



FILLING THE MISSING MIDDLE FINANCING GAP

Innovative financing for small and growing
climate-smart enterprises in Indonesia

Scoping Paper | Indonesia, 2020

SEED Practitioner Labs Climate Finance



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List of Abbreviations

ADB	Asian Development Bank
AFD	French development bank
BCA	Bank Central Asia
CIF	Climate Investment Funds
COP	Conference of Parties
CPI	Climate Policy Initiative
DFI	Development Finance Institutions
FI	Financial Institutions
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	Greenhouse gases
IFC	International Finance Corporation
IFLab	Innovative Finance Lab
IKI	International Climate Initiative
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
KfW	German Development Bank
MFIs	Microfinance Institutions
NDC	Nationally Determined Contributions
OECD	The Organisation for Economic Co-operation and Development
OJK	Otoritas Jasa Keuangan (Financial Services Authority)
OPIC	Overseas Private Investment Corporation
PFAN	Private Financing Advisory Network
PT SMI	PT Sarana Multi Infrastruktur (Persero)
P2P	Peer-to-peer
RAN-API	National Action Plan on Climate Change Adaptation
RAN-GRK	National Action Plan on GHG Emission Reduction
REDD+	Reducing Emissions from Deforestation and forest Degradation

SDGs	Sustainable Development Goals
SMEs	Small and medium-sized enterprises
TLFF	Tropical Landscapes Finance Facility
UNDP	United Nations Development Programme

Executive Summary

Indonesia's richness in biodiversity and vibrant landscape of small- and medium-sized enterprises (SMEs) present a significant opportunity for the country to meet its development objectives while reducing its climate impacts and improving climate resilience across sectors. In particular, *climate-smart SMEs* – offering products and services for climate change adaptation and/or mitigation – are well positioned to absorb and scale the environmental, social and economic impacts of global climate finance flows in line with Indonesia's climate action objectives.

Climate action in Indonesia

In accordance with Paris Agreement commitments, the Indonesian government released both a **National Action Plan on Greenhouse Gas (GHG) Emission Reduction (RAN-GRK)** and **National Action Plan on Climate Change Adaptation (RAN-API)** to guide climate adaptation and mitigation activities.

Indonesia's **National Long-Term Development Plan (2005-2025)** estimates that in order to meet GHG emissions reduction targets, USD 9 billion from government funds plus an additional USD 18 – 69 billion (depending on the reference source) from further funding sources is required (ADB 2017). Currently, available international *climate finance* – financial contributions from Paris Agreement commitments, flowing primarily from developed to emerging markets – in Indonesia has to a large extent not yet been disbursed due to bottlenecks in finance linkages and lack of solid pipelines for bankable projects (IFC 2019; ADB 2017).

Given both the shortfall in available capital and limited pipelines for bankable projects, solutions are required that engage the public sector and build a role for the private sector, while acknowledging the importance of (a) *SMEs for climate action* and of (b) *financial institutions and investors* in leveraging

climate finance flows to achieve climate impacts at scale.

Financing a low-carbon, climate-resilient Indonesian economy

Private and public sector actors have already made significant progress in developing policies, frameworks and financing instruments to drive Indonesia's transition to a low-carbon, climate-resilient economy.

For example, the Indonesian **public sector** is leading the way in green-climate financing¹ through, among other initiatives:

- Development of **Roadmap for Sustainable Finance in Indonesia 2015-2019** (OJK 2015), which was further articulated to financial institutions within the **Technical Guidelines for Banks on the Implementation of OJK Regulation about Sustainable Finance** (OJK 2018).
- Involvement of various government ministries and agencies in the delivery of climate finance through multiple funds, including the **Global Environment Facility (GEF)**, **Special Climate Change Fund (SCCF)**, **Indonesia Climate Change Trust Fund (ICCTF)**, **Global Climate Fund (GCF)**, **International Climate Initiative (IKI)**, and **Environment Fund (BPDLH)**.
- Initiation of the government's first **green sovereign sukuk** (green bond) to fund sharia compliant and environmentally-friendly projects, followed by a national **infrastructure development fund (PT SMI) launching its first green bonds** for climate-smart project financing.

Furthermore, the **private sector** has actively supported financing for climate impacts with various infrastructure and clean energy project financing through commercial financial institutions and private equity funds; green and corporate bonds

climate finance has been adopted here to not overlook progress made in the Indonesian ecosystem with sustainable banking and green finance more generally.

¹ Green-climate finance refers to both climate finance commitments to climate change adaptation and mitigation as well as financing for broader environmental sustainability commitments. Considering the advanced status of green finance within Indonesia, this broader definition of green-

offered by commercial lenders, including for women-owned SMEs; and more. The private sector has also been actively financing SMEs across sectors (typically regardless of climate impacts) through microfinance institutions, peer-to-peer lending platforms, angel and impact investment and others.

Leveraging climate finance for climate-smart SMEs

Despite these milestones in opening up capital for environmentally sustainable and climate-resilient endeavours, challenges persist with increasing financial flows to market-driven climate-smart solutions in the private sector. This shortfall in available capital and tailored financial products is especially true for SMEs, which are the backbone of the Indonesian economy and key in ensuring that climate action reach populations most impacted by climate change – such as youth, women and rural communities.

Well-designed *climate finance solutions* that reduce investors' risks, enhance their expected returns or bridge existing infrastructure gaps can help to catalyse investments in climate-smart SMEs and alleviate socio-economic gaps as part of Indonesia's climate action and sustainable development agendas. Critical factors for extending climate finance for SMEs to grow include:

(a) Improving the buy-in and institutional capacities of financial institutions and investors to absorb and disburse capital through tailored SME financing products; and

(b) Building the business development and financial management capacities of climate-smart SMEs to better access and allocate funds while scaling climate impacts across their value chains.

Multi-stakeholder collaboration is key to addressing and developing tailored solutions that overcome challenges faced by both (climate-smart) SMEs and financial institutions and investors.

Developing climate finance solutions

The purpose of the multi-step SEED Practitioner Labs Climate Finance – successfully implemented in India, Thailand, Uganda, Ghana and South Africa since 2018 – is to facilitate a hands-on process that **results in targeted climate finance solutions, which finance the growth of SMEs** that are actively delivering climate change adaptation and mitigation solutions across their value chains.

Based on the major climate-smart SME financing and climate finance challenges in Indonesia, key partners engaged during the 2020 SEED Practitioner Labs cycle in Indonesia aim to:

- **Leverage blockchain to generate and meet consumer-demand for ecosystem services markets** (hosted by Lestari Capital)
- **Stimulate markets for carbon offsets and certification via P2P SME lending platform** (hosted by Mekar)
- **Build green-climate finance strategies and mobilise climate finance flows for commercial lending** (hosted by PUPUK)
- **Finance small island coastal communities' renewable energy transition** (hosted by UNDP)

In identifying opportunities for innovation, this scoping paper will **(1)** set the scene for climate action in Indonesia; **(2)** identify the role of climate-smart SMEs for achieving climate change mitigation and adaptation objectives as well as outline the major financing challenges hindering these enterprises from achieving impacts at scale; and, **(3)** review the status of green-climate finance and SME finance, and the role of various private and public sector actors in delivering tailored financial solutions to Indonesia's most pressing climate challenges. The scoping paper will close with **(4)** a brief introduction to the major challenges (and opportunities) to developing *climate finance solutions for SMEs* during the SEED Practitioner Labs Climate Finance process in Indonesia in 2020.



