradigm change

Indonesia has made remarkable progress for its citizens over the past two decades. In that time, Indonesia has halved extreme poverty, and today less than 10% of Indonesians live in extreme poverty. And, with an average GDP growth rate of 5.6% per year between 2000 and 2018, per capita income has doubled. But Indonesia's current development path cannot be maintained. The unsustainable exploitation of natural resources, and investment in high carbon, inefficient energy sources, is already depleting people's health and the environment. Continuing down this path would further destroy natural resources, limiting growth, job creation, and poverty eradication.

The Government of Indonesia has set out to transform the county's economy into one where progress is measured not only by GDP growth, but also environmental sustainability, resource efficiency, and social equity. By forging a low carbon development pathway, Indonesia can deliver better growth, better jobs, better health and better living standards for all its people.

The immediate benefits

A sustainable, inclusive, long-term growth path can deliver an average GDP growth rate of 6% a year until 2045 – higher than the current business-as-usual pathway. This has been determined by the Low Carbon Development Initiative (LCDI) Report, which will be integrated into Indonesia's next five-year development plan, ensuring that it is the first low carbon plan of its kind. The LCDI Report also finds that a low carbon development pathway can unlock an array of economic, social and environmental benefits (see Figure 1).

Indonesia need not wait to reap these benefits. The LCDI Report shows that after 2019, a business-as-usual growth path will immediately start falling behind a low carbon development path. It is clear, therefore, that the benefits of a low carbon economy are an immediate win-win-win for Indonesia's economy, for its people for the local and global environment.

The LCDI Report also finds that it is no longer economical for Indonesia to invest in new coal projects. Currently, 66% of Indonesia's total primary energy supply comes from coal, gas and oil. But once local air pollution costs are considered, new renewable energy are now cost-competitive with new coal projects (see Figure 2). Costs of renewables are falling fast and will fall further as Indonesia rapidly realises economies of scale.

Renewables will quickly become the cheapest forms of electricity generation in Indonesia, even without considering local air pollution costs. Increasing the pace of renewable energy deployment, towards the 30% share by 2045 recommended by the LCDI Report, would lead to lower costs and better health for Indonesians.

As a member of the G20 and the 4th largest greenhouse gas emitter in the world, what Indonesia does matters not only to the country, but to the whole world. With support from the international community, Indonesia has a huge opportunity to be a leader that sets out to grow its economy while reducing carbon and energy intensity. This could reduce greenhouse gas (GHG) emissions by almost 43% in 2030, surpassing Indonesia's current conditional national climate action plan. It could also reduce extreme poverty to 4.2% of the population and avoid 40,000 deaths each year in 2045.

Indonesia can deliver real economic and social progress, while preserving its natural resources and biodiversity. This is the sustainable and inclusive growth story for the 21st century.

FIGURE 1: PARADIGM CHANGE: INDONESIA'S NEW LOW CARBON GROWTH PATH (LCDI HIGH SCENARIO COMPARED WITH BASE CASE)

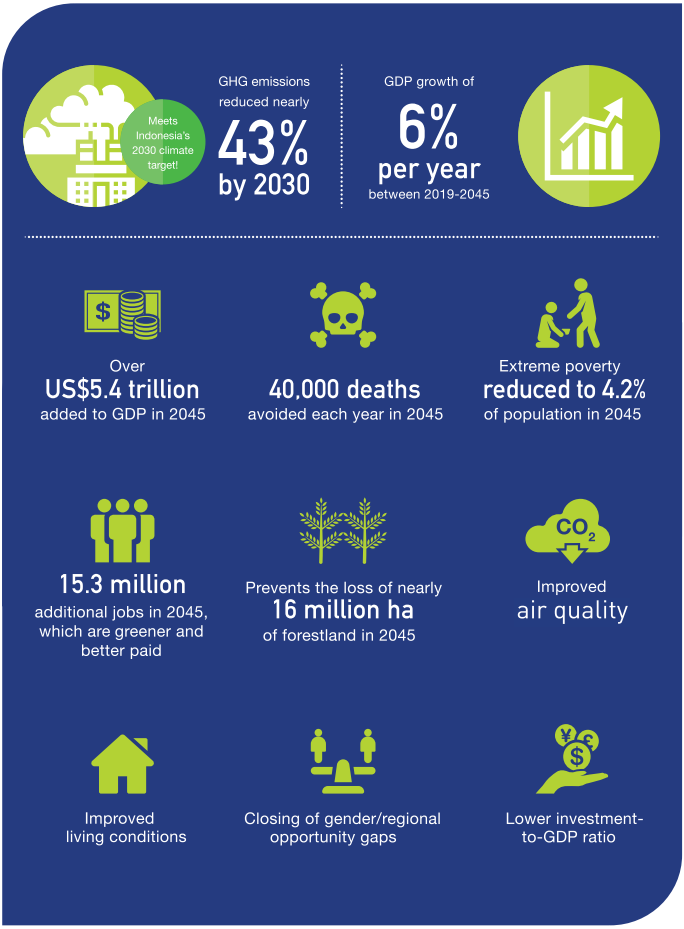
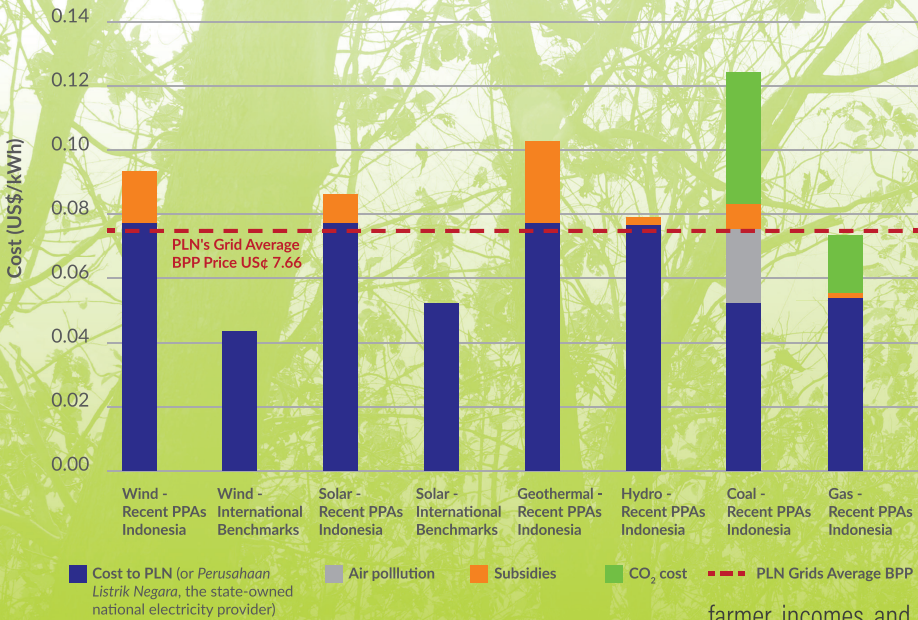


