

OECD Clean Energy Finance and Investment Policy Review

INDONESIA

POLICY HIGHLIGHTS





The Clean Energy Finance and Investment Policy Review of Indonesia

The Review provides a comprehensive overview of key measures, policies and regulations in critical areas relevant to clean energy finance and investment.

The Review provides a number of recommendations that can help Indonesia to scale up foreign and domestic investment in clean energy, highlighting success stories, good practices and opportunities for improvement as well as relevant country experiences for Indonesia.



Clean Energy Finance and Investment Mobilisation Programme

The OECD Clean Energy Finance and Investment Mobilisation (CEFIM) Programme supports emerging economies in unlocking finance and investment in renewable electricity and energy efficiency.

Thanks to financial support from the Government of Denmark, the programme works in close co-operation with partner countries to strengthen policy frameworks to help catalyse private sector finance and investment in clean energy.



Launched in 2019, the CEFIM programme, in collaboration with the Government of Indonesia, covers activities that draw on extensive stakeholder engagement to achieve Indonesia's clean energy objectives. This includes a Clean Energy Finance and Investment Policy Review, implementation support activities, investor dialogues and regional peer-learning.

The CEFIM Indonesia programme will build on the Review's recommendations and undertake a number of follow-on activities to help support their implementation.

"The Clean Energy Finance and Investment Policy Review of Indonesia provides a comprehensive review of our country's clean energy sector, which I hope, will show our strong commitment to welcome more investment. We will work towards the Review's recommendations, and would invite further support from the OECD, to make sure our investment climate for clean energy remains attractive."

Montty Girianna,
Deputy Minister,
Coordinating Ministry for Economic Affairs

- Indonesia has abundant potential for renewable energy and energy efficiency developments that are critical to meet its Sustainable Development Goals and climate commitments.
- The government has signalled that clean energy is an important part of the country's future. The passing of the Omnibus Law on Job Creation in October 2020 underscores this commitment, seeking to improve the ease of doing business in Indonesia. The forthcoming presidential regulation on renewables is equally anticipated to help accelerate renewable energy development.
- In the finance sector, the recent Phase II of the Sustainable Finance Roadmap will help to build a financial ecosystem that can support clean energy finance and investment.

KEY RECOMMENDATIONS

IN THE NEAR TERM, THE GOVERNMENT CAN:

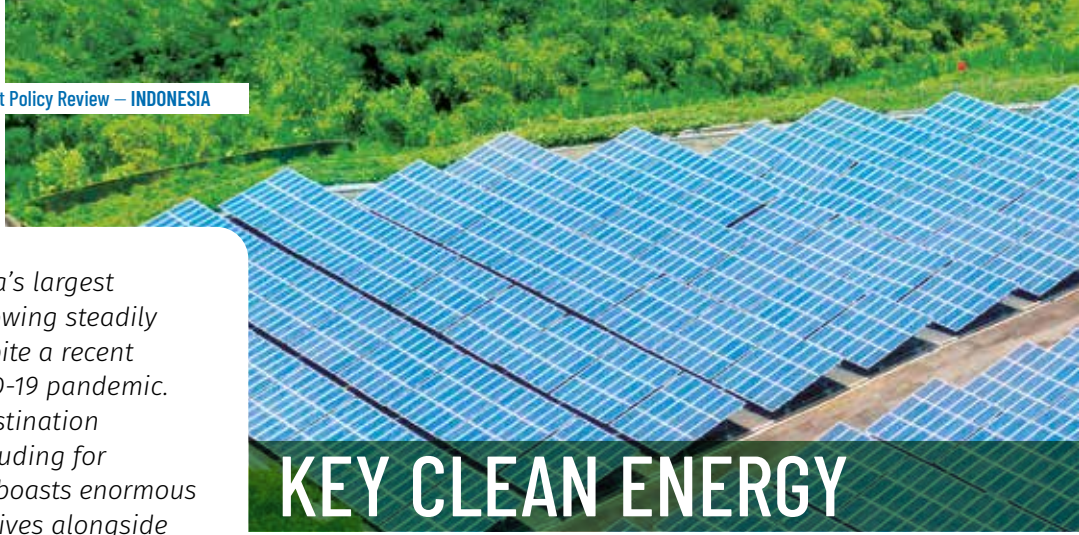
- Undertake an update of its National Energy General Plan (RUEN) to reflect the impacts of the COVID-19 pandemic and strengthen clean energy targets in the country's recovery programme.
- Ensure more streamlined policies and regulations under the upcoming presidential regulation on renewables, including increased efforts to facilitate land acquisition.
- Consider expanding the use of financing products such as the Kredit Usaha Rakyat (People's Credit Programme), which provides a guarantee scheme and subsidised interest rates for small businesses.
- Undertake a detailed market assessment to identify and scale up suitable financing instruments to meet clean energy market needs, such as use of the SDG Indonesia One Fund to support guarantee schemes.
- Expand training and capacity building programmes to integrate aspects of financial and business development for clean energy projects and continue building expertise within the financial sector.

IN THE MEDIUM TO LONG-TERM, THE GOVERNMENT CAN:

- Develop clear implementing regulations and guidelines for the state electricity company (PLN), to guarantee a well-functioning procurement process and fair competition in the electricity market.
- Improve clean energy finance and investment data availability to help increase transparency and build investor confidence in the market.
- Plan a transparent shift to public, competitive tenders to procure renewables through predictable and fair processes that attract investors.
- Develop clear regulatory frameworks and market signals that enable innovative finance and market-based mechanisms for clean energy projects.

OPPORTUNITIES TO ENHANCE DEVELOPMENT ASSISTANCE INCLUDE:

- Increase support in areas with a large multiplier effect to enable more clean energy entrepreneurs and to mobilise private capital.
- Enhance efforts to support policy makers in designing and implementing policies, for instance to facilitate land access, streamline power purchase agreements and expand energy efficiency regulations.
- Mobilise additional resources for technical assistance to expand past programmes, such as certifications of investment grade auditors, and increase knowledge of clean energy in financial institutions.
- Support blended finance mechanisms, such as the SDG Indonesia One Fund, that can mobilise private capital from both domestic and foreign sources.
- Improve clean energy finance and investment data availability, including support to develop monitoring and evaluation tools.



Indonesia is Southeast Asia’s largest economy and has been growing steadily over the last decades, despite a recent slowdown due to the COVID-19 pandemic. The country has been a destination of choice for investors, including for clean energy, as Indonesia boasts enormous renewable energy prospectives alongside immense energy savings potential. Still, clean energy deployment remains far below its potential, while fossil fuels continue to make up the bulk of investments. Scaling up clean energy finance and investment is urgent for Indonesia to reach its clean energy ambitions and climate targets, while equally supporting a green recovery.