CHAPTER 1

From Global
Challenge to National
Commitments

1

1.1. Global climate action

The international agenda is set. At the Paris climate conference (COP21) in December 2015, 195 countries adopted the first-ever universal, legally binding international climate deal. The agreement sets out a global action plan to put the world on track to respond to climate change by limiting global warming to below 2°C. The Paris Agreement aims to build a bridge between today's policies and climate-neutrality before the end of this century. Governmental regulations and commitments on the global as well as domestic level are key elements to set the rules of the game to achieve this. However, steering global climate action is not only a policy-maker's remit. Importantly, the private sector plays a central role in reshaping economic value creation and the role of business in driving climate-resilient, low carbon economies. In order to drive this transition, financing is needed to infuse the capital required for climate-smart investments that enable nations and communities to adapt to and mitigate the impacts of climate change.

Climate finance has been dedicated through multilateral agreements to extend capital and de-risk investments in climate-smart technologies and projects for climate mitigation and adaptation. Available climate finance, such as through the Green Climate Fund (GCF), Global Environment Facility (GEF) and other multilateral and bilateral initiatives, offer developing countries and emerging economies opportunities to pursue low-carbon and climate-resilient development avenues (UNFCCC 2018). At the same time, the many and varied funding streams constitute a considerable challenge for national financial systems and do not necessarily match local needs. Climate finance flows are yet to build an extensive base of practical applications for climate finance instruments facilitated through local institutions.

A critical factor for the delivery of effective and innovative climate finance instruments is the engagement of local financial institutions and investors. The engagement of both public and private finance and implementing partners ensures

that projects and private sector entities (such as SMEs) that are best positioned to scale climate action impacts are the beneficiaries of financial flows.

1.2. Climate action in Indonesia

1.2.1. Indonesia's climate challenges

Indonesia is home to the third richest species diversity globally. It is the largest archipelagic country with the third-largest area of tropical forests globally. A quarter of the Indonesian population depends directly on the forests for their livelihoods (WRI 2020). Indonesia also houses half of the global tropical peatlands that store more carbon compared to other ecosystems, giving Indonesia a high carbon stock value. The country contains 76% of the world's coral species and the highest coral reef fish diversity in the world (UNFCCC 2016).

Indonesia's GDP has steadily risen to USD 1.04 billion in 2018 with a growing middle class and a large youth population. This growth trajectory provides a solid basis for boosting economic growth under the priority actions within the National Nawa Cita (Nine Priority Agendas) framework. However, securing a future for economic development also means that the economy has to drastically shift from reliance on fossil fuel-based development to green sources of energy to sustain the nation's development (ACMFN 2019; UNFCCC 2016).

Despite the tremendous opportunities the country's natural resources offer, as an archipelago with many low-lying areas, Indonesia is vulnerable to climate change effects of rising sea levels. The country is already experiencing natural disasters such as floods and droughts with increasing regularity. Pressures of rising population and urbanisation exacerbate this.

Indonesia has the fourth largest population in the world with 264 million people and is the world's fifth largest greenhouse gases emitter that emits 1.82 tonnes per capita, mainly due to deforestation and conversions of carbon-rich peatlands (World Bank 2020; WRI 2020). The Indonesian environment faces multiple pressures from urbanisation, natural

resource demands from the growing middle class², unsustainable land management, and pollution control in both degraded rural forest areas and urban manufacturing areas in particular (ACMFN 2019).

In light of demographic and economic trends as well as Indonesia's richness in natural resources,

mitigating and adapting to climate change issues while creating sustainable livelihoods and protecting Indonesia's immense biodiversity is of high importance (OECD 2019). The Indonesian government regards the comprehensive implementation of climate change mitigation and adaptation efforts as crucial for a resilient socio-ecological system (UNFCCC 2016).

Figure 1: Country Zoom – Indonesia



Source: SEED 2020.

1.2.2. Climate change mitigation in Indonesia

Various efforts have been made in Indonesia to respond to the threats of climate change and align development priorities with an environmentally sustainable economy. In 2011, GHG reduction commitments were published in Indonesia's **National Action Plan on GHG Emission Reduction (RAN-GRK)**. The Indonesia's **Intended Nationally Determined Contributions (INDC)**, published in 2015 in accordance with Paris Agreement commitments

(UNFCCC 2015), shared the Government of Indonesia's (GOI) priorities:

- Achievement of **greenhouse gas (GHG) emissions reduction** target of 29% by 2030, in particular through instituting a moratorium on clearing primary forests and prohibiting forest land conversion;

² Currently, there are 45 million Indonesians categorized as middle (consuming) class; by 2030, the number will be 135 million.

- Expansion of **REDD+ mechanism to reduce emissions** from peat decomposition and forest degradation;
- Implementation of the **National Energy Policy** to diversify energy sources and put Indonesia on the path to de-carbonization with renewable energy targets set at 23% of energy consumption while minimising oil usage to less than 25% of the overall energy usage by 2025.

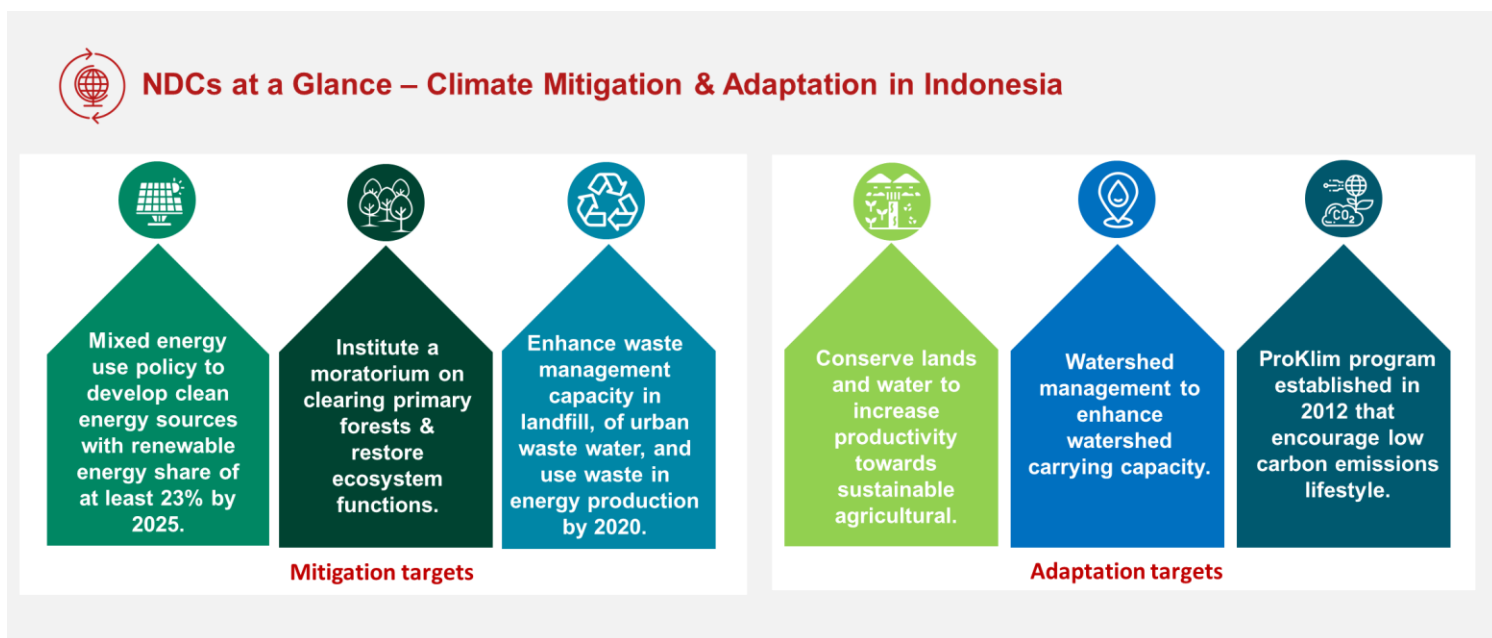
Similarly, the **National Medium-Term Development Plan** (2020-2024) and **National Long-Term Development Plan** (2005-2025) include a vision for a low carbon and climate change-resilient development path for Indonesia (UNFCCC 2016).

