

6 Financial market policy

This chapter examines the current status and future requirements of clean energy finance in Indonesia. It reviews the current state of the Indonesian financial markets and highlights the need to deepen capital market development. It highlights financial market regulation, including the role of sustainable finance policies and targeted green finance instruments in mobilising finance for clean energy projects. The chapter also examines the role of development finance in mobilising private capital and opportunities for institutional innovation to catalyse private sector finance and investment.

To meet the country's nationally determined contribution (NDC), Indonesia will need to mobilise approximately USD 220 billion of investments by 2030 in the clean energy and sustainable transport sectors. Both domestic and international public and private sources of finance are required to meet these goals. 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 broad reach across government, financial markets, industry and development cooperation.

To mobilise finance from the private sector, the Indonesian government has been working closely with the financial sector to develop sustainable finance products within the banking, capital market and non-bank financial institutions. The 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. This chapter looks at the current status and future requirement of clean energy finance in Indonesia; financial market regulation including the role of sustainable finance and targeted green finance instruments; and the role of development finance and opportunities for institutional innovation to catalyse private sector finance and investment.

Assessment and recommendations

A sustainable finance framework is in place and continues to evolve.

Central to these activities is OJK's Sustainable Finance Roadmap, which in Phase I (2015-2019) increased awareness amongst financial service institutions on the importance of sustainable finance and provided comprehensive regulatory frameworks and guidelines. The recently released Phase II (2020-2024) of the roadmap focuses on building the sustainable finance ecosystem by strengthening the implementation of environmental, social and governance (ESG) risks and supporting innovation and development of financial services and products. These efforts will help to reset Indonesia's financial system to help the country achieve its sustainable development goals (SDGs) and the Paris Agreement. Indonesia can learn from the experience of other countries as it develops its Sustainable Finance Taxonomy as part of its roadmap and considers how ambitious sustainable finance taxonomy in other countries will impact the attractiveness of Indonesia as a destination for foreign direct investment (FDI). The government could play a role via national public information campaigns on the importance of integrating ESG considerations in investment decisions to spur public pressure for a quicker adoption of sustainable finance activities within the country's financial services sector.

Prudential regulation may create barriers to renewable energy financing.

Prudential regulation governing Indonesia's financial services industry could be more accommodative to clean energy power projects. Current levels of the BMPK (Batas Maksimum Pemberian Kredit or Legal Lending Limit) could create barriers to the financing of renewable energy projects by financial institutions. A number of financial institutions are already at or near the legal lending limits given significant exposure to PLN (Perusahaan Listrik Negara the State Electricity Company) in their loan portfolios. As the single buyer of electricity, PLN or its subsidiaries are involved in a significant number of renewable energy projects (including large hydro projects) and hence these projects are consolidated as part of PLN exposure in calculating this limit. Equally, relaxation of the current ATMR (Aset Tertimbang Menurut Risiko or Risk Weighted Asset) calculation formula for renewable energy could be considered to incentivise financial institutions to increase lending to these projects, although this should be done with careful consideration of potential systemic impact. Beyond addressing financial market regulation barriers to increasing access to domestic lending, to facilitate project evaluation and increase access to domestic debt for clean energy projects, OJK could consider implementing a "credit programme" aimed at unifying

and standardising rules and other contractual provisions, which would help facilitate credit appraisal as successfully implemented in the palm oil sector.

Alignment with the Ministry of Energy and Mineral Resources (MEMR) is needed on sustainable finance categories to address inconsistencies that create confidence issues.

To support the development of sustainable finance in Indonesia, OJK issued Regulation No. 60/2017 that categorises activities that can be financed through green bonds. As of 2019, Indonesian financial institutions had financed approximately IDR 913 trillion (USD 64 billion) of investments meeting the green finance definitions outlined by the OJK Sustainable Finance roadmap (OJK, 2021^[11]). While OJK's activities to promote the adoption of sustainable finance activities are to be commended, as the Ministry of Energy and Mineral Resources (MEMR) was not involved in setting these definitions, there are inconsistencies between the government's clean energy plans and its sustainable finance definitions. This has created confidence issues among financial institutions and a reluctance to finance certain clean energy projects under the Energy Plan (RUEN) and Electricity Plan (RUPTL), which are not covered by OJK regulation.

Indonesia is a leader in sovereign green bonds and is a fintech innovator.

A notable green finance development in Indonesia is the country's leadership role in the green bond market. Indonesia was the first country to issue a sovereign green Islamic bond (sukuk) in 2018. The country is also a fintech innovator, having completed the world's first retail green bond/sukuk in 2019. The government's retail green sukuk issuance aimed to develop a more sustainable investor base and help raise awareness, particularly among millennials on the importance of investing in climate solutions such as clean energy and other technologies to overcome various environmental challenges. The online subscription system attracted and allowed for investors from all 34 provinces to participate with millennials, accounting for 56% of first time investors, and provides useful lessons for other countries.

Capital markets hold significant potential to finance clean energy projects

Additional efforts could also be made to further develop capital market instruments for financing green projects. This will need to be accompanied by the development of regulation to help diversify financial products and efforts to further deepen Indonesia's capital markets which when compared to other Association of Southeast Asian Nations ASEAN countries such as Malaysia and Thailand, remain comparatively small given the size of the economy. Efforts to further develop capital market instruments would also help to increase the availability of long-term capital and should include both primary and secondary markets for infrastructure finance. Instruments should address issues of scale necessary to attract international capital and could include products such as asset backed securities, sustainability-linked bonds and clean energy funds.

The finance sector is lagging on clean energy, despite strong government action.

Recent developments in green and sustainable finance are promising, although Indonesia's financial institutions face a number of challenges when it comes to expanding their sustainable finance portfolios, particularly as they pertain to financing renewable energy and energy efficiency projects. These include a lack of familiarity with renewable and efficiency projects; insufficient information; high perceived risks; lack of suitable financing instruments and funds; and limited access to green finance to support projects. Government action is needed to improve data availability and in setting up monitoring and reporting protocols; support capacity building among financial institutions staff and to develop innovative finance schemes to help attract investors and corporations. A number of lessons can be learnt from countries in Europe, Australia and South Africa among others on how initiatives in these countries have supported an uptake of green finance for clean energy investments.

High collateral requirements makes access to finance challenging, particularly for smaller project developers.

Energy efficiency and some renewable energy projects, particularly those in the less developed eastern islands of Indonesia, tend to be developed by smaller project developers with limited balance sheets and experience in financial structuring of projects. With little or no credit history, these project developers often face additional challenges accessing finance including high collateral requirements from commercial banks that can exceed the value of the project and often beyond the means of these project developers. The sustainable development goal (SDG) Indonesia One Fund could be used to support guarantee schemes aimed at de-risking projects and help project developers overcome collateral requirements and build experience and confidence among financial institutions in both energy efficiency and renewable energy projects. These funds should target projects with good replicability structures that address risks which the market currently is not able to adequately evaluate so that in the future, as these projects demonstrate their financial viability, the market can take over without the need for de-risking.

Further capacity building and support is required to build investor confidence.

Efforts to engage financial actors in clean energy development are yielding some progress, but additional training and capacity building efforts are needed to familiarise those actors with institutional and operational aspects of clean energy projects, as well as to understand the risks of those projects and gain confidence in funding them. Lessons could also be drawn from financing facilities set up to support the biodiesel industry such as the crude palm oil fund, which has been successful in opening up financing to the biodiesel sector and created a growing market.

Lack of domestic project finance for clean energy drives up financing costs.

Another important financing challenge is the mismatch between project lifetimes, which range from 20 to 40 years for renewable energy assets, and the lack of available long-term financing, with tenures usually averaging 5 to 7 years. The absence of a domestic long-term debt market means that local currency non-recourse project finance is uncommon in Indonesia. This attractive means for financing clean energy projects, the norm in OECD countries and in some other major markets, is another factor attributing to significantly higher costs for clean energy projects.