KEY CLEAN ENERGY FINANCE AND INVESTMENT TRENDS

INCREASING ENERGY EFFICIENCY IS CRITICAL

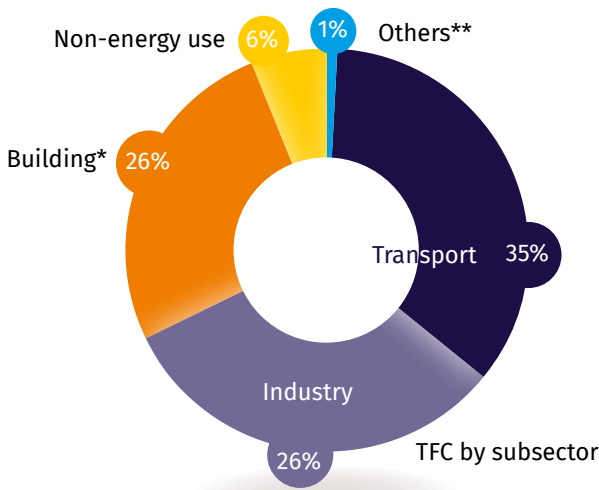
- Indonesia’s economy is dominated by low-energy intensity sectors. Yet, overall energy intensity continues to move away from the country’s 2025 target-trajectory.
- Outside the recent drop due to the COVID-19 pandemic, energy demand has grown quickly over the last two decades. Electricity consumption is a principal driver of that growth and could double by 2030, requiring major additions to power generation capacity.
- Energy efficiency measures are critical to improving Indonesia’s energy intensity and can help meet targets to cut energy-related emissions.

FOSSIL FUELS STILL DOMINATE POWER GENERATION

- Fossil fuels still dominate Indonesia’s power system, with coal accounting for half of total electricity generation. In addition, more fossil-fuel capacity is scheduled to come online in the coming years.
- By comparison, renewable energy deployment has been slow, despite Indonesia’s tremendous renewable potential.

FIGURE 1

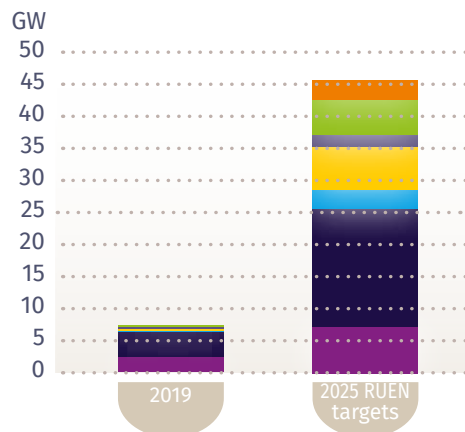
The building and residential sectors dominated 2018 energy demand



Notes: **Building* covers both residential as well as commercial and public services; ***Others* includes unspecified TFC as well as the agriculture sector. TFC=Total Final Consumption
Source: IEA (2020), World Energy Balances

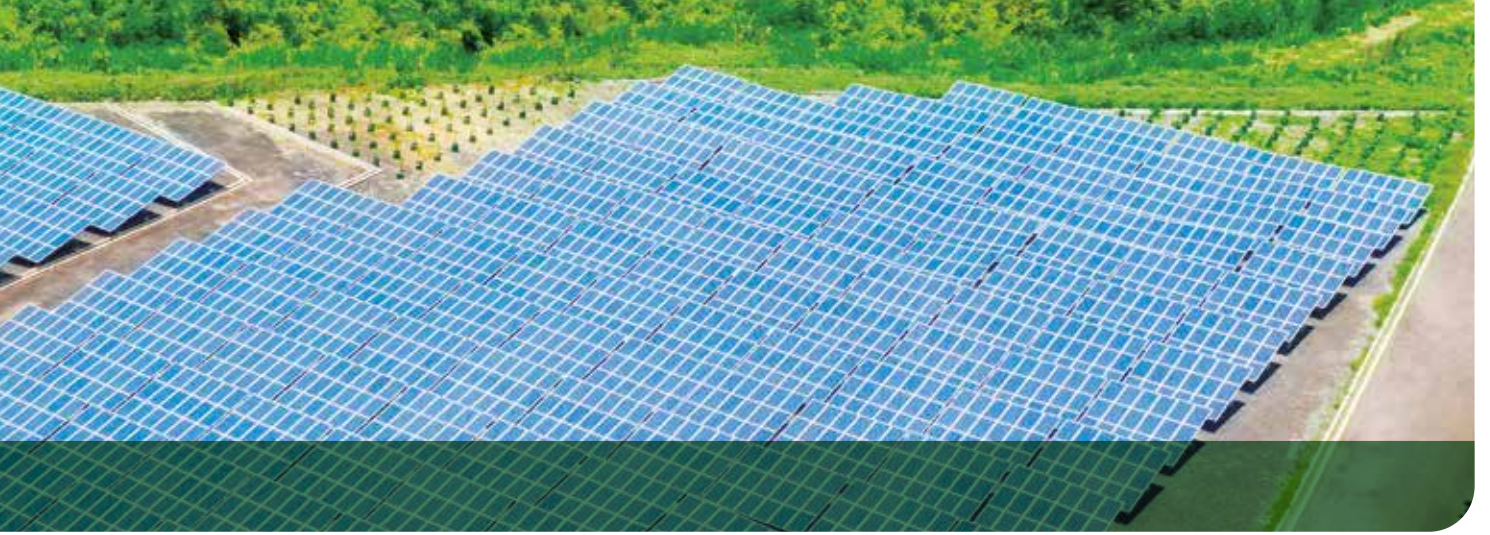
FIGURE 2

A massive increase in renewable power capacity is needed to reach 2025 targets



- Geothermal
- Hydro
- Small hydro
- Solar
- Wind
- Bioenergy
- Waste-to-energy
- Other

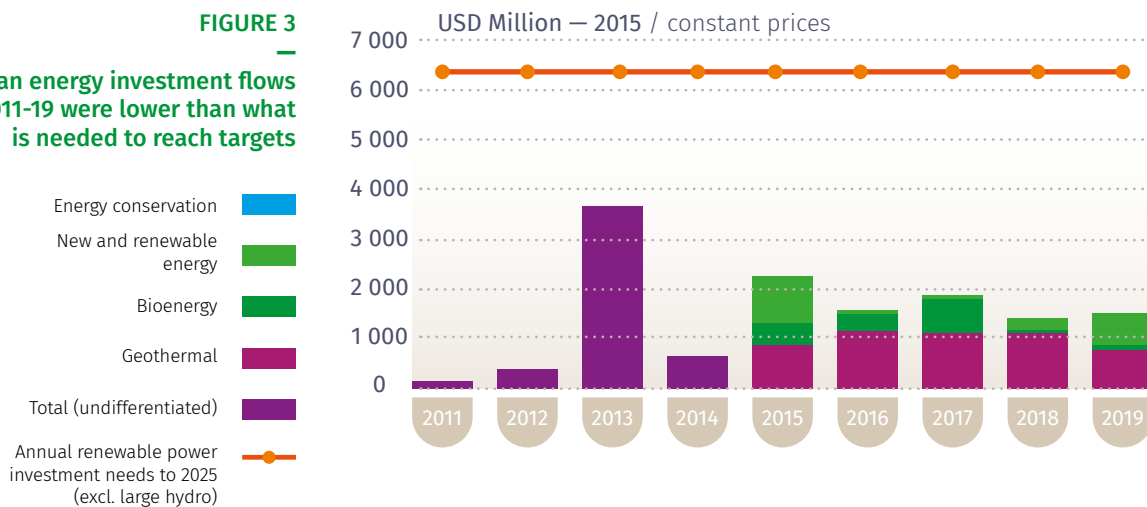
Note: "Other" includes diesel mixed with biofuels and ocean energy.
Sources: MEMR and PLN statistics.