1.2.3. Climate change adaptation in Indonesia

In terms of climate change adaptation to respond to the vulnerabilities posed by increased frequency of natural disasters and demographic changes, the GOI has made significant efforts by developing and

implementing a **National Action Plan on Climate Change Adaptation** (RAN-API), which provides a framework for adaptation initiatives and has been mainstreamed into the national development plans (UNFCCC 2016). The plan of action includes mapping regional vulnerabilities, strengthening institutional capacity and implementing climate change sensitive regulations in addition to knowledge and capacity building around innovative adaptation technology (UNFCCC 2016). The plan adopts a landscape approach that includes multi-sectoral collaboration for climate change mitigation and adaptation efforts. In addition, the plan prioritises scaling-up best practices of innovative climate change mitigation and adaptation efforts by the government, private sector, and communities (UNFCCC 2016).

Figure 2: NDCs at a Glance – Climate Mitigation & Adaptation in Indonesia



Source: SEED 2020.



CHAPTER 2

The Local Response:
Climate-Smart
Enterprises

2

2. The Local Response: Climate-Smart Enterprises

In the light of the major climate change challenges across Indonesia, contextually relevant solutions are required. Climate-smart small- and medium-enterprises (*climate-smart SMEs*) offer bottom-up climate change adaptation and mitigation solutions with their innovative business models. While momentum is building by SMEs across Indonesia to offer solutions to the climate emergency, the full potential of these enterprises is yet to be fully realised.

2.1. Role of SMEs in climate action

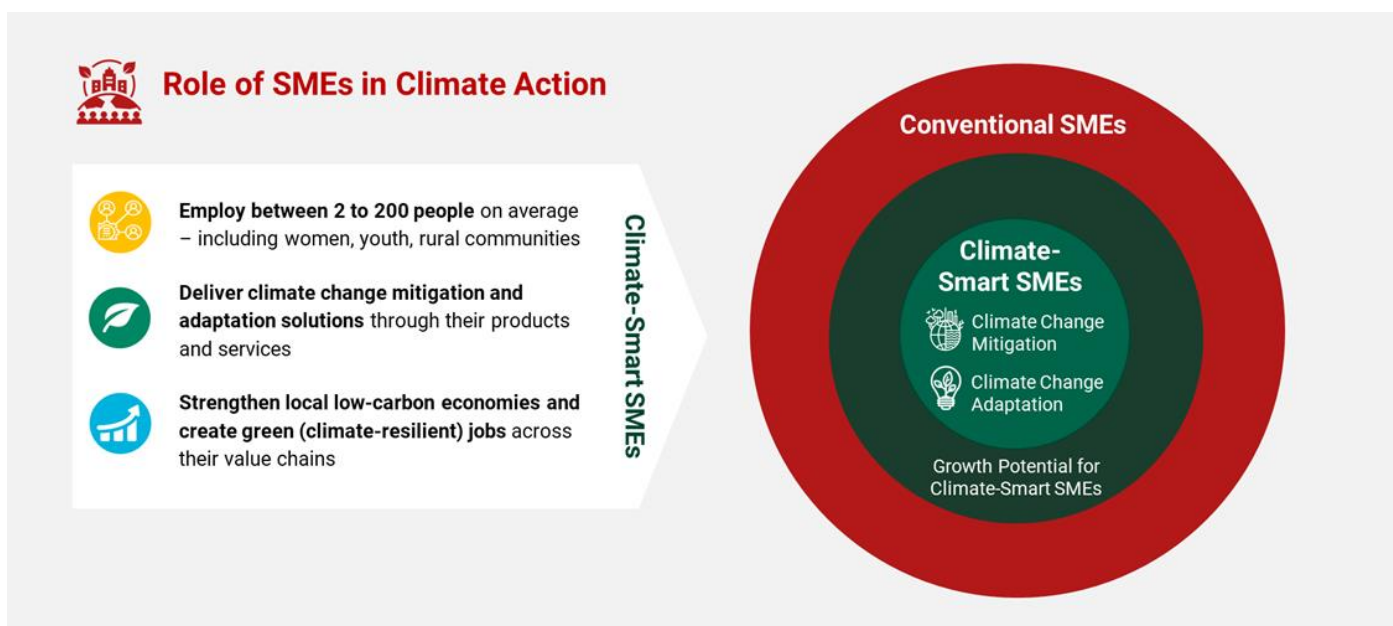
In developing and emerging economies in particular, SMEs are major contributors to poverty reduction and social cohesion, engage the base of the pyramid in their delivery of products and services, and support the integration of marginalised or socially disadvantaged groups, including women and youth, in economic activities (IIED 2016; WBG 2017). Evidence also points to the role of SMEs in achieving Sustainable Development Goals (SDGs) for socially inclusive and environmentally responsible development (ITC 2019).

Considering the central role that SMEs play in economies, the impacts and role of SMEs in addressing climate change must feature in climate action agendas and approaches at the international, national and local levels. Given the localised nature of climate change impacts and vulnerabilities, SMEs are well positioned to drive climate change adaptation and resilience building starting from the base of the pyramid (adelphi 2019). As indicated in **Figure 3**, SMEs represent both a

(a) Significant consumer base (denoted in the figure as the *growth potential for climate-smart SMEs' markets*) for the uptake of green or climate-smart products and services as major employment and GDP contributors – referring to SMEs' potential for sustainable consumption and production (SCP); and,

(b) Source of market-driven innovation (indicated in the figure with *climate-smart SMEs*) in the design and distribution of context-relevant climate solutions.

Figure 3: Role of SMEs in Climate Action Globally



Source: SEED 2020.

Climate-smart SMEs mark a break with “business-as-usual” by developing products, services and employment opportunities in alignment with Paris Agreement commitments to climate action and in support of Sustainable Development Goals’ (SDGs) achievement.

2.2. Climate-Smart SMEs in Indonesia

Indonesia is the world’s 16th largest economy in the world (UNDP 2020) and Southeast Asia’s largest economy (World Bank 2020). In line with global trends, SMEs are significant contributors to the Indonesian economy. An Asian Development Bank Institute (ADBI) study from 2009 to 2013 showed that in Indonesia there were 50 million micro-, small-, and medium-sized enterprises (MSMEs), with MSMEs providing for 97.0% of employment and 60.3% of GDP contributions, when also accounting for all unregistered MSMEs (ADBI 2019).

The Ministry of Co-Operatives and SMEs (National Law 20/2008) in Indonesia define MSMEs based on assets and revenues while the Central Bureau of Statistics define MSMEs based on employee numbers, as indicated in **Table 1**.

Table 1: Definition of (M)SMEs in Indonesia

Enterprise Size	Value of Assets (in IDR)	# of Employees	# of Enterprises
Micro	Less than 50 million OR Sales less than 300 million	1-4	58 mio
Small	50-500 million OR Sales 300 million – 2.5 billion	5-19	680,000
Medium	500 million-10 billion OR Sales 2.5 – 50 billion	20-99	59,000

Sources: Law No. 20 of 2008 and Central Bureau of Statistics MSMEs definition based on employee numbers (OECD 2016; OECD 2018).

Despite a lack of comprehensive data on the market share and activities of specifically “climate-smart” SMEs in Indonesia, there are numerous examples of SMEs offering climate change mitigation and adaptation solutions through their business models in Indonesia and across Southeast Asia.

This is evidenced through SEED’s work from nearly two decades of promoting entrepreneurship for sustainable development globally. SEED has supported climate-smart enterprises in diverse sectors, ranging from SMEs offering last mile distribution of clean energy solutions to climate-resilient agribusinesses and conservation-focused enterprises. Supported by the German Federal Ministry of Environment, Nature Conservation and Nuclear Safety (BMU) through the International Climate Initiative (IKI), 2019 SEED Low Carbon Award Winners **Mycotech** (West Java province, Indonesia) and **Fang Thai** (Lampang province, Thailand) exemplify climate-smart SMEs that are responding to the climate change adaptation and mitigation needs of their value chains in Southeast Asia. Their enterprise journeys are outlined in the **Enterprise Spotlight – Innovation Pathways** overview on the following page.