FIGURE 2: RELATIVE COST OF COAL AND RENEWABLE SOURCES OF ENERGY



On land use systems, Indonesia has taken significant steps toward improving management of forest resources. In September 2018, Indonesia's President signed a moratorium on new palm oil development and ordered a review of existing plantations. In recent years the Government of Indonesia has also facilitated the emergence of a new environmental services sector, issuing regulations for tourism services in the forest, social forestry businesses, and non-timber forest products, among others. The good news is that, in 2018, Indonesia observed a significant decrease in the rate of deforestation of its primary forests. And as the LCDI Report details, Indonesia has unique opportunities to enhance productivity on existing lands, increasing

farmer incomes and resilience to climate related threats, while also reducing land use related emissions.

The energy and land use sectors combined amount to 80% of Indonesia's greenhouse gas emissions, which is why the LCDI Report focuses on these two particularly critical areas. However, in practice, a low carbon economy cannot be siloed and should span all sectors. That includes cities, where people can move, breathe and beproductive, and industry, which must develop sustainable solutions in a world of finite resources. Just as with energy and cities, the social, economic and environmental incentives to transform these sectors are significant.

The actions that can deliver better growth

Realising a more prosperous and sustainable vision for Indonesia requires a set of policies and interventions that provide clear incentives and signals for businesses and investors. These policies and interventions combine, among other things, the following intermediate targets:

- Advancing a transition to renewable sources of energy and away from coal:** In particular, the scaling up of the share of renewable energy to 30% by 2045.
- Increasing energy efficiency.** In particular, energy intensity (the ratio of energy demand to GDP) to decline at an 3.5% average per year through 2045.
- A full enforcement of forests, palm oil, mining and peat land moratoria.** Primary forests peat lands and mangrove systems enhance resilience, support biodiversity and absorb carbon emissions.
- More than tripling targets for reforestation,** reaching over 1 million hectares per year by 2024.
- Meeting targets in water, fisheries and biodiversity,** as defined by the Aichi Targets, the Nagoya Protocol, and the Convention on Biological Diversity, that are reflected in the Indonesia Biodiversity Strategy and Action Plan (IBSAP) 2015-2020.
- An increase in land productivity of 4% per year,** enabling Indonesia's farmers to grow more food for more people, while using less land and resources.

The combined effect of these policies and interventions include: an improvement in labour productivity; increased economic efficiency; increased agricultural productivity; an accelerated rate of technological progress on renewable energy; and a higher provision of better-quality environmental goods and services.

The right policies, interventions, and financing will need to be accompanied by adjustments in Indonesia's institutional design, including a shift in mind-sets. As such, new governance approaches will be required to: coordinate actions across different national and regional ministries, private sector and the domestic and international financial community; and to define methods for aligning policies and establishing effective monitoring and evaluation.

Furthermore, with even more ambitious policy measures, Indonesia could sustain a long-term decline in GHG emissions, so that by 2045 greenhouse gas emissions would be projected to fall nearly 75% below baseline. These policies would require a major structural transformation in Indonesia's development, beyond the current institutional and technical capabilities of the country.