CLEAN ENERGY INVESTMENT NEEDS TO ACCELERATE

- Renewable energy investment has been sluggish over the last decade and remains largely below the levels needed to reach country targets. Moreover, for every dollar spent on renewables in 2019, more than three were spent on coal.
- Electricity network investment is on the rise, though more private investment is needed to help meet Indonesia's clean energy objectives.
- Geothermal is the largest recipient of clean energy spending, while investment in solar and wind has been picking up in recent years, particularly as these technologies have become more cost-competitive.
- Investment in energy efficiency continues to lag, in spite of Indonesia's great potential for energy savings. The country's energy efficiency market is in its infancy and is dominated by small engineering firms. Energy services companies play a limited role and face numerous challenges, including limited technical capacity and inadequate access to finance.

FIGURE 3
Clean energy investment flows in 2011-19 were lower than what is needed to reach targets



Notes: "New and renewable energy" includes all renewables except geothermal, bioenergy and large hydro. Investment needs were estimated for the period 2015-25 based on IESR (2019), *Kebutuhan Investasi Energi di Indonesia -Energy investment needs in Indonesia*. Data for 2017-19 include investments in energy conservation (excluding public street lighting).
 Source: MEMR statistics.



Various government institutions oversee Indonesia's energy sector and are responsible for the achievement of milestones for renewable energy deployment and energy intensity reductions. 2025 clean energy targets are the result of different energy-related planning systems using a high economic growth scenario requiring massive development on energy infrastructure. However, economic growth targets over the last five years have never been met. Ineffective co-ordination across government institutions also creates challenges to clean energy investment. To address this, Indonesia can refer to its 2007 Energy Law on administering energy policy, while equally aligning the planning system using its One Map tools to improve consistency and transparency to improve investment opportunity.

PLANNING AND PUBLIC GOVERNANCE

GOVERNANCE ON CLEAN ENERGY IS CHALLENGING

- The National Energy Council (Dewan Energi Nasional, DEN) has the strongest position under the 2007 Energy Law to manage efforts to achieve clean energy targets for 23% renewable energy use and 1% annual energy intensity reductions by 2025.
- Other institutions play important roles in monitoring clean energy development. This includes the Co-ordinating Ministry of Economic Affairs, the Co-ordinating Ministry of Maritime and Investment Affairs, the Ministry of National Development Planning and the President's Staff Office. Other related ministries influence finance, investment and the clean energy industry.
- The government has provided policies to support national clean energy targets, such as the 2009 National Energy Conservation Plan, the 2012 National Action Plan for Greenhouse Gas Reduction, the 2014 National Energy Policy (KEN) and the 2017 RUEN.
- Other plans include the Medium-term National Development Plan, the National Electricity General Plan (RUKN), and PLN's Electricity Business Plan (RUPTL). Sub-national governments also have responsibility to establish energy, electricity and greenhouse gas reduction plans.

PLN DOMINATES THE ELECTRICITY MARKET

- The 2009 Electricity Law allows PLN to play a dominant role in all segments of the electricity market. Independent Power Producers (IPPs), representing 26% of power generation capacity in 2019, are allowed to sell their electricity production to PLN.
- The government allows private power utilities to obtain an electricity business area license in some areas in a bid to reallocate PLN's limited resources for generation and transmission. However, only 52 private power utilities obtained an electricity business area license as of 2019, primarily to provide electricity directly to customers.





RECOMMENDATIONS

- Strengthen DEN's co-ordination role as set out in its original designation under the 2007 Energy Law in order to ensure effective implementation of policy recommendations, especially on clean energy development.
- Conduct a transparent and integrated assessment of the economic and behavioural assumptions used in energy planning, and align these with One Map tools as a part of RUEN revisions that can be referred to by other energy-related planning.
- Prioritise development of a transparent and accessible database to lower clean energy project risks and identify priority clean energy technologies that can be benchmarked to track progress on energy planning and governance.

TRANSPARENT AND COMPREHENSIVE ENERGY PLANNING IS KEY TO SUPPORT INVESTMENT

- Three planning products drive Indonesia's clean energy development: the RUEN, RUKN and RUPTL. These use different models and assumptions to determine installed generation capacity, which causes uncertainty for stakeholders and potential investors (Table 1).
- RUPTL allocates generation opportunities for IPPs where PLN limitations do not cover investment needs, though it is criticised for lack of transparency and fairness. RUPTL also has been modified, changing planned projects from one version to another, making it difficult for investors to engage in Indonesia's electricity development.
- The government launched the geoportal One Map initiative in 2018 to address overlapping spatial plans and land rights. It then activated the Indonesia One Data programme in 2019 to provide a dynamic dataset within One Map to support better infrastructure planning across different institutions. These tools will improve the quality of energy and electricity planning should Indonesia revise its current planning document.

TABLE 1

DIFFERENCES IN INDONESIA'S ENERGY AND ELECTRICITY PLANNING CAN CAUSE UNCERTAINTIES

	Institution	Timeframe	Investment needs	Planned renewable installed capacity by 2025	Economic growth assumptions	Other assumptions
RUEN	DEN (energy, national coverage)	2015-2050	USD 72 billion*	45 GW of 135 GW total installed capacity	4.8 – 8.0% (2015-2025) Source: 2011 MP3EI	Population growth, number of households
RUKN	DG Electricity (national coverage)	2019-2038	USD 179 billion**	28 GW of 118 GW total installed capacity	5.0 – 5.6% (2019-2025) Source : 2019 Bappenas Moderate Economic Growth Scenario	Population growth, inflation rate, electrification rate
RUPTL	PLN (PLN business area coverage)	2019-2028	USD 55 billion***	24 GW of 118 GW total installed capacity	5.5 – 6.5% (2019-2025) Source : 2019 Bappenas High Economic growth Scenario	Population growth, inflation rate, potential demand

Notes: GW = gigawatt; *estimation number from the Institute for Essential Services Reform (IESR) and Indonesian Institute for Energy Economics (IIEE) study 2019 to build renewable energy power plant as targeted in RUEN to 2025; **estimation to cover electricity infrastructure (generation, transmission, and distribution) to 2025; ***PLN estimation to cover electricity infrastructure to 2028. Sources: IESR & IIEE (2019), RUKN (2019), RUPTL (2019)



REGULATORY FRAMEWORK

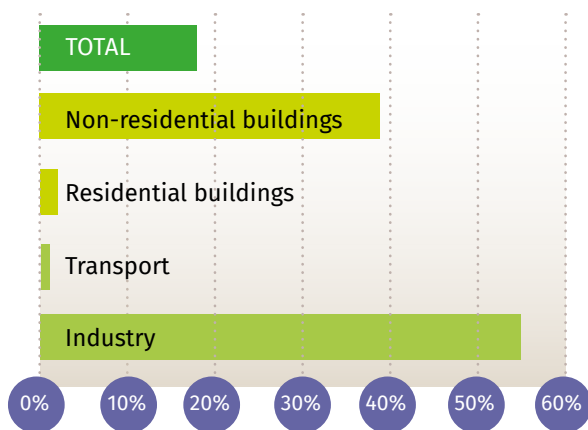
Indonesia’s energy policy environment has transformed greatly since its Energy Law No. 30/2007 set forth the legal foundation and institutional structure for energy management. The government has since implemented a number of regulatory changes to encourage and promote energy efficiency and renewable energy. These actions are steps in the right direction, affirming Indonesia’s resolve to turn its clean energy ambitions into legal commitments using market rules and regulations. Strengthening these reforms, for example through measures to facilitate business development in the new Omnibus Law, will help to ensure Indonesia’s regulatory framework addresses remaining policy gaps and market barriers to enable a vibrant and robust investment environment for clean energy.