Climate-Smart Enterprise Spotlight – Innovation Pathways

Mycotech produces animal leather substitute from mycelium-based composite grown from fibrous agricultural waste such as sawdust, sugarcane, and palm oil production by-products. The enterprise's eco-friendly leather is used for fashion goods as well as furniture and wallboards in households.

Bandung, Indonesia

SEED Low Carbon Award Winner 2019



Climate Impact

Produces mycelium-based leather products that are **1,7000 less water-intensive** and **save 350,000 kg of carbon dioxide** through production alone (when compared with animal-based leather products)



Social Impact

Employs 270 farmers (64% women), located close to enterprise's workshop to reduce transport costs and carbon footprint



Lampang, Thailand

SEED Low Carbon Award Winner 2019

Fang Thai produces biodegradable paper from rice straw for food packaging products and handicrafts without using chlorine-based bleaches in the production. The enterprise converts rice waste by-products into high-quality food grade packaging products that are reasonably priced.



Climate Impact

Prevents rice straw burning in open rice pits, a main contributor to Thailand's GHG emissions; **Reduces packaging waste** leaching into the land and oceans; **Supports farmers to adapt to climate change** by providing jobs in upcycling waste rice straws



Social Impact

Employs rural rice farmers to engage in sustainable industries after the rice harvest season

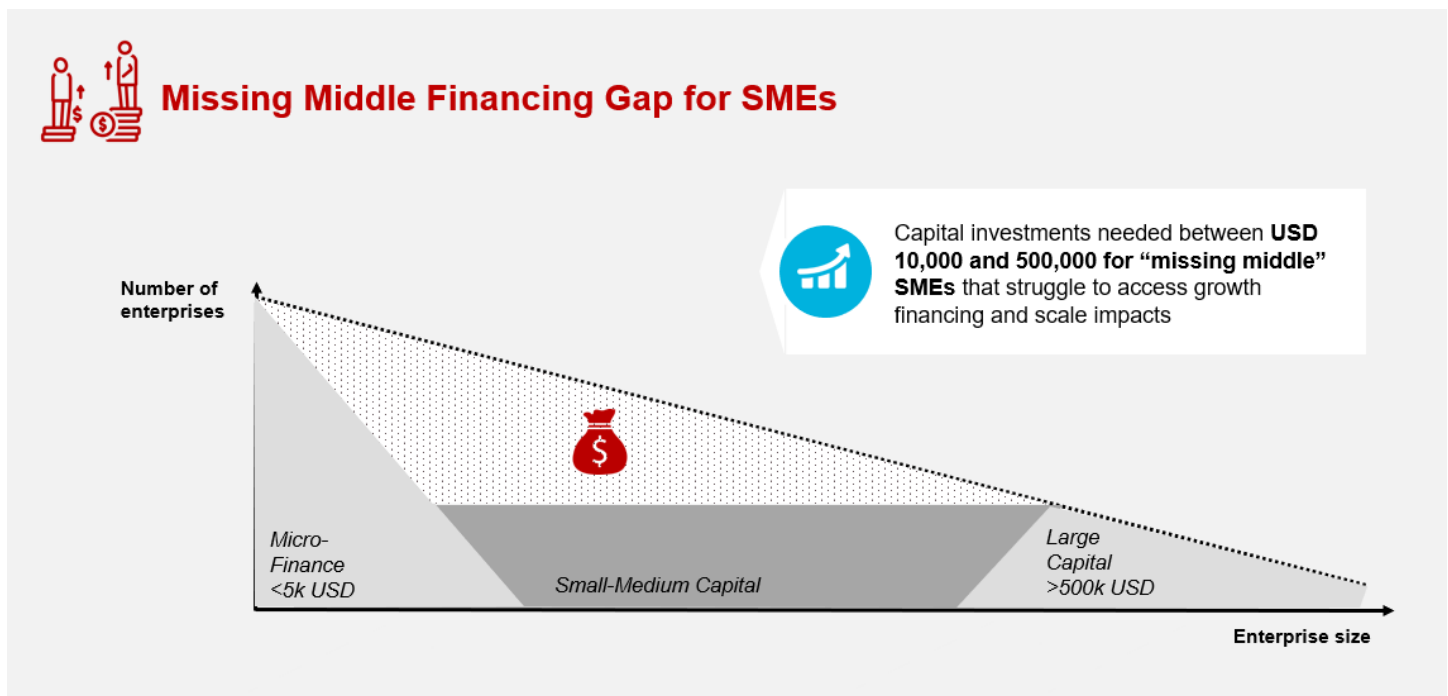
2.3. The 'missing middle' (climate-smart) SME financing gap

Despite their importance for socio-economic development, SMEs often face shortages in available capital and financial capacity building after the initial growth stage. SMEs are largely underserved by financial institutions, instead relying heavily on private funds or grants/donations and struggling to access the scale of funding they require to sustain and expand their activities. This contributes to a 'missing middle' of established and growing SMEs that are well positioned to make significant contributions to development (UNCTAD 2001; OECD 2004/2005; ADBI 2016; CFF 2018; IFC 2017). This financing gap is estimated to affect between 50-70% of formal SMEs in emerging economies (WBG 2017). Other estimates indicate that less than 1% of finance from global asset managers is currently being invested in SMES in developing countries (ITC 2019). Around USD 1 trillion, widening to USD 2.6 trillion if informal SMEs

are considered, is required to meet this gap (WBG 2017).

Figure 4 illustrates this 'missing middle' SME financing gap where available SME financing tends to be dominated by smaller ticket sizes, shorter repayment periods and a lack of diversity of financing models. Furthermore, larger-scale capital tends to be reserved for a small sub-set of high growth potential 'unicorn' SMEs. This hinders the capacity of SMEs to realise their contributions to economies and achieve impact at scale. Despite varying definitions, the capital typically needed to address this 'missing middle' financing gap is for investments of between USD 10,000 – 500,000. In order to fill this gap, there is a strong role to be played by various financial institutions and investors, many of which will be referenced in the course of this scoping paper.

Figure 4: Missing Middle Financing Gap for SMEs



Sources: SEED 2020 adapted from Ashoka Changemakers.

2.4. Financing Challenges for (Climate-Smart) SMEs in Indonesia

This ‘missing middle’ financing gap is well evidenced with SMEs across emerging markets and developing countries, while climate-smart SMEs tend to experience similar and additional barriers to

Access to finance is consistently regarded as the main constraint for Indonesian SMEs in doing business. According to the World Bank’s Enterprise Survey report for Indonesia, only 18% of SMEs access bank loans or formal credit lines (World Bank 2010). Most SMEs across Asia continue to rely on informal capital sources such as retained earnings and family loans over external financing for investments (ADB 2019). 70% of all SMEs do not have access to bank financing (ADB 2019), while the majority rely on their personal networks or informal financial support (Machmud and Huda 2011). Many Indonesians with a small business, without a bank account or collateral, resort to borrowing from informal lenders or loan sharks who will charge 15% interest or more.