Box 6.1. Main policy recommendations on financial market policy

- Review bank regulation and practices such as legal lending limits and high collateral requirements to identify options to overcome these hurdles. Clean energy projects could be treated as a special category to address issues around concentration limits linked to the high exposure of many financial institutions to PLN and could be supported by credit enhancement or off-taker insurance schemes. To help project developers access debt financing and meet equity requirements, options such as guarantee schemes, innovative structures or facilities should be considered. OJK can also 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.
- Support corporate and sub-regional green bond (green sukuk) issuances as a way to take advantage of the rapid development of the global green bond (and green sukuk) market that offers an attractive financing vehicle for clean energy project developers to raise long-term debt finance. Indonesia can build upon its experience with sovereign green bond/green sukuk and

consider a number of measures to facilitate access to this market, including incentives to cover issuing costs, credit enhancements or guarantees, information campaigns to improve corporate and regional government awareness and aggregation of smaller projects under a larger structure.

- Align definitions on sustainable finance to ensure that targets outlined under the RUEN and the Planning Ministry's (Bappenas) upcoming 2020-24 mid-term development plan (RPJMN) are compatible with OJK's regulation to financial institutions. OJK should seek inputs from MEMR, Bappenas and other related institutions as it sets out the country's sustainable finance taxonomy, as it will influence capital needed to finance clean energy projects. These inputs can also help overcome current inconsistencies that hamper access to finance.
- Consider different design elements based on international experience (i.e. European Union (EU), France and Japan) in the development of Indonesia's Sustainable Finance Taxonomy, to identify economic activities and define environmental and other objectives linked to the taxonomy. The taxonomy should enable an adaptable framework to address changes in technology and innovation, and should consider usability by end users, issuers and investors. A simple-to-use taxonomy will make it easier for the market to adopt and apply, while data availability must also be factored in to facilitate verification.
- Co-ordinate across relevant ministries to ensure that tariffs and contract structures, for example power purchase agreement (PPA) terms, provide suitable long-term visibility on revenue streams necessary for banks to provide long term non-recourse lending directly to projects. De-risking mechanisms may also be needed for the first projects to help financial institutions gain confidence in these new financing structures. The government should consider the creation of an ecosystem that would help financial institutions increase lending portfolios to clean energy projects and could engage within the IKBI (Inisiatif Keuangan Berkelanjutan Indonesia or Indonesia's Sustainable Finance Initiative) network of financial institutions that support sustainable finance to help identify and implement solutions to overcome a variety of financing risks as well as help the market gain experience and confidence in financing both renewable energy and energy efficiency projects among other climate solutions such as waste management and clean water.
- Undertake a detailed market assessment of financing needs and challenges as well as opportunities to scale, to identify suitable financing instruments that meet the requirements of the market. This evaluation should inform considerations for the creation of a dedicated green finance facility that can help overcome current barriers to raising affordable finance for clean energy projects. Such a facility could be established within one of the existing public finance institutions that already have a mandate to support climate friendly investments, such as the environment fund management agency (BPD LH) or PT Sarana Multi Infrastruktur (PT SMI).
- Consider using the abovementioned facility as an intermediary to provide support and advisory services, to structure an aggregated portfolio of energy efficiency projects, and to manage the overall transaction process (e.g. through contract standardisation). The facility could include financial support, such as reimbursable grants for collateral, guarantees or insurance against energy savings risk, to help overcome barriers to financing of energy service models.

Strengthening and deepening local financial markets

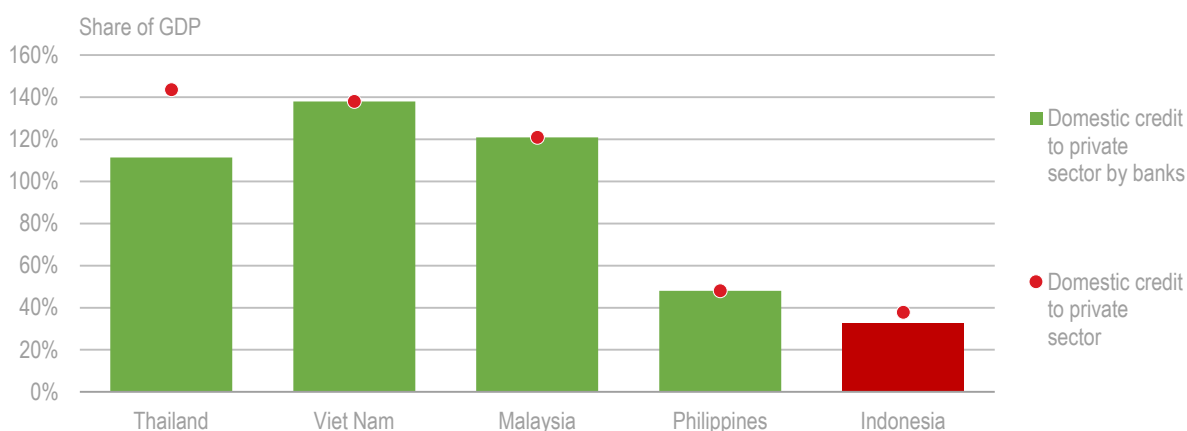
Indonesia's private sector debt (as a share of GDP) is among the lowest in South East Asia, reflecting the relative underdevelopment of the country's financial sector as a whole (see Figure 6.1). As in many countries, commercial banks hold the bulk of the financial sector's aggregated assets and are the largest source of debt finance in the country, including for clean energy infrastructure (see Figure 6.2). The

country's banking sector is also particularly fragmented with around 110 commercial banks (of which, eight are foreign-owned) and 1,512 rural banks, albeit rather concentrated given the country's four largest commercial banks own around a third of banks' aggregated assets.

The country's commercial banks are relatively healthy, with a high capital adequacy ratio (around 23% as of September 2020, largely above Basel III requirements of 8%) and a low level of non-performing loans (3.1%), despite a slight increase due to the COVID-19 crisis. Yet, commercial banks tend to be conservatively run as they rely mostly on short-term deposits (retail funding), constraining their ability to provide long-term financing for investments (due to risks of asset-liability mismatch) (IMF, 2018^[2]). In September 2020, based on OJK's monthly Banking Statistics, roughly a quarter of the commercial banks' portfolio is used for financing investments.

Aside from commercial banks, the country's domestic institutional investor¹ base remains very small (see Figure 6.2) and has so far played a very limited role in financing infrastructure projects, let alone clean energy. In 2020, assets under management of pension funds and insurance companies were roughly 3% and 5% of GDP respectively (Bank Indonesia, 2020^[3]; World Bank, 2020^[4]).

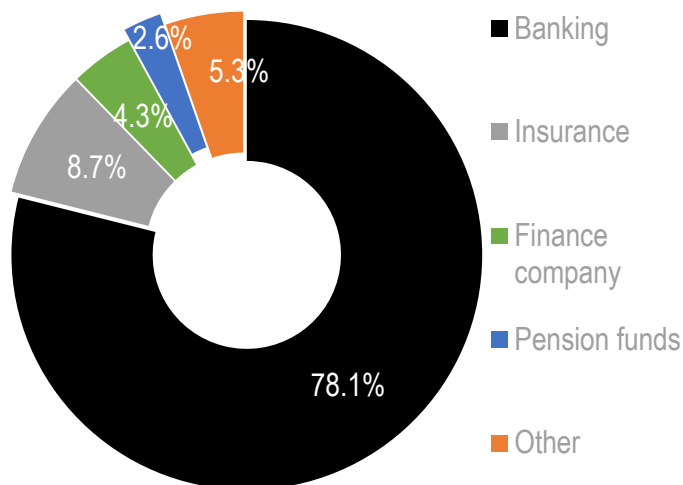
Figure 6.1. Domestic credit to the private sector for selected regional peers, 2019




Source: World Bank(2020^[5]), World Development Indicators.

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Figure 6.2. Indonesia's financial assets by financial players, as of October 2020



Notes: "Other" includes guarantee institutions, infrastructure finance companies, micro finance institutions and insurance brokers.
Source: Bank Indonesia (October 2020).