CLEAR POLICY CAN UNLOCK CLEAN ENERGY POTENTIAL

- The evolution of regulations in support of energy efficiency and renewable energy over the last decade is a positive step towards achieving Indonesia’s clean energy ambitions.
- Developments such as the expected presidential regulation on renewable energy denote Indonesia’s commitment to accelerate clean energy deployment.
- Still, some rules and regulations leave uncertainty for project developers and investors. Further evolution in Indonesia’s regulatory environment should address shortcomings in existing policies and provide a clear market framework to unlock opportunities for clean energy finance and investment.

FIGURE 4

Overall mandatory policy coverage in Indonesia remains limited



Coverage of final energy consumption in 2018

Source: IEA (2019)

MORE EFFICIENCY WILL REDUCE ENERGY NEEDS

- Energy performance standards have helped create some demand for energy-efficient products in Indonesia, but policy coverage is limited. Progress in developing ten new energy performance standards for appliances is promising, though policy strength and enforcement will be key to their effectiveness.
- Emerging data, for example on air conditioning equipment, show that policy does not always keep up with market developments. Addressing these opportunity gaps requires strengthening of monitoring and evaluation, not only to ensure compliance but also to improve data on product availability and consumer preferences.
- The energy service market remains an untapped resource for efficiency deployment. To tap into the enormous potential for energy service models that have been successful in other countries, clear regulation, including standard documentation, is needed. Technical support and pilot projects can also help the market recognise monetised energy savings.



RECOMMENDATIONS

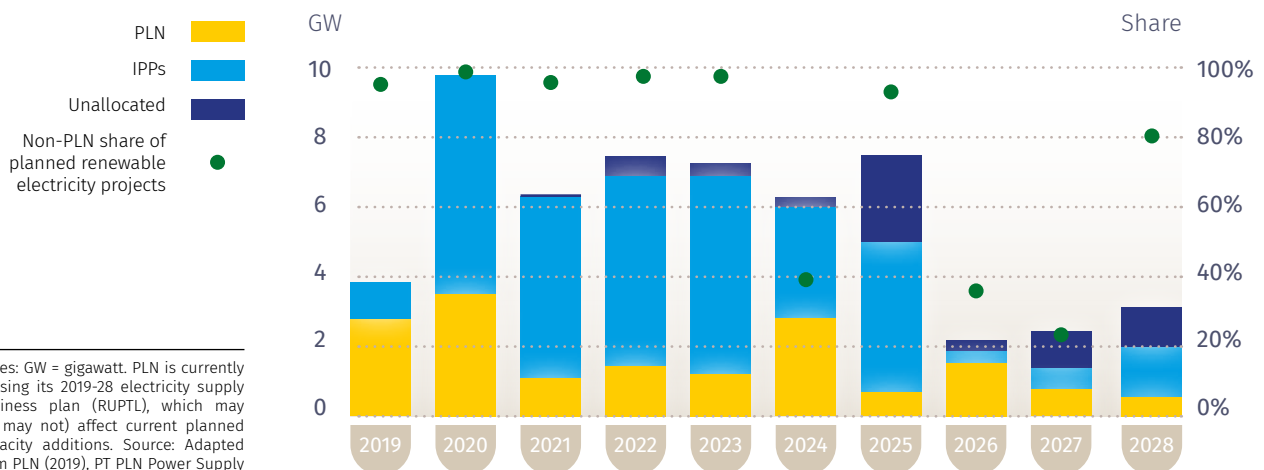
- Strengthen and expand energy performance requirements, building upon new standards to remove inefficient products from the market and improve the availability of more efficient ones.
- Streamline and standardise power purchase agreements to address concerns about project bankability, leaving little room for closed-door negotiation, and ensuring policy changes do not affect the value of power purchase agreements once signed.
- Address the regulatory gap in the energy services market, ensuring there are transparent conditions for energy service contracting, including establishing standard documentation that accounts for basic terms of service and contractual agreements between parties.
- Ensure fair and non-discriminatory settlement of self-generation and address barriers in the net metering scheme, including the regulatory gap for power wheeling arrangements to facilitate procurement of off-site renewable electricity production.
- Review public procurement practices to facilitate public spending on energy efficiency and enable public private partnerships, which currently are more suited to large infrastructure projects and are difficult to apply to energy efficiency projects.

MORE ACTION IS NEEDED TO ENABLE RENEWABLE ELECTRICITY DEVELOPMENT

- Recent growth in renewable power generation capacity is encouraging, but there remain issues with electricity market practices such as closed-door negotiations for power purchase agreements. Lack of clear and consistent application of procurement not only creates the impression of risky investment conditions but also reduces competition in the market.
- New and impending measures such as the expected presidential regulation on renewable energy will strengthen renewable electricity development, so long as policy implementation is carried out consistently and transparently. Regulatory changes should tackle perceived risks and unclear operational conditions, avoiding abrupt changes in rules that discourage investment.
- Large untapped potential through corporate sourcing of renewables is hindered by barriers such as lack of implementing regulation on power wheeling and current net metering policy. Market rules and pricing practices need to be reviewed, ensuring transparent and fair application of settlement for self-generation and facilitating contractual agreements between businesses, independent power producers and PLN.

FIGURE 5

Planned electricity capacity additions can open the door for renewable energy developers if done in a transparent, competitive manner



Notes: GW = gigawatt. PLN is currently revising its 2019-28 electricity supply business plan (RUPTL), which may (or may not) affect current planned capacity additions. Source: Adapted from PLN (2019), PT PLN Power Supply Business Plan 2019-28.




CASE STUDIES



ACCELERATION PROGRAMMES TO ELECTRIFY THE COUNTRY

- Indonesia has set programmes several times to overcome electricity shortage across the country. The first programme was launched in 2006 under the first Fast Track Programme (FTP), which targeted around 9 935 MW of coal-fired power plants by 2010. FTP-2, launched in 2009, covered around 17 428 MW of power plants to 2014, with 1 753 MW and 4 925 MW targeted for hydro and geothermal power, respectively. In 2015, the government set a new target to build 35 GW of power capacity by 2019.
- Still, these development targets have been delayed due to various obstacles such as land clearance, developers' financial capability and technical issues. As a result, FTP-1 only achieved 9 722 MW as of December 2020, while FTP-2 only achieved 2 170 MW and the 35 GW programme only 9 730 MW.
- Measures such as the recent Omnibus Law on job creation will help to provide a clearer policy framework for renewable electricity development, which to date has been complicated to navigate. For instance, corporate sourcing of renewables represents an important opportunity to accelerate renewable electricity, but it has been hindered by barriers such as lack of implementing regulation on power wheeling.



LAND FUNDING SCHEME UNDER THE STATE ASSETS MANAGEMENT AGENCY (LMAN)

- Indonesia's Minister of Finance launched the Land Funding Scheme under LMAN in 2016 to help fund land acquisition for infrastructure projects. Hitherto, LMAN has funded land acquisition expenses of 27 toll road projects as well as 26 dams across the country; no clean energy has benefitted from the scheme to date. All power projects listed in the RUPTL could benefit from the scheme under current regulations, but none has done so thus far. Indonesia can build on LMAN experience and leverage the Land Funding Scheme potential for other renewable projects.