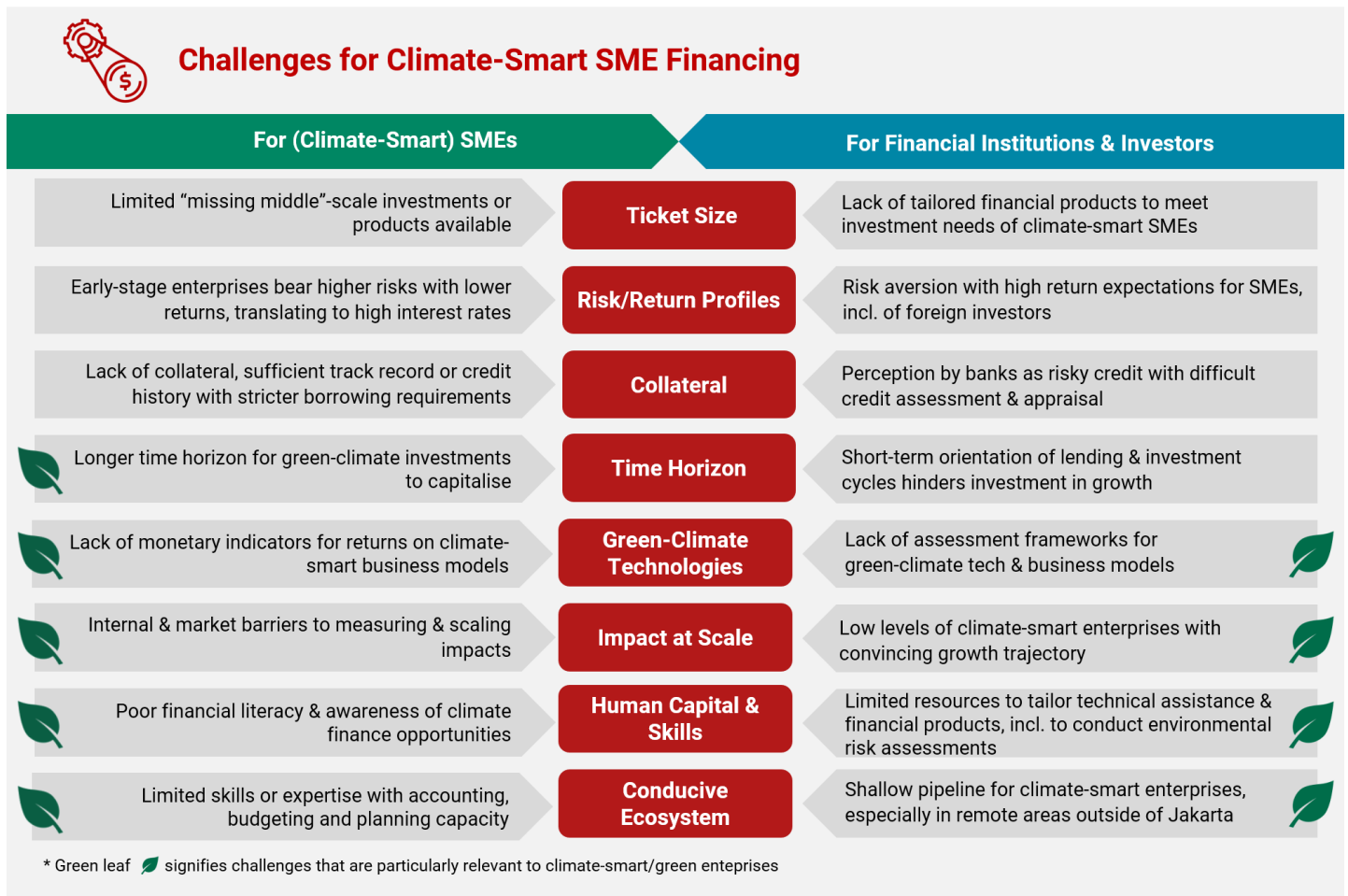
Figure 5 summarises central financing challenges specifically facing both **(a) financial institutions and investors** and **(b) climate-smart SMEs** in

accessing financing. This is due in part to the added lack of familiarity of financial institutions and investors with green-climate business models and growth trajectories.

overcoming the missing middle financing gap in Indonesia. This figure offers a typology of common challenges facing both SMEs and financial institutions and investors in product design and delivery for climate-smart business models. SMEs across sectors and business activities face barriers due to their desired level of financing, availability of financial data, investment projections and more. Additionally, SMEs tend to lack the knowledge and awareness of financing opportunities plus the skills and resources to access and manage available financing. Similarly, financial institutions and investors struggle to understand and respond to the financing needs of SMEs with tailored financial products.

The challenges that are particularly pronounced for “climate-smart” business models – in comparison with SMEs more generally – are indicated in **Figure 5** with a leaf.

Figure 5: Challenges for Climate-Smart SME Financing in Indonesia



Sources: based on adelphi/SEED categorisation of challenges for climate SME financing with Sanders 2019; ADBI 2019; ACMFN 2019; UNESCAP and iBAN 2018; Burger et al. 2015; Sitorus et al. 2018; UNEP et al. 2015.

Many of these challenges have been identified by SEED-supported enterprises in the region as they look for financing sources in order to scale their activities. The financing journeys of **Mycotech** (Indonesia, SEED Low Carbon Award Winner 2019) and **Fang Thai** (Thailand, SEED Low Carbon Award Winner 2019) are exemplary of the sometimes

turbulent and various paths that climate-smart SMEs might follow in establishing and expanding their businesses. These financing journeys are outlined in the **Climate-Smart Enterprise Spotlight – Financing Journeys** overviews on the following pages.

Climate-Smart Enterprise Spotlight – Financing Journeys

Fang Thai faced access to finance issues as a rural entrepreneur without business development experience during their incubation stage. As a climate-smart enterprise they struggled to find initial external start-up funds as bank loans due to the need for collateral and disinterest in SMEs with social and environmental impacts.

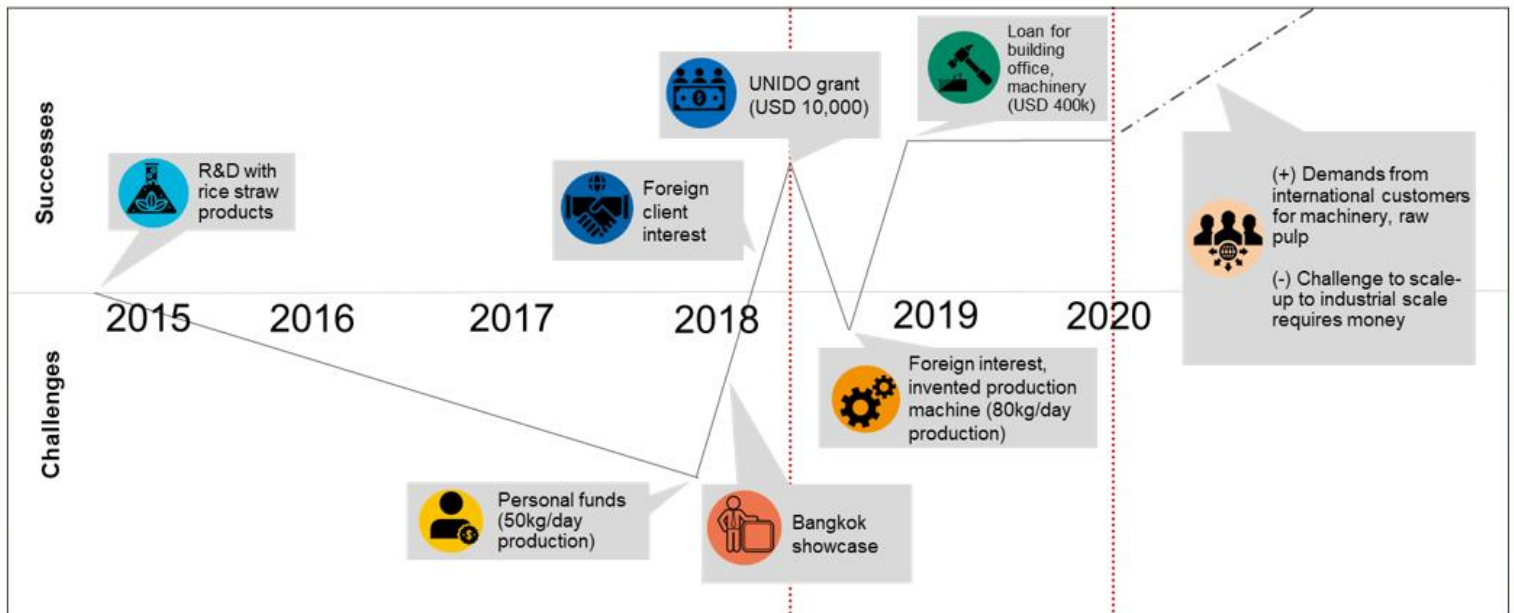
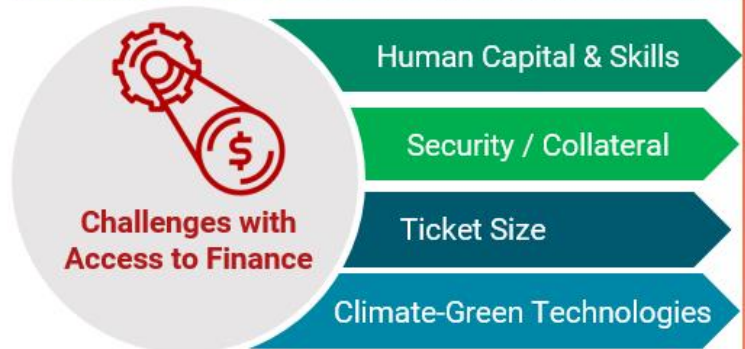
The enterprise relied on its own personal savings initially and the hope that the fund would surface in time for their customer base to grow. Fang Thai has noted that there were no systems in place to formally access information on ways to apply for external finance for their enterprise in the context of rural Thailand.