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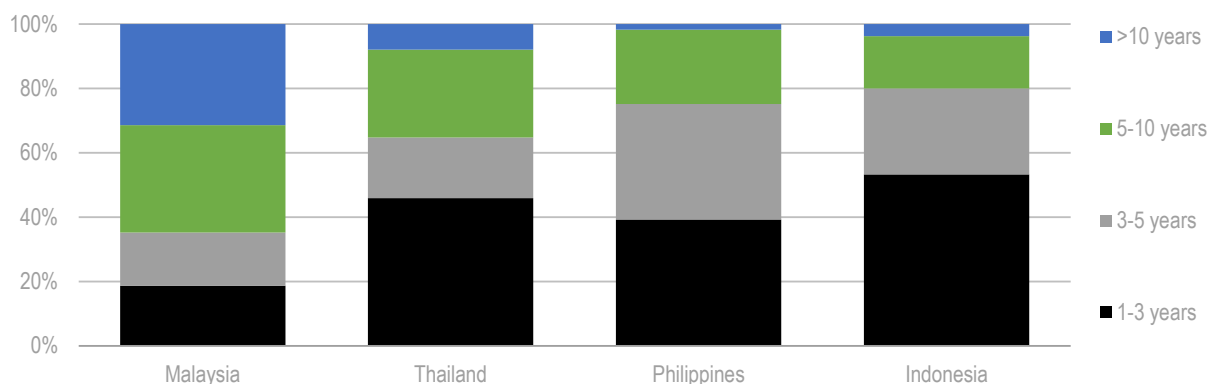
Indonesia's investment requirement for infrastructure over the next 5 years is estimated under the 2020-24 RPJMN at IDR 5,957 trillion (around USD 412 billion) (Bloomberg, 2019^[5]), representing more than half the assets of the country's financial sector which in 2020 was roughly IDR 11,357 billion (around USD 805 billion) (Bank Indonesia, 2020^[3]). Investment needs for the clean energy sector over the next five years to meet the RUEN renewable energy generation targets are estimated at about USD 44.2 billion (IESR, 2019^[6]). This highlights an important financing gap given that infrastructure is only one of many sectors that will be vying for this limited capital. Indonesia will need to attract foreign sources of capital to help fund its infrastructure development as well as continue to promote and implement policies to increase financial inclusion as well as step up efforts to deepen its financial sector. Given the size and importance of the economy, Indonesia's financial sector development is well behind those of its regional peers. There are few domestic institutional investors in Indonesia with insurance companies and pension funds accounting for just 11.32% of the country's financial assets (see Figure 6.2). Efforts are needed to develop this market and shift investment horizons towards longer-term investments as a way to support the development of more robust capital markets to fund Indonesia's economic development and sustainable development goals.

Shallow capital markets in Indonesia limit financing options for corporates

Few non-financial corporates (including clean energy developers) have so far tapped into Indonesia's (shallow) capital markets for financing. In 2018, the growing domestic corporate bond market accounted for less than 3%² of GDP, compared with 46.3% in Malaysia, for example. Close to 80% of the market's outstanding securities had a tenor inferior to five years (see Figure 6.3). Securitisation and project bonds represented a negligible share of outstanding debt securities. The bulk of issuers are financial institutions (around two thirds) with most of the remainder being state-owned enterprises (SOEs) (ADB, 2017^[7]; IMF, 2018^[2]). By contrast, Indonesia's sovereign bond market was much larger (accounting for 16% of GDP) and more liquid than the corporate bond market (albeit much less so than regional peers) and offered longer average maturity. The Indonesian government has also been much more active in tapping into sustainable finance products, being one of the world's largest issuers of green bond/sukuk (further

discussion later in the chapter). As for the bond market, few corporates obtain primary financing through the stock market, as shown by the low number of annual initial public offerings. Partly as a result, Indonesia's stock market also has a smaller market capitalisation than its regional peers and has a far lower turnover.

Figure 6.3. Corporate bonds by term of maturity, 2019



Source: ADB (2020^[8]), Asian Bonds Online.

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Recognising the need to deepen its financial markets, the Government of Indonesia created a national council for financial inclusion and a high-level joint forum to promote interagency coordination. Chaired by the President, the national council adopted the National Strategy for Financial Inclusion in 2016 that covers the following five pillars: financial education, public property rights, expansion of financial productions, distribution of government transfers and consumer protection. The strategy set a goal for 75% of adults to hold a transaction account by the end of 2019. The results of the 2019 national inclusion survey reported 76.19% of adults held accounts, exceeding the set goal³. The high-level joint forum focuses on the development of the following six financial markets in parallel: money, foreign exchange, bond, equity, Sharia investments and structured products. The development of these markets will play an integral role in deepening Indonesia's financial sector and with it the country's ability to mobilise more domestic and international investment and finance for clean energy.

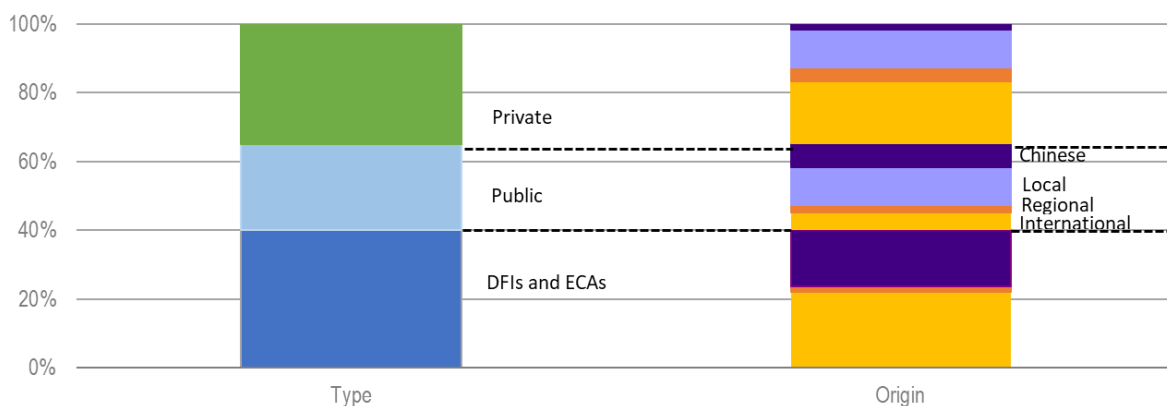
Indonesia's capital markets remain relatively under-developed when compared to its ASEAN peers with the country's stock and bond markets significantly less developed than its regional peers. Further development of the country's capital markets represents an opportunity to shift savings from short-term deposits towards longer-term investments in bonds, equity and other structured instruments. Diversification of the bond market to stimulate more corporate bond issuances could help to widen the bond market that is currently made up almost exclusively of government bonds, with corporate bonds representing just 13% of the market.

Access and status of finance for clean energy

An analysis undertaken by the International Energy Agency (IEA) of investment trends in power generation, showed the high reliance on foreign capital for financing Indonesia's electricity demand growth with domestic finance representing just a quarter of total investments (see Figure 6.4). The largest share at 40% came from development finance institutions and export credit agencies (40%), followed by the private sector accounting for over a quarter with the remainder from public sources. China is a key source of funding from both the public and export credit agencies, while other (ASEAN) investors representing an

important share of private funding sources. International investors (excluding China and other ASEAN nations) account for about half of total funding split across all three segments with a relatively higher weighting in the Development Finance Institution (DFI) and Export Credit Agency (ECA) segment as well as private sector. Local funding sources are slightly tilted towards the public budget with private funding from commercial banks accounting for under half. Given the key role that DFIs and ECAs have played, the country relies heavily on concessional finance for its power generation expansion.