THE SURAKARTA STREET LIGHTING PROJECT

- A street lighting project was initiated by the municipality of Surakarta in 2018 in order to revamp and extend previous public street lighting infrastructure. The project was prepared under public private partnership (PPP) arrangements with Surakarta city as the government contracting agency. A tender was held in late 2020, and the winning bidder will be responsible for building, financing, operating and maintaining Surakarta's public street lighting for 17 years. The project will benefit from assistance under the Ministry of Finance's Project Development Facility as well as a payment guarantee. The project is a promising example of the PPP energy saving models that could be replicated across Indonesia, where similar projects are already being implemented in three other Indonesian cities.



GOOD PRACTICE WITH ENERGY POLICY MONITORING AND ENFORCEMENT

- Monitoring, verification and enforcement of standards and labelling programmes help to ensure policy keeps up with available energy efficiency potential while driving out least efficient products.
- Australia has shown good practice in monitoring through a mandatory product registration database coupled with sales data to provide very detailed tracking. In India, the Bureau of Energy Efficiency created an independent agency for monitoring and evaluation, similar to the national independent market surveillance programme established by the Government of the United Kingdom with ring-fenced funding. The European Union's Anti-Circumvention of Standards for Better Market Survey project likewise was set up in recent years to address naming of test procedures.
- As Indonesia looks to expand its energy standards and labelling scheme, it can look to other countries' experiences in ensuring effective monitoring, verification and enforcement.

PARTIAL RISK SHARING SUPPORT IN INDIA

- Like Indonesia, India has substantial untapped potential for energy efficiency developments that have been hindered by market barriers impeding access to finance, such as perceived risk by commercial banks.
- To help mobilise capital for investment in energy efficiency initiatives, the Government of India and the World Bank via the Global Environment Facility launched a USD 43 million grant and guarantee agreement in 2015 to support the Partial Risk Sharing Facility (PRSF) managed by the Small Industries Development Bank of India.
- The PRSF programme has supported loans guaranteed by various participating financial institutions using partial credit guarantees to cover a share (up to 75%) of the default risk faced when extending loans to eligible energy efficiency projects. As of 2020, the programme had already applied around USD 14 million in guarantees for total project investment of nearly USD 50 million.

GREEN FINANCE FACILITIES: LESSONS FROM AUSTRALIA, MONGOLIA AND SOUTH AFRICA

- Experiences in setting up a dedicated green finance facility or green bank in Australia, Mongolia and South Africa highlight a variety of different models that can be used to help catalyse private investments in clean energy, crowding in private capital for projects that would not otherwise be financed by the market.
- The examples show how limited public funds can be used to pull in private capital and expand clean energy markets. Different blended finance models such as partial risk guarantees, subordinated debt and tenure extensions are available to de-risk projects. These also help the banking sector to gain experience and confidence in financing clean energy. Such facilities have played an important role in providing local currency debt for projects that are not able to access affordable finance.

Indonesia needs to attract increasing amounts of private investments to realise its clean energy goals. The country's tremendous clean energy potential makes it a naturally attractive destination for foreign direct investment (FDI) in clean energy, which has been on an upward trend over the last decade. Yet, FDI in clean energy is still far from where it could be and continues to be dwarfed by investment in fossil fuels. The passing of the Omnibus Law to facilitate investment should help to reverse this trend, although impact on the business climate will ultimately depend on follow-on implementing regulations.

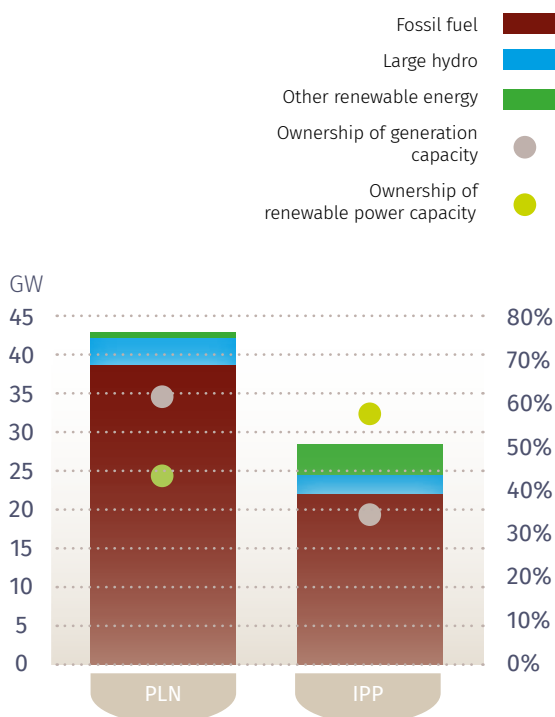
INVESTMENT AND COMPETITION POLICY

LEVELLING THE PLAYING FIELD BETWEEN PLN AND IPPS

- PLN dominates the country's power market and is responsible for power procurement. Numerous IPPs report difficulties in developing projects and selling power to PLN, including patchy and arbitrary application of regulations at the regional level. PLN's procurement mechanisms are also seen as too complex, long and opaque.
- Steps to simplify PLN's procurement process through Ministerial Regulation No. 04/2020 are a welcomed development, but Indonesia needs to move gradually towards a more competitive auction system to procure renewables, which has helped push down the cost of renewables in other countries.
- Establishing a well-resourced competition authority could help address these issues and guarantee fair competition and transparency in the market.

FIGURE 6

IPPs dominate the non-large hydro renewable power market while PLN dominates that of fossil fuel and large hydro.



Notes: Large hydropower refers to hydro projects with a capacity > 10 Mega Watts. Sources: MEMR and PLN statistics.

INDONESIA IS IMPROVING ITS FDI REGIME

- The 2020 Omnibus Law re-conceptualised the 2016 negative investment list of foreign equity restrictions into a new, positive investment list. This list opens numerous business fields to foreign investment with up to 100% foreign ownership unless otherwise specified.
- Power projects below 1 MW remain closed to foreign investment as do certain power installation and construction services.
- There remain other significant restrictions to FDI applying to clean energy. Notably, these include limits on employment of foreign personnel in key management positions and minimum capital requirements, which are 200 times greater than what is required for local companies.