Their access to funding from United Nations Industrial Development Organization (UNIDO) was by chance, secured after participating in an SME exhibition, illustrating a lack of deal flow pipeline between impact investors and climate-smart enterprises.

After Fang Thai secured their start-up funding from UNIDO, they did not find financial support from Thai banks to match the required amount for their operations' scale-up to match their international market demand.

Lampang, Thailand

SEED Low Carbon Award Winner 2019



Climate-Smart Enterprise Spotlight – Financing Journeys

Bandung, Indonesia

SEED Low Carbon Award Winner 2019



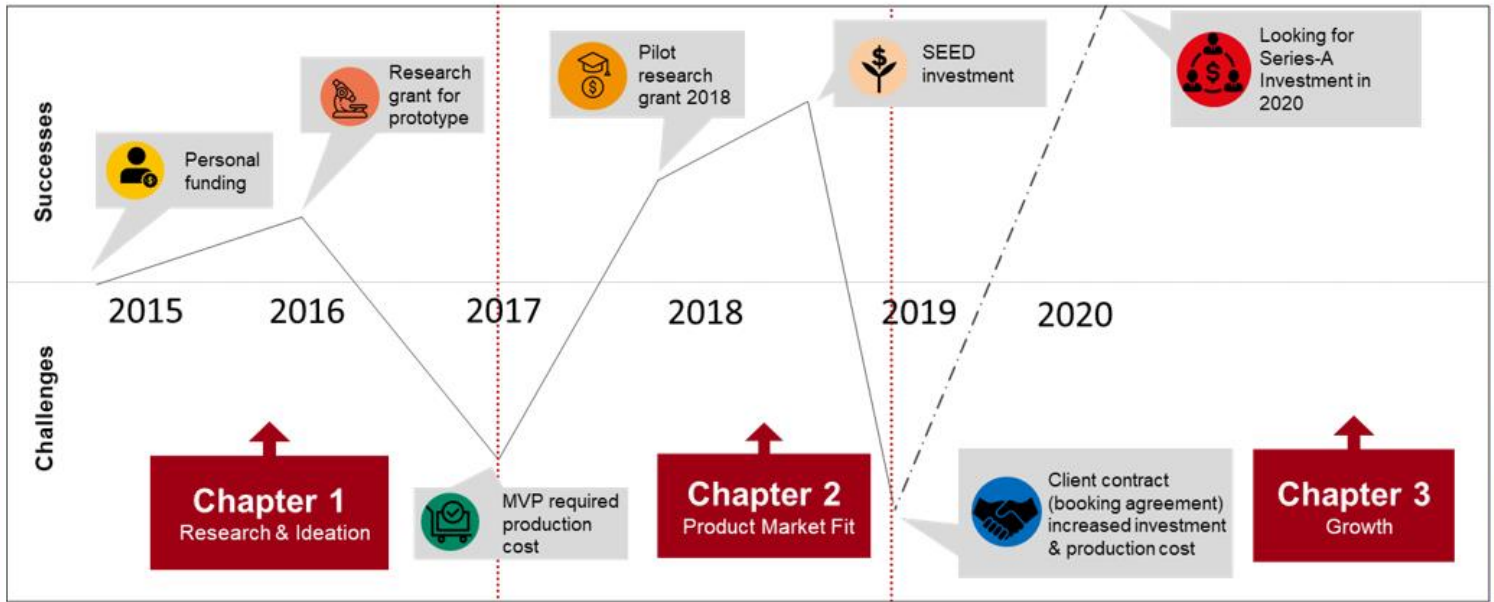
Mycotech has faced many challenges in accessing finance that is the right size for their growth to meet their SME’s objectives. Accessing finance in their early stages was a challenge for Mycotech as they worked to translate their business ideas into minimum viable products (MVPs) from 2012 to 2015, during which time they relied on personal funding.

They secured their first research grant in 2016 for their product prototyping and invested that grant into creating their MVPs. Another access to finance issue that they faced was in their expansion phase as they increased their contract agreements with global brands and sought additional funding for research and development to match the demand for their products.

Mycotech found it particularly difficult to match with impact investors due to a mismatch in ticket size needs and expectations. Whereas the SME was looking to receive investments between USD 300,00 to 500,000, most investors that they encountered preferred investing in larger businesses (USD 5 million and above).

- Security / Collateral
- Ticket Size
- Climate-Green Technologies

Challenges with Access to Finance



Tailored financing and capacity building solutions that involve the active role of financial institutions and investors are required to extend capital to climate-smart SMEs in order to fully realise the contributions of these businesses to socially inclusive climate action at scale. Challenges with commercial lending and financial risk aversion translates into a lack of tailored financial products and capacity building support to scale the contributions of climate-smart SMEs to inclusive, green economic growth.

Solutions are required that improve the inclusion of SMEs in formal financial systems and deliver tailored capacity building and financing to missing middle climate-smart SMEs. In developing these solutions, the barriers indicated in **Figure 5** for climate-smart enterprises in Indonesia must be addressed. Solutions should also respond to larger trends and **challenges with SME business development and financial capacity building support in Indonesia**, including:

- **Geography of SME support:** Enterprise support and financial services are heavily concentrated in Jakarta and Bandung, disadvantaging SMEs operating in other parts of the country (Sanders 2019; ACMFN 2019).
- **Trends in digitalisation:** Despite the opportunities offered by growing trends in digital solutions within the SME sector, it remains difficult for the majority of SMEs to access these skills and technologies across Indonesia (Google, Temasek, and Bain & Company 2019; ADBI 2019).
- **Tailored business development services:** The current landscape of business development support, offered through incubators, accelerators and other BDS advisors, tends to overlook the specific needs of and tailor support to climate-smart business models (SEED 2020).