Figure 6.4. Sources of finance in the power generation sector, 2016 to 2019

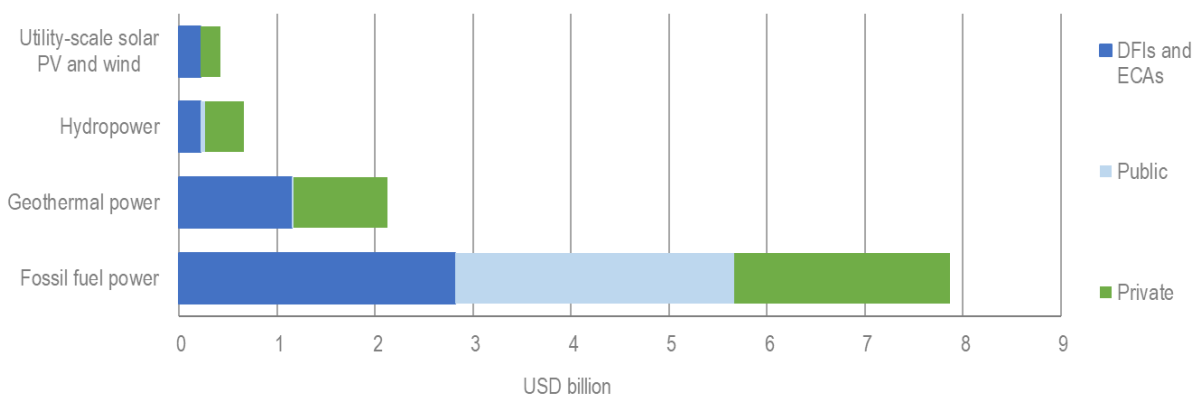


Source: IEA(2020^[9]), Power investment trends in indonesia.

StatLink <https://stat.link/4n2fbg>

In contrast to fossil fuel power generation, where public funds represent about 40% of total funding, renewable energy projects have depended on financing from DFIs and ECAs as well as from private sources, mainly commercial banks (see Figure 6.5). While investments in fossil fuel plants continue to dominate the market, a growing share of investments in new power generation are being met by renewable energy sources with geothermal representing the largest share given the high potential of this technology in the country (see Chapter 1). The current high reliance on development finance and concessional funds to meet growing electricity demand is unsustainable and the Indonesian government will need to continue improving its policy frameworks to shift a greater portion of finance towards private sources.

Figure 6.5. Sources of finance by technology in the power generation sector, 2016 to 2019



Source: IEA(2020^[9]), Power investment trends in indonesia.

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Currently in Indonesia, commercial banks' contribution to financing clean energy projects has so far been limited. Official data for 2019 show that commercial banks only allocated 3.5% of their loan portfolio to the electricity, gas and water sector, which compares with around 6.1% and 6.7% for the construction and agriculture sectors, respectively. There is no disaggregated data for clean energy, but its share is likely to be a small fraction of that aggregate figure. While as a whole, financing for clean energy projects among commercial banks in Indonesia remains a relatively new and uncertain market, positive signs are apparent from the sustainable finance action plans of the SOE banks that this is a sector with significant growth potential with a total financing estimated in September 2019 at IDR 20 trillion⁴ (around USD 1.4 million).

Regulatory barriers and lack of adequate data and information pose challenges for banks to finance clean energy projects

Financial institutions in Indonesia face a number of challenges in financing renewable energy projects. These include a lack of familiarity with renewable projects among financiers and insufficient information; high-perceived risks due to insufficient availability of projects' track record given few operating projects; lack of suitable financing instruments and funds; and limited finance to support corporate sourcing of renewables⁵. Consequently, commercial banks have so far only provided financing to a handful of geothermal and bioenergy projects while none has yet done so for operating utility-scale solar and wind projects in the country.

Similar issues also constrain bank financing for energy efficiency projects. This can, in large part, be explained by the intangible nature of their cash flows, their limited deal size, as well as limited project and developer track records. Most commercial banks also have strict collateral rules often in the range of 80-120% of total loan value – as such rules preclude the use of projected energy savings as collateral. This, in turn, severely limits developers' borrowing capacity (APEC, 2017^[8]).

To overcome these challenges the Indonesian government will evaluate additional incentives to support investments; improve availability of data and information by implementing monitoring and reporting protocols; support capacity building among financial institutions staff; and develop innovative finance schemes to help attract investors and corporations.

Regulation governing Indonesia's banking sector, namely BMPK (Batas Maksimum Pemberian Kredit or Legal Lending Limit) and the ATMR (Aset Tertimbang Menurut Risiko or Risk Weighted Asset) calculation formula for renewable energy could also create barriers to the financing of renewable energy projects by financial institutions. The BMPK or legal lending limit poses constraints on banks with significant exposure to PLN in their loan portfolios to expand lending to renewable energy projects. As the single buyer of electricity, PLN or its subsidiaries are involved in a significant number of renewable energy projects (including large hydro projects) and hence these projects are consolidated as part of PLN exposure in calculating this limit. An easing of BMPK regulation would require a review for all sectors and not merely just for energy making this regulatory barrier particularly difficult to overcome for some domestic banks.

The ATMR (or risk weighted asset) calculation formula for renewable energy provides a basis to determine the risks faced by financial institutions in lending to renewable energy projects. Financial institutions highlighted that a review of the ATMR formula could facilitate increased lending to the sector, although this should be done with careful consideration of potential systemic impacts. OJK has implemented a capacity-building programme to facilitate risk evaluation by financial institutions and improve knowledge of clean energy projects, which still faces high-perceived risks.

Beyond addressing financial market regulation barriers, to facilitate project evaluation and increase access to domestic debt for clean energy projects, OJK could consider implementing a "credit programme" aimed at unifying and standardising rules and other contractual provisions, which would help facilitate credit appraisal.

Where local commercial banks have provided finance for projects, long-tenor loans (above 10 years) are extremely rare and there is an absence of non-recourse project financing (the norm for most renewable energy projects in OECD and other major economies) and limited-recourse financing is virtually absent as well. Interest rates are also well above (around 7-12% in USD) international sources of funding (around 5-8%) (CPI, 2018^[9]; IESR, 2019^[10]). Estimates suggest that bringing down interest rates to 5% (in line with average rates generally practised in the electricity, gas and water sector) could help achieve a 40% reduction in current solar photovoltaics (PV) levelised cost of electricity (IESR, 2019^[10]). The asset liability mismatch, present in many markets, also poses a major challenge to raising long-term capital for clean energy projects. This is due to an over-reliance on short-term deposits to fund lending operations that restricts typical loan tenors to just 5-7 years, in contrast to the long lifetime of projects which can be 15-20 years or more for clean energy projects.

Sustainable finance regulation, taxonomy development and green bonds

Mapping a path towards sustainable finance

Indonesia is one of the leading countries in the emerging markets to recognise and take action on the importance of integrating sustainability within the country's financial regulation. The central bank of Indonesia, Bank Indonesia, joined the International Sustainable Banking Network in 2012, which the OJK subsequently joined in 2013 after its establishment as an independent regulatory body. Bank Indonesia as the monetary authority is responsible for maintaining monetary stability as well as financial system stability. OJK was created in 2011 to replace Bank Indonesia as the supervisory authority for financial institutions and is responsible for ensuring that the financial system grows in a sustainable and stable manner.

OJK published Phase I (2015-2019) of its Sustainable Finance Roadmap that focused on increasing awareness amongst financial service institutions on the importance of sustainable finance and provided comprehensive regulatory frameworks and guidelines. This was followed by regulation in 2017 (OJK Regulation No. 51/2017) to operationalise the implementation of the roadmap, including a comprehensive reporting mechanism for financial institutions, issuers, and publicly listed companies.

The regulation includes guidelines for banks to implement its sustainable finance regulation however, no guidelines have been issued for other financial institutions. The guidelines for banks define activities and operations considered compliant with eight sustainable finance principles covering: 1) Responsible Investment; 2) Strategy and Practice of Sustainable Business; 3) Managing Social and Environmental Risks; 4) Governance; 5) Informative Communication; 6) Inclusivity; 7) Priority Superior Sector Development; and 8) Coordination and Collaboration. These eight principles serve as the basis for financial industry players to develop their activities. OJK also requires financial institutions to devise a strategy that contains the implementation of environmental, social and governance (ESG) principles in their business plan and to submit a public report that outlines the implementation of the ESG principles. OJK has also classified a number of Sustainable Business categories that will serve as a reference for the classification of green sectors and to facilitate the development of sustainable finance activities by financial institutions.