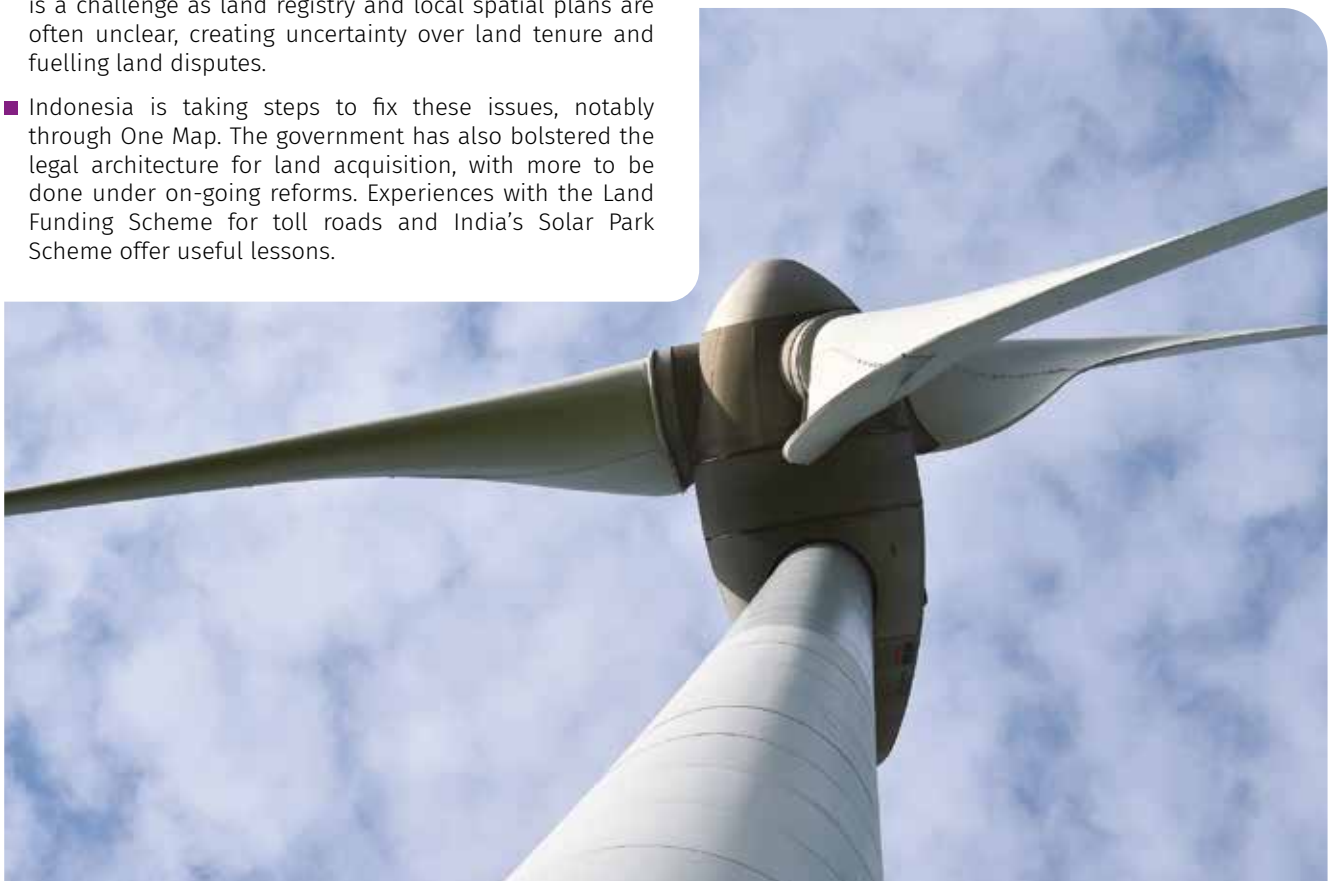


THERE REMAINS OTHER HURDLES TO INVESTMENT

- Indonesia continues to impose stringent local content rules (LCRs) for a number of clean energy projects. These drive up the cost of equipment given limited capacity of local manufacturers and the often uncompetitive pricing of locally produced components.
- LCRs aim to promote job creation and industrial development. However, evidence shows that they are not the most effective tool to realise these ambitions. Downstream activities such as installation and operation of solar and wind projects are more job-intensive and add more value than manufacturing.
- Land acquisition is one of the longest lead items in renewable energy project development. Developers directly negotiate with landowners over purchase price or rent. This is a challenge as land registry and local spatial plans are often unclear, creating uncertainty over land tenure and fuelling land disputes.
- Indonesia is taking steps to fix these issues, notably through One Map. The government has also bolstered the legal architecture for land acquisition, with more to be done under on-going reforms. Experiences with the Land Funding Scheme for toll roads and India's Solar Park Scheme offer useful lessons.

RECOMMENDATIONS

- Move gradually towards a competitive auction system for the procurement of renewable power across all technologies.
- Build on current reforms and consider conducting regular and comprehensive clean energy sector assessments under the FDI regime.
- Evaluate LCRs and ensure current regulations reduce project costs.
- Accelerate efforts under the One Map policy to reduce land access uncertainties and other market barriers, potentially secure tracts of land prior to project tenders as is already the case for public-private partnership projects.



Indonesia has implemented a number of reforms targeting investment facilitation, such as the creation and on-going development of its Online Single Submission (OSS) business licensing system to streamline licencing and ease business development. Targeted incentives such as use of tax holidays or tax allowances are also helping to stimulate growth in clean energy development. Yet, in practice, procedures and requirements can still be complex, and the current level of investment in clean energy is not sufficient to meet Indonesia’s ambitious targets by 2025 and beyond. New measures such as regulations under the recent Omnibus Law can help create an enabling environment that promotes and facilitates investment in clean energy, so long as they help diminish obstacles for investors and incentivise innovative solutions and market-based services.

INVESTMENT PROMOTION AND FACILITATION

SUPPORT CAN GET PROJECTS OFF THE GROUND

- Ensuring cost-reflective market pricing for all energy products is critical to meeting Indonesia’s clean energy targets. The government should continue to see through its fossil fuel subsidy reform to level the playing field for clean energy investments.
- Indonesia can promote and facilitate clean energy development by focusing or expanding its use of cost-based tax incentives and accelerated depreciation rules.
- This includes more targeted support for clean energy projects, for instance using the Perseroan Terbatas Sarana Multi Infrastruktur (PT SMI) fund to provide a de-risking or credit enhancement mechanism to lower collateral requirement for clean energy projects.
- Support through financing products like the Kredit Usaha Rakyat, which provides a guarantee scheme and subsidised interest rates for small businesses, can also help overcome barriers such as high collateral requirements, making it easier for businesses to establish or expand their offerings.

INCENTIVES WILL GIVE ENERGY EFFICIENCY A BOOST

- Current lack of tax credits or other financial incentives in Indonesia limits uptake of energy efficiency, especially given most current standards are voluntary.
- Incentives and support mechanisms, such as the creation of specific procedures within the Indonesia Infrastructure Guarantee Fund (IIGF) risk guarantee for energy efficiency projects, can help address market barriers and encourage uptake of those solutions and services.
- Low capacity in the market to propose “bankable” projects creates a critical barrier to finance and investment. Indonesia can provide more targeted support to stakeholders involved in preparing energy efficiency projects, such as guidelines for preparing energy performance contracting and training on investment grade energy audits.
- The government can help jump-start the market through initiatives such as pilot energy service company and PPP projects with state owned enterprises and facilities. Efforts to demonstrate successful applications will increase market confidence and help create more attractive conditions for energy efficiency finance and investment.





EFFORT IS NEEDED TO DIMINISH OBSTACLES

- Indonesia has shown it can be innovative in enabling renewable energy investment, providing important incentives like tax holidays and allowances as well as support for projects such as a recent floating solar plant in Java-Bali. Recent developments to apply renewable energy certificates also will make Indonesia a more attractive destination for renewable energy investments.
- Remaining obstacles such as the present framework for power wheeling, which makes corporate sourcing of off-site renewable electricity challenging, are preventing growth in investments. Feed-in tariffs for net metering likewise do not provide transparency in the calculation of cost and can put renewables at a disadvantage, compared to other generation assets.
- Addressing perceived risks, such as lack of transparency in power purchase agreement prices and uncertainties around force majeure, requires clearer rules and processes to complement on-going support for renewable energy business development.
- Long-term efforts should focus on creating conditions for a flexible and dynamic market. This includes enabling innovative finance and market-based mechanisms such as energy savings performance contracting, open and tradeable energy attribution certificates, and energy-as-a-service models – all of which can help enable large-scale engagement of private capital for clean energy projects.