CHAPTER 3

Future of Climate Action
Financing in Indonesia:
Climate Finance for SMEs

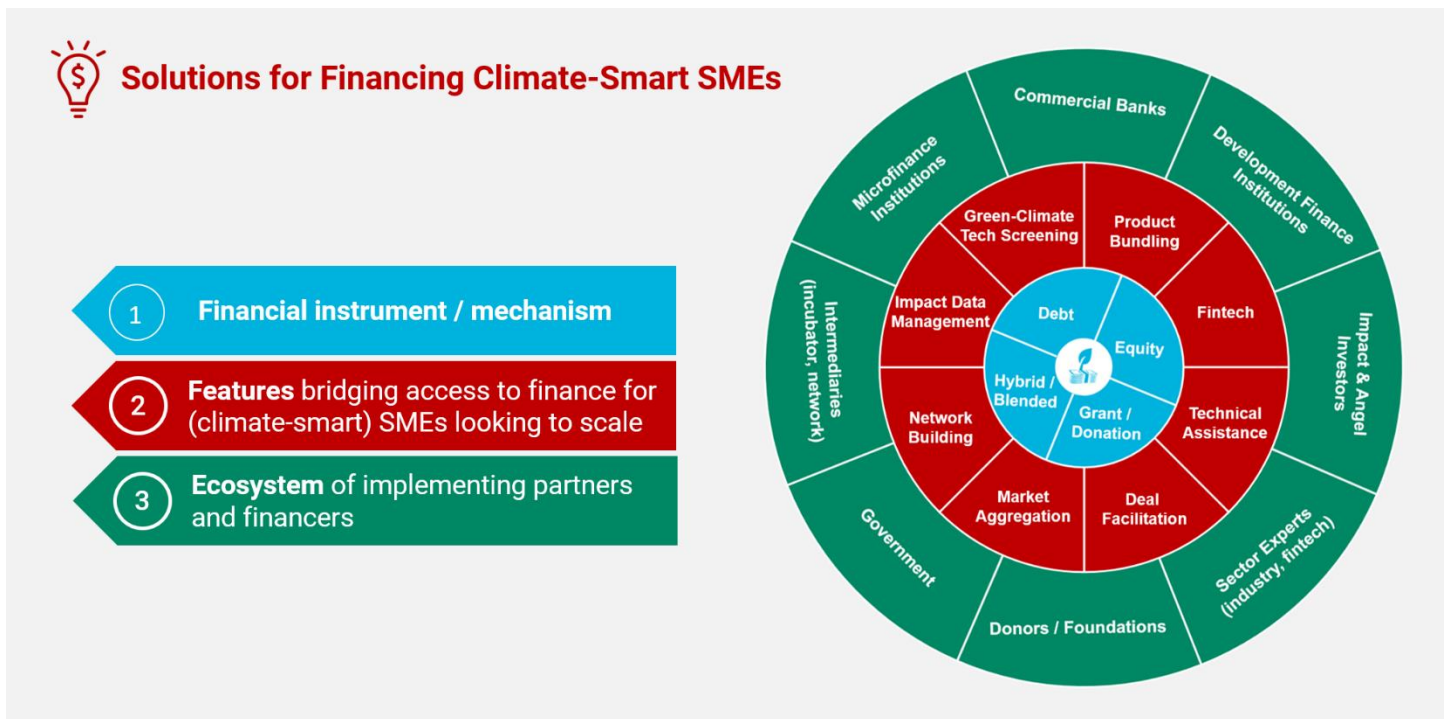
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3. Future of Climate Action Financing in Indonesia: Climate Finance for SMEs

In order to overcome the ‘missing middle’ SME gap and realise the full potential of climate-smart SMEs, ecosystem actors (financial institutions, investors, intermediaries and others) must collaborate to develop tailored financial and non-financial support mechanisms. In developing such mechanisms, capital investments must be complemented by product features and capacity building support that bridge access to finance and develop the business and financial management capacities of SMEs.

As illustrated in **Figure 6**, tailored solutions for financing climate-smart SMEs generally combine: **(1) financial instrument** or mechanism (debt, equity, blended/hybrid or grants/donations); **(2) features** such as for capacity building, technology access, credit assessment and more; and **(3) an ecosystem of partners** for knowledge sharing, implementation and financing that leverage their institutional capacities and expertise to meet the financing demands of climate-smart SMEs.

Figure 6: Solutions for Financing Climate-Smart SMEs



Source: SEED 2020

3.1. Climate Finance for SMEs

Despite the importance of SMEs to national economies and the significant potential of these enterprises to lower emissions and support climate

adaptation in emerging economies, SMEs are not yet the target of many global or national financial commitments to climate action or to broader green economy objectives. SMEs continue to be underrepresented as target markets (or

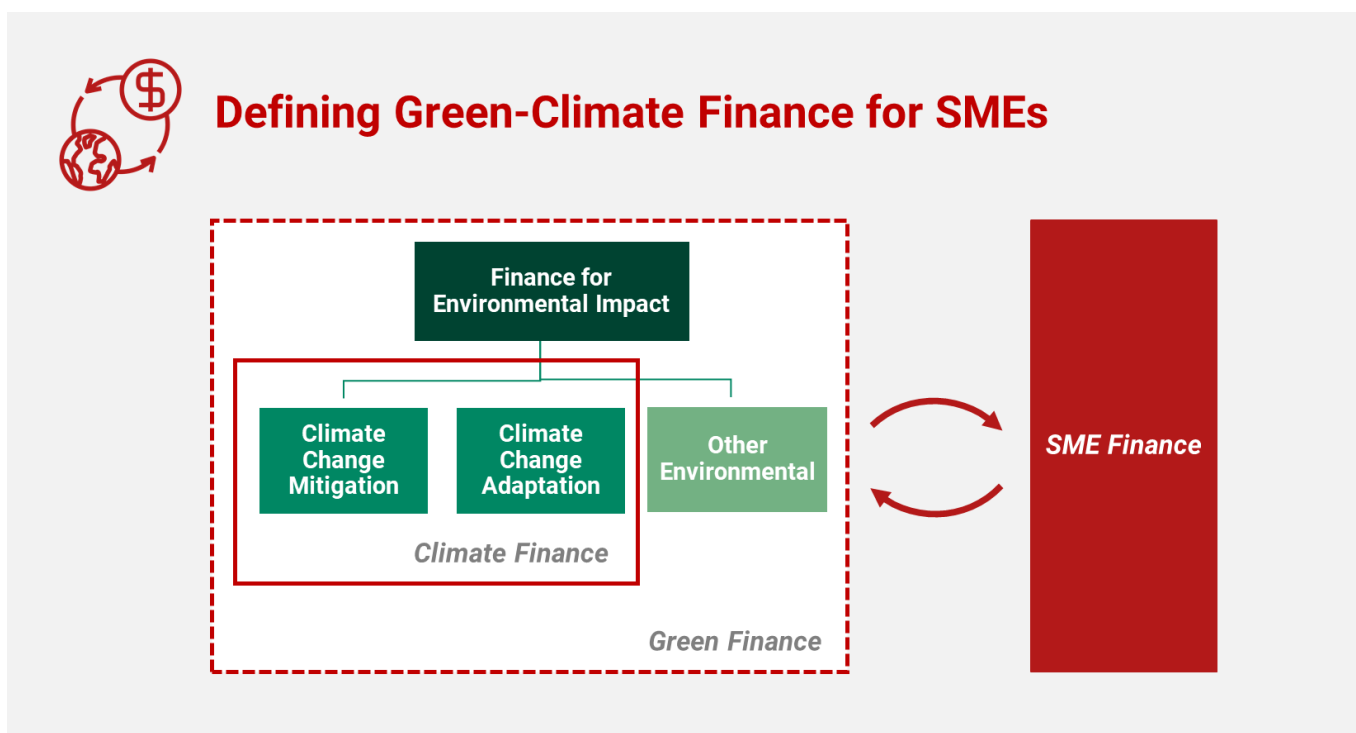
beneficiaries) for climate and green finance instruments. As indicated in **Figure 7**, **SME financing** remains largely independent from the expanding realms of green and climate finance. While commitments to and the development of financial sector infrastructure to absorb and disburse available green-climate finance are growing, the potential of SMEs to deliver significant returns on investment – from an economic, social and environmental sustainability perspective – remains largely untapped.