Guidelines covering the clean energy sector have also been released by OJK and include a broad Guidance for Clean Energy⁶, Guidance for Financing Energy Efficiency⁷ and Guidance for Green Buildings⁸ with a guideline now under preparation for solar power plants. These guidelines include clean energy definitions, overview on related regulation, financing schemes and project evaluation methods.

The sustainable finance regulation requires financial institutions to submit to OJK annual and five-year sustainable finance action plans (RAKBs), which define their strategy and outline goals to mainstream sustainable finance activities within the institutions operations. The largest domestic banks and foreign banks are required to have issued their RAKBs by 2019 and to start publishing annual sustainability reports that outline progress by 2020. Other institutions (smaller banks, asset managers and institutional investors)

are required to publish their RAKBs in 2020 and reporting progress in 2021. All banks have fulfilled their obligations and have submitted their RAKBs to OJK.

Phase II (2020-2024) of OJK's Sustainable Finance roadmap was issued in January 2021 and focuses on building the sustainable finance ecosystem needed to help the country achieve its SDGs and the Paris Agreement (OJK, 2021^[11]). The roadmap identifies the following five priority areas that are expected to accelerate the transition of the financial sector: 1) the development of a green taxonomy; 2) implementation of ESG aspects into risk assessments; 3) real programme development through innovative finance schemes; 4) development of innovative financial products and services; and 5) a national sustainable finance campaign that helps to build awareness and capacity.

OJK will soon issue supervisory guidance outlining the process for addressing ESG risks. Current guidance does not include climate risk assessments and the adoption of mandatory climate risk assessments (as outlined in Task Force for Climate Related Financial Disclosure (TCFD) recommendations) could help to effect change in the system. A few Indonesian banks have already implemented ESG principles and in early 2020, BNI-AM issued an ESG themed Exchange Traded Mutual Fund under the name of BNI-AM Mutual Fund MSCI ESG Leaders Indonesia (XBES), which began trading on the Indonesian Stock Exchange on 9 January 2020.

To promote and implement sustainable finance practices, OJK established the "First Movers on Sustainable Banking" with a group of eight national banks (Bank Artha Graha Indonesia, BRI Syariah, Bank Central Asia, Bank Mandiri, Bank Muamalat, Bank Negara Indonesia, Bank BJB, and Bank Rakyat Indonesia). These eight banks together with WWF Indonesia established the Indonesia Sustainable Finance Initiative (ISFI) with cooperation from OJK that has now grown to include 14 banks and PT SMI, a non-bank financing institution. The ISFI is a market-led initiative which aims to support the financial services industry as it implements the sustainable finance and green bond regulations (OJK Regulation No. 51/2017 and No. 60/2017) and demonstrates the willingness of the financial sector to begin implementing more sustainable finance practices.

While this is encouraging, lack of experience, data gaps and policy related barriers have in practice led to slow implementation as bankable project pipelines, particularly for clean energy projects are lacking. Of the 15 banks within ISFI, four (BNI, Bank Mandiri, BCA and BRI) have dedicated clean energy units. Some have energy units that cover both clean and traditional energy projects. The creation of dedicated clean energy project teams within financing institutions would help to develop the expertise needed for project evaluation and help expand funding for projects. On a positive note, a number of ASEAN and Asian financial institutions active in Indonesia such as HSBC, CIMB Negara, and DBS are joining a growing movement among financial institutions to adopt clean energy policies that prohibit financing of new coal power plants among other policies to increase support for renewables.

Indonesia should also accelerate efforts to promote ESG considerations in the financial sector in line with international standards. This includes assessing in particular the extent of barriers for integrating these factors in the market, notably when it comes to long-termism and quality of reporting and rating frameworks (OECD, 2020^[11]).

Considerations for the development of Indonesia's Sustainable Finance Taxonomy

The development of Indonesia's Sustainable Finance Taxonomy will be an important step in Phase II of OJK's Sustainable Finance Roadmap and help to complement the already existing green bond regulation as well as RAKB design guidelines for banks to create a list of eligible sectors. The taxonomy to be developed by OJK will be a national taxonomy, which will apply across sectors and not just for financial institutions. Indonesia can draw on lessons from other countries and regions such as France, the EU, Japan and China in their taxonomy development. Important considerations from international experience include defining the environmental and other objectives linked to the taxonomy, identification of economic

activities as well as integration of changes in technology and innovation. A second set of considerations are the usability of the taxonomy for end users, issuers and investors. A simple to use taxonomy will make it easier for the market to adopt and data availability must be factored in to facilitate verification.

While the country's taxonomy should be ambitious, it will need to reflect the country's economic realities and recognise that Indonesia's transition to a green economy will not be achieved overnight. The taxonomy should help guide investors on how the transition to a decarbonised electricity sector can be achieved and should encourage an accelerated shift away from coal and diesel fired generators towards renewables and other low carbon electricity sources. Consultation across government ministries, key actors across all related economic sectors, as well as users, will be critical.

The taxonomy should facilitate a quicker transition and not create additional barriers to developing the country's financial sector. It will also need to consider the impact of regulation and taxonomies in other countries as more stringent environmental definitions in other countries or regions, such as in Europe, could limit the ability for firms in those countries to invest in Indonesia if these investments do not meet the more stringent taxonomy definitions in their home country.

As financial regulators around the world have been stepping up climate disclosure requirements and implementing stress testing of portfolios and greater scrutiny of climate risks and compliance to new sustainable finance regulation, countries and corporations that lag behind on the green transition could find themselves outside the universe of investible assets. As a member of the International Platform on Sustainable Finance, Indonesia could draw from the experience and lessons learned from this group in developing a taxonomy suited to the country's national circumstances and where possible consider harmonising principles and approaches to facilitate investments across different jurisdictions.

Box 6.2. Lessons from the development of the EU Sustainable Finance Taxonomy

While the focus of this box is on the EU taxonomy, other countries including China, Japan, Malaysia and many others have developed national taxonomies to help support the transition of their finance sectors. The EU taxonomy requirements are generally more developed than criteria in other frameworks because of the level of detail the European Commission (EC) requested from the Technical Expert Group (TEG) in its recommendations for technical screening criteria. A comparison and summary of the taxonomy for the EU, China, Japan, France and the Netherlands can be found in the OECD's Developing Sustainable Finance Definitions and Taxonomies 2020 report (OECD, 2020^[12]).

The EU Taxonomy is designed to help reorient capital flows towards sustainable development, manage financial risks from climate change, environmental degradation and social issues, and to foster transparency and long-termism in financial and economic activity. It aims to provide a classification system and common language for defining what is a sustainable activity. This can help to address risks of green washing and can improve investor confidence when investing in sustainable finance products.

To assist in the development of the EU taxonomy, the European Commission nominated a Technical Expert Group made up of 35 members mainly from the financial services industry as well as development banks, trade associations and NGOs. The OECD is an observer to the TEG together with the European Bank for Reconstruction and Development, the Central Bank Network for Greening the Financial System and the United Nations Environment Programme Finance Initiative. Over a period of about 12 months, the TEG met regularly (on average two days per month) in four sub-groups (taxonomy, benchmarks for the asset management industry, climate related disclosures and future Standard for EU-labelled Green Bonds) to assist the EC in preparing the delegated acts which will contain the details for implementing the regulation.

The EU sustainable finance definitions move beyond green definitions to consider also social and governance aspects in addition to climate. The EU taxonomy covers the following six environmental objectives: 1) climate change mitigation; 2) climate change adaptation; 3) sustainable use and protection of water and marine resources; 4) transition to a circular economy; 5) pollution prevention and control; and 6) protection and restoration of biodiversity and ecosystems.

An activity must meet the following three criteria to be considered compliant with the EU taxonomy: 1) contribute substantially to one or more of the environmental objectives; 2) do no significant harm to any of the other environmental objectives; and 3) comply with minimum social and governance safeguards. The do no significant harm criteria ensures a comprehensive application of broader environmental considerations and is a particularly unique feature of the EU taxonomy compared to those of other countries. The Technical Screening Criteria or performance level required to meet the do no significant harm criteria are intended to be aligned with a net zero by 2050 goal and hence can be considered globally relevant.