RECOMMENDATIONS

- Identify levers such as risk guarantee mechanisms to help overcome risks to finance and address shortcomings in existing funds to provide more targeted support to clean energy.
- Build upon OSS efforts to speed up decision-making and facilitate market-based solutions for clean energy projects through simple, straightforward access to rules and guidelines.
- Jump-start energy efficiency investment by enabling public actors to procure those services and solutions, for instance by relaxing rules on multi-year contracting.
- Review operational regulations for power wheeling and develop a transparent process that encourages corporate sourcing of renewable electricity, while also considering aligning feed-in tariff calculations with international net-metering practices.

TABLE 2

Power sector incentives under Presidential Regulation No. 10/2021 can support renewable energy development

Reference regulations	Tax holiday	Mini tax holiday	Tax allowance
	MoF Regulation 130/PMK.010.2020 and BKPM Regulation No. 07/2020		Government Regulation No. 78/2019; MoF Regulation No. 96/PMK.010/2020
Eligible business activity	New and renewable energy power plants		Micro power plants; mini power plants with investment value below IDR 100 billion (~USD 7 million)
Tax Benefit	Corporate income tax exemption Minimum CAPEX: IDR 500 billion (~USD 35 million) between 5 and 20 years (depending on CAPEX size)	50% corporate income tax discount CAPEX: IDR 100 billion to less than IDR 500 billion (~USD 7 to 35 million) for 5 years	Net income / earning before tax reduction by 30% of CAPEX, in instalment over 6 years at 5% per annum
Additional benefits	50% corporate income tax discount for following 2 years	25% corporate income tax discount for following 2 years	Accelerated depreciation/ amortisation Withholding tax for dividend, lowered to 10% (or based on tax treaty) Losses carried forward for 5-10 years

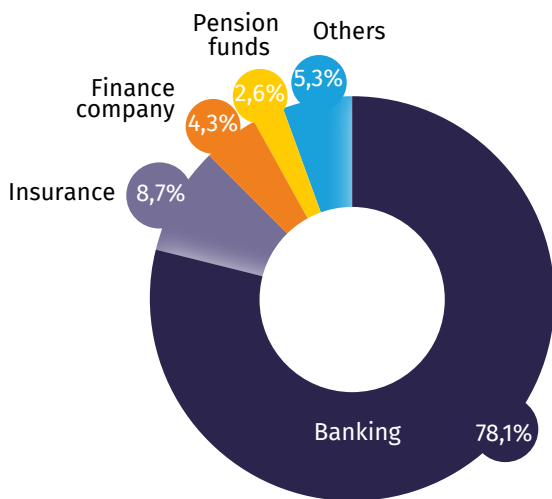
Notes: CAPEX = capital expenditure.
Source: OECD communication (April 2021) with BKPM on Implementing Regulations of Law 11/2020.



FINANCIAL MARKET POLICY

Indonesia will need to mobilise approximately USD 220 billion of investments by 2030 in the clean energy and sustainable transport sectors in order to meet its nationally determined contribution. Both domestic and international sources of public and private finance will be required. Well-functioning financial markets can strongly contribute to enhancing investment opportunities and lowering financing costs. Creating a clean energy finance ecosystem that can support Indonesia’s clean energy transition will require a broad reach across government, financial markets, industry and development co-operation. Sustainable finance activities led by the Financial Services Authority (OJK) and the Ministry of Finance are commendable and Indonesia stands out among major emerging economies in its sustainable finance activities.

FIGURE 7
Financial assets per type of financial player, October 2020



Sources: Bank Indonesia (2020), Indonesia Financial Statistic, October 2020

SUSTAINABLE FINANCE DEVELOPMENTS ARE PROMISING

- Indonesia was the first country to issue a sovereign green sukuk (Sharia compliant green bond) in 2018 and also the first to issue a retail green bond with its retail green sukuk issuance in 2019.
- Capital markets are comparatively under-developed and hold significant potential to finance clean energy projects. Efforts should be made to further develop capital market instruments and could include products such as asset backed securities, sustainability-linked bonds and clean energy funds.
- Phase II of the Sustainable Finance Roadmap focuses on building the ecosystem by strengthening the implementation of environmental, social and governance risks and supporting innovation and development of financial services and products within the banking, capital market and non-bank financial institutions.
- Indonesia can learn from the experience of other countries as it develops its Sustainable Finance Taxonomy. It can also consider how taxonomies in other countries will impact Indonesia’s attractiveness as destination.

ACCESS TO AFFORDABLE FINANCE IS A CHALLENGE

- Financial institutions in Indonesia continue to face major barriers to scaling up finance for clean energy projects. These include a lack of familiarity with clean energy projects; insufficient information; high perceived risks; and lack of suitable financing instruments and funds.
- The government needs to improve data availability as well as to set up monitoring and reporting protocols, support capacity building among financial institution staff and develop innovative finance schemes.
- Project developers, particularly those developing energy efficiency or small renewable energy projects in the eastern islands, often struggle to meet high collateral requirements for debt financing. Costs remain prohibitive at times due to high risk allocations caused by weak frameworks and/or high transaction costs.
- Lack of domestic non-recourse project finance for clean energy projects also drives up financing costs. The mismatch between project lifetimes (20 to 40 years) and lack of available long-term financing (with typical tenures averaging 5 to 7 years) is another major barrier.



OPPORTUNITIES TO IMPROVE ACCESS TO FINANCE

- The SDG Indonesia One Fund could be used to support guarantee schemes aimed at de-risking projects and to help project developers overcome collateral requirements, while building experience and confidence among financial institutions in both energy efficiency and renewable energy projects.
- OJK can work with banks to establish project finance structures for renewable energy and energy efficiency projects that could be standardised and widely replicated across various banks.
- The creation of a dedicated green finance facility could help to overcome a number of financing barriers, including access to long-term debt, high transaction costs, perceived risks and high interest rates.
- This facility could help to develop innovative finance schemes that help attract investors and corporations as well as mobilise private capital. It could also support the development of a pipeline of bankable projects through advisory and project structuring services.

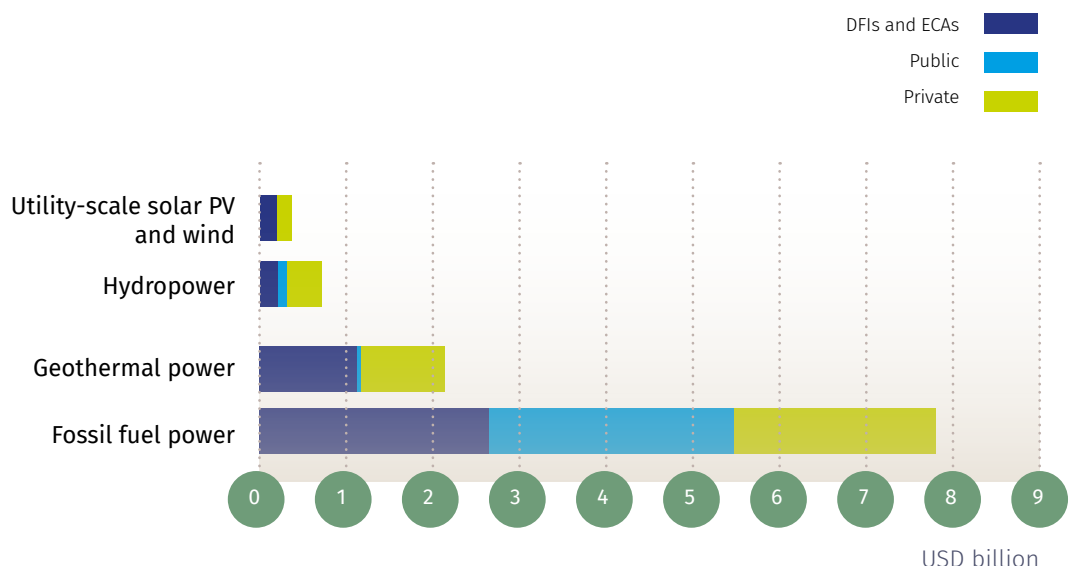
RECOMMENDATIONS

- Align definitions for sustainable finance across sector and economic plans to ensure compatibility with financial regulations and the upcoming sustainable finance taxonomy.
- Support corporate and sub-regional green bond issuances to take advantage of the rapid development of the global green bond market and raise long-term debt finance.
- Review bank regulation and practices such as legal lending limits and high collateral requirements to identify options to overcome these hurdles.
- Consider the development of guarantee schemes, innovative financing structures or facilities to de-risk clean energy projects and help project developers to access capital.

FIGURE 8

From 2016-19, renewables were financed primarily by the private sector and international public finance institutions

Source: IEA (2020), Power investment trends in Indonesia.



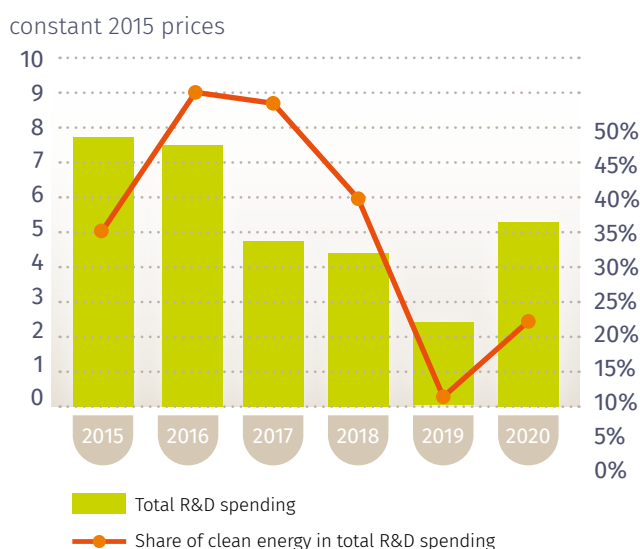
Indonesia needs to accompany efforts to accelerate clean energy finance and investment with supporting policies targeted at a number of cross-cutting areas. These include regional grid integration, research and development (R&D), gender, and skill and capacity development, all of which are critical to realise the country's clean energy goals.



CROSS-CUTTING

FIGURE 9

P3TKEBTKE's clean energy R&D budget remains low and has been declining in 2016-19



REGIONAL INTEGRATION IS KEY BUT REQUIRES CO-ORDINATION

- Indonesia is part of the Association for Southeast Asian Nations (ASEAN), which has a target to promote the regional power grid and multilateral power trade. Indonesia is lacking and needs to invest in physical cross-border transmission infrastructure to engage in this regional power trading.
- Allocating a greater share of limited infrastructure budget to cross-border connections could risk diverting public investment away from the national grid, where needs are also considerable.

FURTHER ENCOURAGEMENT IS NEEDED FOR CLEAN ENERGY R&D

- Most of Indonesia's clean energy R&D has been led by the Electricity and New and Renewable Energy Research and Development Agency (P3TKEBTKE), which has made efforts to support clean energy. Its clean energy budget has been declining since 2016, however, and remains too low to achieve Indonesia's ambitions.
- Overall, most of the country's R&D efforts remain focused on fossil fuels and other technologies.

EMPOWERING WOMEN ENTREPRENEURS IS IMPORTANT

- While Indonesia recognises the crucial role women play in meeting the Sustainable Development Goals, they remain under-represented in leadership roles (e.g. government and industry).
- There is also an absence of targeted programmes in the clean energy sector to support women's empowerment or help women entrepreneurs overcome certain gender biases and financing challenges.

THERE REMAINS A CLEAN ENERGY FINANCE AND INVESTMENT GAP

- Indonesia has made great strides in developing skill and capacity for clean energy and sustainable finance. However, these efforts have tilted towards technical and operational aspects, with less focus on developing the project finance and de-risking skills needed to develop a pipeline of investment-ready projects.
- Training on clean energy by financial institutions has mostly focused on renewable project financing, often overlooking energy efficiency.

RECOMMENDATIONS

- Consider a more integrated approach for clean energy finance and investment training programmes.
- Increase clean energy R&D funding and shift focus away from fossil fuels.
- Develop national renewable energy development as well as regional transmission network and power trading in tandem.
- Consider the implementation of targeted programmes and support schemes to encourage and facilitate access to finance for women entrepreneurs.

CHECK OUT THE CEFIM WEBPAGE

Visit www.oecd.org/cefim for on-going insights into CEFIM programme activities and events. This includes CEFIM country pages with interactive data and analysis on clean energy market trends, governance, finance and investments to provide investors, development partners, policy makers and related stakeholders with market intelligence on opportunities for clean energy investment in CEFIM partner countries.

About our work



[Find out more](#) about our CEFIM programme activities to support countries in unlocking finance and investments for clean energy development.

The **Indonesia page** builds upon the OECD's strong engagement with Indonesia and includes insights into the country's clean energy finance and investment context. It hosts interactive figures with on-going updates of market trends and outlooks, energy governance, policy highlights and the current state of sustainable finance for clean energy in Indonesia. There are equally summaries and presentations from on-line and in-country CEFIM events.

Policy highlights

(Click to unselect) ● Cross Cutting ● Energy Efficiency ● Renewable Energy ● Sustainable Finance

<p>Investment Law 2007</p> <p>Indonesia Investment Board</p> <p>notably regulates the type of businesses that can be open to foreign investment.</p>	<p>Energy Law 2007</p> <p>National Energy Council</p> <p>mandates the government to establish the National Energy Policy and National Energy Plan.</p>	<p>Regulation on Energy Conservation 2009</p> <p>Ministry of Energy and Mineral Resources</p> <p>covers 4 main areas: supply and demand conservation action (including 5 000 tonnes of oil equivalent reporting obligation); standards and labelling; incentives and dis-incentives; and assistance and monitoring from the government.</p>	<p>Electricity Law 2009</p> <p>Ministry of Energy and Mineral Resources</p> <p>provides a legal framework for the electricity sector in Indonesia.</p>
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This Policy Highlights is based on the OECD publication:

Clean Energy Finance and Investment Policy Review of Indonesia.

Thanks to tremendous renewable energy and energy efficiency potential and a stable, dynamic economy, Indonesia has become a coveted destination for investors in the clean energy sector. Clean energy investment, however, remains far below the level needed to realise Indonesia's ambitious clean energy and sustainable finance goals. Instead, investment in fossil fuels continues to dominate.

This first Clean Energy Finance and Investment Policy Review of Indonesia supports efforts to reverse these trends and achieve a clean energy transition. The report provides a comprehensive overview of the current policy framework, highlighting progress and identifying untapped opportunities for strengthening policy interventions that can help scale up clean energy finance and investment. It also provides a number of tailored recommendations for the Government of Indonesia and development partners.

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