Economic sectors are defined based on the NACE⁹ industrial classification system and used to define the technical screening criteria for this sector. This approach has some limitations as certain technologies (i.e. carbon capture and storage) and economic activities may fall outside of the NACE codes. NACE codes do not exist for buildings or for natural capital preservation, restoration and creation. To overcome this, Classification of Environmental Protection (CEPA) and Classification of Resource Management Activities (CREMA) classifications are also used. In addition, the EU taxonomy applies a system approach to economic activities to better integrate aspects of production, impact of use and end of life are taken into consideration. For example, the mitigation impacts of an electric vehicle will depend on a number of other considerations such as the carbon intensity of electricity, related congestion and whether there is reuse or recycling of the battery at the end of its useful life. Metrics defining substantial contribution for mitigation and the do no significant harm criteria are a key component of the EU taxonomy.

Four principles have guided the development of the EU Taxonomy. It is designed to be technology neutral; dynamic and evolving; easy to understand and use; and should enable transition activities. Transition activities cover three kinds of economic activities: those that are already low carbon (i.e. renewables); those that contribute to a net zero economy in 2050 (i.e. electricity generation up to 100g CO₂/kWh); and those that enable emissions reductions in the first two activities (i.e. installation of efficient boilers in buildings).

The EU taxonomy covers 72 economic activities, which make up over 93% of EU-28 greenhouse gas (GHG) emissions and additional activities may be included in the future. A review of the taxonomy regulation will take place two years after its entry into force and every three years after the first review. Financial products that are to be marketed as sustainable investments must comply with the sustainable finance taxonomy and will need to disclose how and to what extent the taxonomy was used. Asset management and insurance companies will also need to report the share of their portfolios, which are taxonomy-compliant and large corporates that are subject to the non-financial reporting directive, will need to disclose the taxonomy-compliant share of revenues, capital expenditure and operating expenses. The increase in disclosure requirements that are subject to the EU sustainable finance taxonomy is expected to facilitate a faster transition towards sustainable finance and investment practices across the economy.

Source: (OECD, 2020^[12])

A market leader and innovator in sovereign green bonds (sukuk)

To support the implementation of the sustainable finance regulation and facilitate a shift towards sustainable finance products, OJK issued Regulation No. 60/2017 that outlines the conditions for green bond issuances in the domestic market. The regulation defines 11 eligible sectors (including renewable energy and energy efficiency) that qualify as a green project and is in line with both the Green Bond Principles and the ASEAN Green Bond Standards issued by ICMA. Issuers are also required to report on the use of proceeds and environmental benefits from the projects must be reported and verified by an independent third party. Coordination issues with MEMR have however been highlighted by banks on the setting of definitions as certain technologies such as biofuels, which MEMR have prioritised as part of their renewables development, are outside the scope of the green bond regulation which leads to some uncertainty for banks as to which renewable projects are considered sustainable by different authorities or ministries.

Indonesia was the first country to issue a sovereign green sukuk in 2018 raising USD 1.25 billion in the foreign bond market. While a green bond needs to meet certain environmental thresholds, a green sukuk must also comply with Sharia investment principles that go beyond environmental considerations to include other sustainability and well-being considerations as well as precluding certain investments that are not permitted under Sharia law. This first issuance was followed by subsequent issuances in 2019 and 2020 that raised a further USD 1.5 billion to fund green projects including energy efficiency and renewable energy projects. The 2020 Green Sukuk Issuance in the global market has made notable achievements including obtaining the lowest coupon rate for a 5 year tenor, oversubscription by 7.4 times and attracting a greater share of green investors (34% vs. 29% compared to the two previous issuances).

The Ministry of Finance has issued two green sukuk allocation and impact reports in 2019 and 2020 covering the 2018 and 2019 issuances respectively. Sustainable transport accounted for the largest share of proceeds in both years at 62% for the 2018 issuance and 48% for the 2019 issuance. Energy efficiency projects saw a large increase from 6% in the 2018 issuance to 27% in the 2019 issuance while renewables actually declined from 8% in the 2018 issuance to 4% in the 2019 issuance. Interestingly, according to CICERO's evaluation of the green shading of projects, the energy efficiency projects only received a light to medium shade of green, while the sustainable transport received a medium to dark green and the renewable energy projects received dark green¹⁰ (Ministry of Finance, 2020^[13]).

Indonesia has so far raised a total of USD 3.2 billion of green sukuk issuances, comprising USD 2.75 billion from the three global issuances and USD 490 million (IDR 6.88 trillion) from the two domestic issuances. In addition to the above mentioned sovereign issuances, the country has also issued corporate green bonds by PT SMI, PT BRI and OCBC NISP. In November 2019, the government of Indonesia also issued the world's first retail sovereign green sukuk raising IDR 1.46 trillion (USD 150 million) in the local market from retail investors. This success is followed by the second retail green sukuk issuance in December 2020, raising IDR 5.4 trillion – which achieved the highest purchase volume and attracted the largest number of investors in the history of savings sukuk issuance. Millennials also accounted for more than half (56.7%) of the new investors attracted from this issuance. While the amount was relatively small and the tenor short at just 2 years, it represents a number of important milestones in the transition towards more sustainable finance. First, it demonstrated that there is appetite for green bonds among retail investors and allows for a diversification of the investor base, particularly millennial investors who were the primary audience for this issuance; secondly, the issuance was completely done online using a platform developed in-house by the Ministry of Finance which paves the way for further issuances at relatively low costs demonstrating the capacity Fintech can play in helping to reduce financings costs as well as to increase financial inclusion; and thirdly, it helped to raise awareness of the importance of investing in solutions to address climate change and the role individuals can play in being part of the solution as minimum subscriptions to the bond were fixed at just IDR 1 million (USD 70) making the bond widely accessible to a significant portion of the population.

Rapid development of the global green bond (and green sukuk) market offers an attractive financing vehicle for clean energy project developers to raise long-term debt finance. Indonesia is already a leader in the sovereign green bond/green sukuk market, but corporate and sub-regional sovereign issuances have yet to take off with just three corporate green bonds issued by financial institutions PT SMI, PT BRI and OCBC NISP and no sub-regional sovereign issuances to date. The first two being state owned enterprises and the third the only non-government corporate to raise capital via green bonds. Globally, non-financial corporates for the first time represented the largest share (23%) of the green bond market issuing USD 59.1 billion in green bonds in 2019 (doubling its issuances compared to 2018) pushing out financial corporates as the top issuer, while sub-regional governments accounted for over 5% of the market (Climate Bonds Initiative, 2020^[14]). The government could consider implementing policies to facilitate the issuance of green bonds/sukuk by corporates and sub-regional governments including incentives to help with the cost of certification and capacity building to improve market awareness.

Additional efforts could also be made to further develop capital market instruments for financing green projects. This will need to be accompanied by the development of regulation to help diversify financial products and efforts to further deepen Indonesia's capital markets. There is a need to develop capital market instruments that can also help to increase the availability of long term capital and should include both primary and secondary markets for infrastructure finance. Instruments should address issues of scale necessary to attract international capital and could include products such as asset backed securities, sustainability-linked bonds and clean energy funds.

Role of development finance

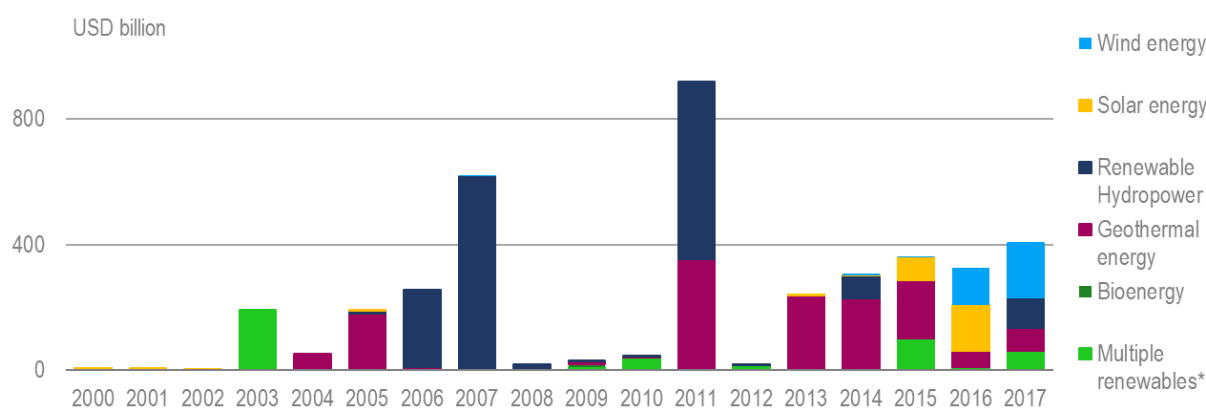
Development finance institutions have played a key role in helping to kick-start the clean energy sector in Indonesia supporting a variety of energy efficiency and renewable energy projects. Combined with export credit agencies, as highlighted above, these are the single largest source of funding for renewable power generation projects. Multilateral development banks such as the World Bank and the ADB have been working closely with the government to provide technical assistants to policy makers, project developers and the financial sector to help strengthen the country's clean energy ecosystem. Other multilateral development banks active in the country with clean energy programmes include the Asian Infrastructure Investment Bank (AIIB) and the European Investment Bank (EIB). In addition, a number of bilateral development banks including KfW (Kreditanstalt für Wiederaufbau), AFD (Agence Française de Développement), IFU (International Fund for Developing Countries) and JBIC (Japan Bank for International Co-operation) among many others are also financing clean energy projects and an overview of development finance co-operation programmes is summarised in Table 6.2 below. The Green Climate Fund (GCF) and a number of philanthropic foundations are also present in Indonesia and support clean energy finance and investment.

Table 6.2. Selected renewable energy programmes with DFI support


	Selected programmes
ADB	USD 40 million bundled loan to four 7 MW solar PV projects (2017)
	USD 300 million loan to 110 MW Muara Laboh geothermal project (2017)
AFD	USD 100 million credit line to PT SMI (2015)
JBIC	USD 490 million loan to 330 MW Sarulla geothermal project as well as political risk guarantee to private financiers (2018)
OPIC	USD 160 million loan to 72-MW Jeneponto Wind Farm (2017)

Source: (ADB, 2020^[15]); (AFD, 2020^[16]); (US International Development Finance Corporation, 2019^[17]) (JBIC, 2014^[18]); OECD, Credit Reporting System (database).

Between 2003 and 2017, development finance institutions financed about USD 3.9 billion in renewable energy projects with hydropower and geothermal projects accounting for the largest share of funding over this period (Figure 6.6). More recently, DFI's funding has shifted towards solar and wind projects that are only beginning to be established in the market, while commercial banks in Indonesia, thanks to efforts by the DFIs to build experience and market confidence, are more comfortable financing hydropower and geothermal projects.

Figure 6.6. Renewable energy financing by development finance institutions

Source: IRENA(2020^[20]), Renewable Energy Finance Flows (Database).

StatLink  <https://stat.link/yfobm1>

The allocation of development finance to government institutions and SOEs is the responsibility of Bappenas, who publishes an official list of eligible projects and recipient institutions in what is known as the bluebook. The bluebook covers priority projects (usually those covered by presidential mandates) for the next five years and is updated annually. Bluebook projects tend to be relatively large infrastructure projects highlighting a potential mismatch in the process for allocating development finance that favours large centralised projects over the more characteristically smaller decentralised energy efficiency and renewable energy projects.

DFIs, like many other finance institutions, have steered away from financing smaller projects due to high transaction costs and limited project due diligence capacity. This raises the question of whether these institutions, given these practical constraints, are not actually pushing commercial banks out of the market with more attractive financing rates. This in turn could hinder the development of a commercial finance

market for clean energy projects and create an unrealistic expectation on the appropriate cost of debt finance given the concessional nature of some of their funds. With DFIs in some cases fully funding or financing a large share of a project, it is difficult to evaluate whether they are helping to drive in private capital or actually holding it back. Discussions with financial institutions and international project developers alluded to potential competition between DFIs and private financial institutions in financing clean energy projects. More detailed project level and sectoral data for clean energy projects should be made publicly available to facilitate such analysis to help DFIs better target their funding allocations and recipient countries to set priorities¹¹. DFIs also play a key role in providing technical assistance for project developers and financial institutions and could assist in the development of clean energy finance and investment databases.

Blended finance and the SDG One Indonesia Fund

Indonesia has been an active contributor to the development of blended finance mechanisms that use development funds to help catalyse private finance through various de-risking instruments including first loss and partial risk guarantees, co-investments and subordination among others¹². The OECD defines blended finance as the strategic use of development finance for the mobilisation of additional finance towards sustainable development in developing countries, where additional finance refers to commercial finance that does not primarily target development outcomes in developing countries, while development finance is public and private finance that is being deployed with a development mandate (OECD, 2018_[19]) (Figure 6.7).

In 2018, Indonesia showed its support for the Tri Hita Karana Roadmap for Blended Finance¹³ that recognises that a common language and collective action is needed to deliver the financing needs to support the fulfilment of the SDGs. The development of blended finance mechanisms is led by OJK and the financial regulator has been active in collaborating with DFIs and commercial banks in creating appropriate structures and setting guidelines for the use of blended finance to meet the SDGs including for clean energy projects. The Coordinating Ministry of Maritime and Investment Affairs is the co-ordinator for the Blended Finance Programme in Indonesia.

In 2018, Indonesia launched the SDG One Indonesia Fund, which is a multi-donor blended finance platform with about USD 3 billion in funding commitments for supporting Indonesia's achievement of the SDGs. At the implementation level, PT SMI is responsible for managing the fund and working closely with development finance institutions in setting up a variety of financing facilities including those dedicated to supporting clean energy such as that of AFD. This dedicated USD 150 million loan facility will also include an additional grant component (EUR 5.6 million) for technical assistance to support project preparation (AFD, 2020_[16]). Other clean energy related facilities under the SDG One Indonesia fund have also been set up by KfW to support project preparation for renewable energy and ClimateWorks for feasibility studies for solar rooftop development. The KfW grant facility of EUR 16 million under the Support for Infrastructure Investments in Indonesia programme (S4I), funded by the EU allows PT SMI to assist municipal governments and renewable energy developers in project preparation and environmental and social safeguards.

Figure 6.7. Understanding blended finance mechanisms



Source: OECD 2018.

The SDG One Indonesia fund is designed to use strategic development finance to crowd in private capital. One notable example for renewable energy includes the use of a grant from AFD to set up a first loss mechanism covering a maximum of 15% of the loan value for a mini-hydro plant that helped to de-risk and encourage other commercial banks to fund the project. PT SMI is working with MEMR to support the development of renewable energy as well as energy efficiency projects with the support of this fund including for combined solar Photovoltaics (PV) and light-emitting diode (LED) street lighting, various renewable electricity power plants and to establish minimum energy performance standards for a variety of appliances. For these funds to have the largest benefits, focus should be on projects with good catalytic potential that can help create markets, in particular, where there is opportunity for replicability and standardisation to help prove market viability and demonstrate new business and financing models for renewable energy or energy efficiency technologies that have yet to be established. As reflected in the OECD blended finance principles, blended finance should be deployed with a view to exit concessional finance and exit public development finance overall (OECD, 2018^[19]).

Dedicated finance facilities and institutional innovation to promote clean energy

Indonesia has a variety of public finance options available to support climate finance through a number of different public institutions such as PT SMI, BPD LH and IIGF (Indonesia Infrastructure Guarantee Fund). Each of these institutions have different operational structures and mandates and could play an important role in helping to leverage private investments for clean energy. PT SMI and IIGF have already supported clean energy projects, while the BPD LH is still currently evaluating the possibility of financing clean energy projects.

In addition, as part of the Omnibus Law, Indonesia will establish a sovereign wealth fund as a new government investment body (known as Lembaga Pengelola Investasi or the Indonesia Investment Authority) to support investments in sustainable infrastructure and clean energy. The Indonesian government has already committed IDR 15 billion (USD 1 billion) as initial capital for the fund with another USD 4 billion to come from SOEs and is aiming for investments from foreign investors to reach USD 20 billion this year. Investors in the US, Japan, Canada, Denmark and the UAE have already reported investment interest (in the order of USD 10 billion) (Reuters, 2021^[20]) (Reuters, 2021^[21]). The fund which is expected to be operational later this year, will facilitate project development by managing the licensing process and co-investing in projects.

While Indonesia does not have a development bank, PT SMI could be considered as a quasi-development bank. It is the only national public finance institution with a mandate to support the finance of infrastructure projects and can do so via debt and equity finance and also provides capacity building and technical assistance. PT SMI also manages two funds relevant to clean energy: the Geothermal Resource Risk Mitigation fund and SDG Indonesia One. These have supported clean energy projects (though more frequently renewable energy development) through their de-risking and financing facilities. PT SMI plans to expand its financing of clean energy projects and the recently established SDG Indonesia One platform will be an important vehicle to meet this objective.

Renewable energy projects financed by PT SMI up to and through 2019 represented about IDR 3.2 trillion (about USD 224 million), consisting of IDR 2.12 trillion in mini-hydro and hydropower projects, IDR 735 billion in biomass, IDR 250 billion in geothermal and IDR 184 billion in wind projects. As an SOE, PT SMI is operated as a profit seeking entity with practical limitations on the scale and types of projects it finances, which generally are well above USD 20 million. As a result many smaller renewable energy and energy efficiency projects struggle to access PT SMI funding.

IIGF is another large public finance institution and specialises in providing guarantees for Public Private Partnership (PPP) projects in Indonesia. It provides guarantees to a range of infrastructure projects from toll roads and street lighting to coal fired power plants. Renewable energy is a priority sector for IIGF and a few renewable energy projects, mainly hydropower, were supported by IIGF guarantees. IIGF provides credit guarantees to SOEs; state guarantees as part of PPP arrangements; project preparation assistance; and also conducts policy advisory work (IIGF, 2020^[22]). On energy efficiency, IIGF has announced intentions to step-up efforts to promote energy efficiency projects and is in the process of setting up a guarantee instrument with the Asian Development Bank specifically targeting energy efficiency projects.

BPDLH, the SDG One Indonesia Fund managed by PT SMI, GCF and the Climate Investor One fund (supported by FMO, the Dutch development bank) are seen as important financing vehicles to channel international climate finance with a goal of attracting private investors. With limited state budget, the Government of Indonesia is looking into how these funds could be used strategically to mobilise private finance. The biggest challenge Indonesia faces is the development of a scalable pipeline of bankable clean energy projects with additional technical assistance needed to support project development.

A green finance facility can play an important role in overcoming barriers to raising commercial finance for clean energy projects by using public funds to crowd in private finance. The green finance facility (or green bank) model is designed to address market constraints in finance for climate investments. It uses concessional funding to blend public funds with private capital to build investor confidence and help lower financing costs for new technologies that offer climate mitigation or adaptation solutions. It typically establishes products for repeatable financing of a target market and its objective is to mobilise finance from domestic finance institutions.

Box 6.3. Green Finance Facility: Lessons from Australia, Mongolia and South Africa

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

Financial instruments used by countries include the provision of debt and equity finance, investing in green bonds, investment and creation of funds to co-deliver projects, concessional finance, on-lending facilities, credit enhancement via first loss or subordinated funding and tenor extension, reimbursable grants to help smaller project developers meet collateral requirements and green mortgages. The use of grants and concessional finance varied across countries but all focused on projects with high social and/or environmental impact or with significant demonstration capacity and replicability to develop scalable project pipelines. Tools to evaluate the environmental and social impact of projects are also an important element; in the case of South Africa's Climate Finance Facility, a high impact committee was established to help evaluate project impacts.

In the case of both Mongolia and South Africa, the GCF is playing an important role in capitalising the facility or institution as well as providing technical assistance in its development and could be a partner for a facility in Indonesia. Different capitalisation models were used, e.g. a completely public funded model (Australia); a mix of state budget and GCF (South Africa); and a mix of state budget, GCF and consortium of private banks (Mongolia). The decision to create a new institution or house a facility inside an existing institution depended on whether a suitable existing institution already exists with appropriate governance structure and operational mandate.

An important first step in setting up a facility is a comprehensive understanding of the market needs to better tailor the design of financial instruments to overcome market barriers. The involvement of the local finance sector in identifying market gaps (and propose tailored solutions) and the importance of transparency and clear operational mandates is critical. Independence from the government and political interference in the funds operation are seen as important elements.

Strong technical capacity of staff and experience in financing clean energy or climate solutions is considered another important prerequisite for success. The staffing of a dedicated green finance facility requires expertise in project evaluation as well as project development and ideally experience evaluating energy efficiency, renewable energy projects and other climate related sectors such as water and waste management, international collaboration to support training and capacity building.

Source: (Muhammed Sayed, 2020^[23]) (Sylvester, 2020^[24]) (Bold Magvan, 2020^[25])

A green finance facility should focus funding towards commercial or near commercial projects that have a strong demonstration impact or potential for replicability to help build investor confidence and develop knowledge and expertise among local financiers. Finance should focus on additionally and pull in commercial finance which would otherwise not have funded a project. Operational independence from the government can protect against political uncertainty that often comes with changes in government. Such

independence can be achieved through the legal frameworks set up in the creation of the facility or institution. Through a programmatic approach such a facility could also help address capacity gaps (lack of clean energy expertise) within the financial sector, including for financial structuring that could also be supported with risk mitigation measures.

To help prove concepts and demonstrate viability of projects, such a facility could start with easy wins in more mature sectors, for example solar and wind projects that are already competitive in many countries but lack sufficient experience in Indonesia. Where grants or concessional funding is used, such projects should have significant social impacts, and benefits of low interest rates should be passed on directly to the project developer. Once a sector has reached maturity, the facility should phase out financing such projects and shift funding towards other promising sectors that are not able to access commercial funding. Given the number of different dedicated facilities for financing clean energy projects in Indonesia, a detailed assessment of market needs should be undertaken to ensure that any new facility is well targeted and designed. Financing challenges linked to regulatory or policy barriers cannot be overcome by such a facility and should not be used in such situations.

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[27]

Notes

¹ Institutional investors are usually synonymous with “intermediary investors”, that is to say, an institution that manages and invests other people’s money. The term institutional investor can be used to describe insurance companies, investment funds, pension funds, public pension reserve funds (social security systems), foundations and endowments among others.

² This does not include private placements, which are smaller than public offerings.

³ <https://www.idnfinancials.com/archive/news/29984/Financial-inclusion-index-target-has-been-reached>.

⁴ Based on an OJK survey in 2019 of action plans from the 8 first mover banks.

⁵ A focused group discussion on Corporate Sourcing of Renewables was held on 13 October.

⁶ <https://www.ojk.go.id/id/Documents/Pages/Keuangan-Berkelanjutan/buku-energi-bersih.pdf>.

⁷ <https://www.ojk.go.id/id/Documents/Pages/Keuangan-Berkelanjutan/Green%20Lending%20Model%20Final.pdf>.

⁸ <https://www.ojk.go.id/id/Documents/Pages/Keuangan-Berkelanjutan/Pedoman%20Pembiayaan%20Isi.pdf>.

⁹ Nomenclature des Activités Economiques dans la Communauté Européenne (NACE) is a European industry standard classification system which feeds into several EC economic and statistical systems, e.g. at Eurostat level.

¹⁰ <https://www.djppr.kemenkeu.go.id/page/loadViewer?idViewer=9468&action=download>.

¹¹ The OECD CEFIM programme is currently developing a clean energy finance and investment database to better understand the current state of clean energy finance, identify good practices and highlight where potential funding gaps exist at the regional or technology level.

¹² [OECD Progress update on Approaches to Mobilising Institutional investment for Sustainable Infrastructure](#).

¹³ Further details on the Tri Hita Karana Blended Finance Roadmap are available at <https://www.oecd.org/dac/financing-sustainable-development/development-finance-topics/tri-hita-karana-roadmap-for-blended-finance.htm>.



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