Figure 7 elaborates on these interrelated realms of (a) SME financing, (b) green finance and (c) climate finance. Financial flows that address major climate change and broader sustainability challenges are commonly differentiated between using the nested concepts of “climate finance” and “green finance” (or sustainable finance). Broadly speaking, **climate finance** relates to financing for climate change mitigation and adaptation, in line with UNFCCC (2018) and Climate Policy Initiative (CPI 2019)

definitions. **Green finance** moves beyond climate objectives and refers to financing for environmental and social sustainability, following the EU taxonomy for sustainable financing (2018) and the IFC’s Sustainable Banking Network (SBN 2019) terminology. Noting the interrelatedness of these concepts, **green-climate finance** in this scoping paper refers to both climate finance commitments to climate change adaptation and mitigation as well as to financing for broader sustainability commitments. This paper advocates for greater collaboration among financial institutions, investors and others who are innovating and adopting financial solutions within this space.

The focus on **green-climate finance for SMEs** in this scoping paper reflects a commitment to aligning the ecosystems of SME finance and green-climate finance to channel available and growing capital to SMEs that are well positioned to deliver climate solutions at scale across Indonesia and beyond.

Figure 7: Defining Green-Climate Finance for SMEs

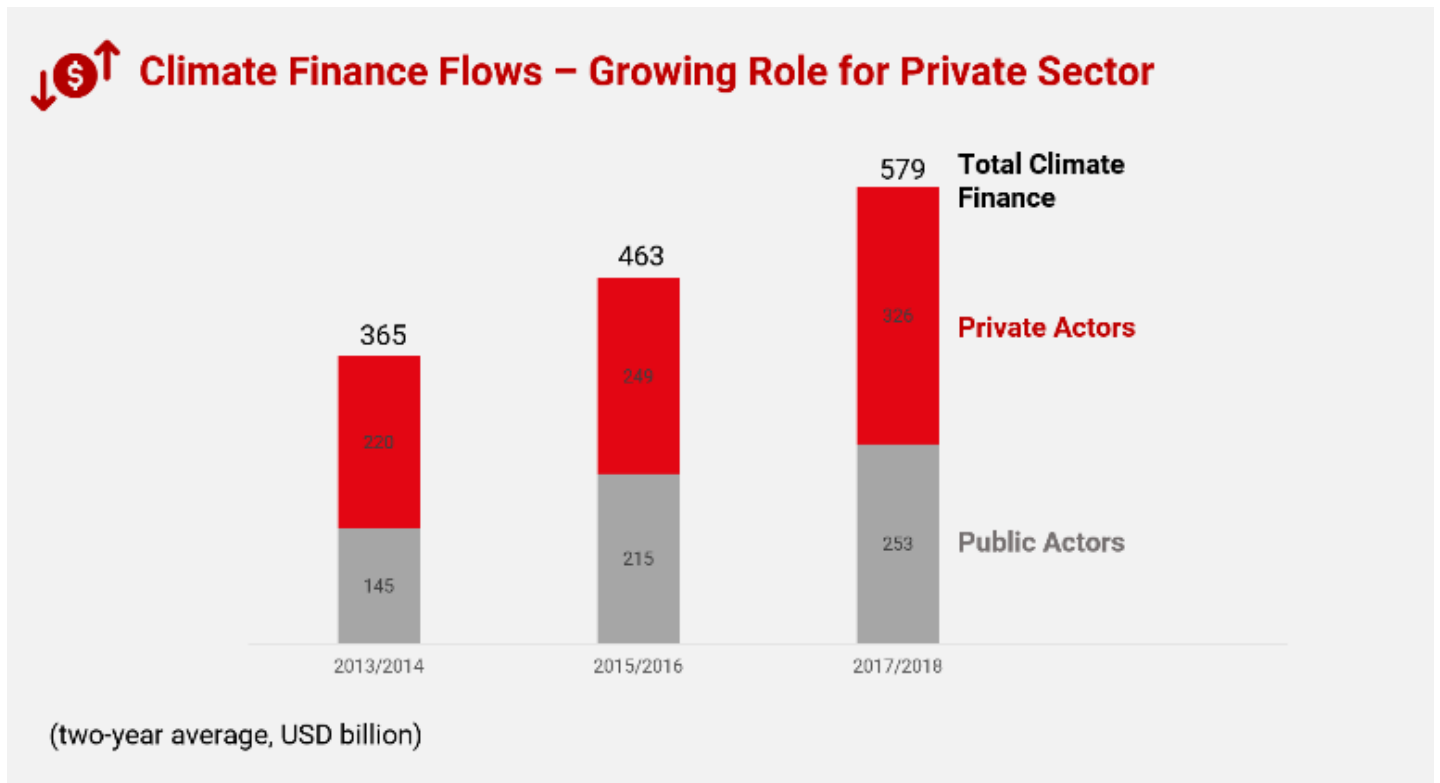


Source: SEED 2020 adapted from UNEP FI Inquiry (2016).

Combating climate change requires a diversity of approaches. Over the past decade, climate finance flows have grown substantially, dedicating financing to local, national, and transnational entities; involving public, private, bilateral and alternative sources; and offering grant, debt, equity and blended finance (Climate Policy Initiative 2019). Climate finance flows reflect a mounting commitment to expanding the role of the private sector, including private sector financial institutions and investors. The landmark report from the Business & Sustainable Development Commission (BSDC) indicated that the pursuit of inclusive and

sustainable business models could unlock at least USD 12 trillion (IDR 905,4 trillion) per year by 2030 while generating upwards of 380 million jobs, particularly in developing countries (BSDC 2017). Likewise, the GCF, one of the most prominent global climate funds, taps into private and public finance flows including to “create co-financing opportunities with both international financial entities and locally based entrepreneurs to fund mitigation, and increasingly, adaptation activities” (GCF 2020a). These efforts are reflected in the upward trend of global climate finance flows from private funds in **Figure 8**.

Figure 8: Climate Finance Flows – Growing Role for Private Sector



Source: CPI 2019.

However, drawing on data from the Climate Funds Update as of February 2019 and a review central multilateral climate finance funds (namely GCF, GEF, Climate Investment Funds (CIF) and Adaptation Fund), reveals that the explicit integration of small- and medium-sized as well as micro- small- and

medium-sized enterprises (SMEs and MSMEs respectively) within funds is marginal. These smaller enterprises constitute around 5% of approved projects and remain underfinanced as recipients of 3% of the total approved funding budget building a case for climate finance solutions to close the

missing middle financing challenge outlined in Chapter 2.³

Efforts to build the role of the private sector – through SMEs as well as financial institutions and investors – offers great potential for the expansion of inclusive, market-driven climate change adaptation and mitigation solutions. The **development of green-climate finance solutions for SMEs** – that leverage available and mounting green-climate finance flows – **will de-risk investment in and build a pipeline of bankable SMEs, thereby realising and scaling the contributions of these SMEs to climate change adaptation and mitigation.**

3.2. Indonesia's Ecosystem of Green-Climate Finance for SMEs

In light of the need for multi-stakeholder solution development, this section focuses on the major achievements of ecosystem players in delivering both (a) *green-climate finance* and (b) *SME finance* to climate-smart enterprises, zooming in on examples of public sector and private sector mechanisms and initiatives across Indonesia in turn. The purpose is to assess to what extent (if any)

key ecosystem players are acknowledging the role of SMEs in climate action (and broader sustainability endeavours) and developing tailored financing solutions to meet the needs of these enterprises. Following a review of existing initiatives and mechanisms, this chapter will culminate in a summary of the status of *green-climate finance for SMEs* and potential pathways for future engagement. **Annex 1** contains a comprehensive overview of the various instruments and initiatives referenced throughout this section.

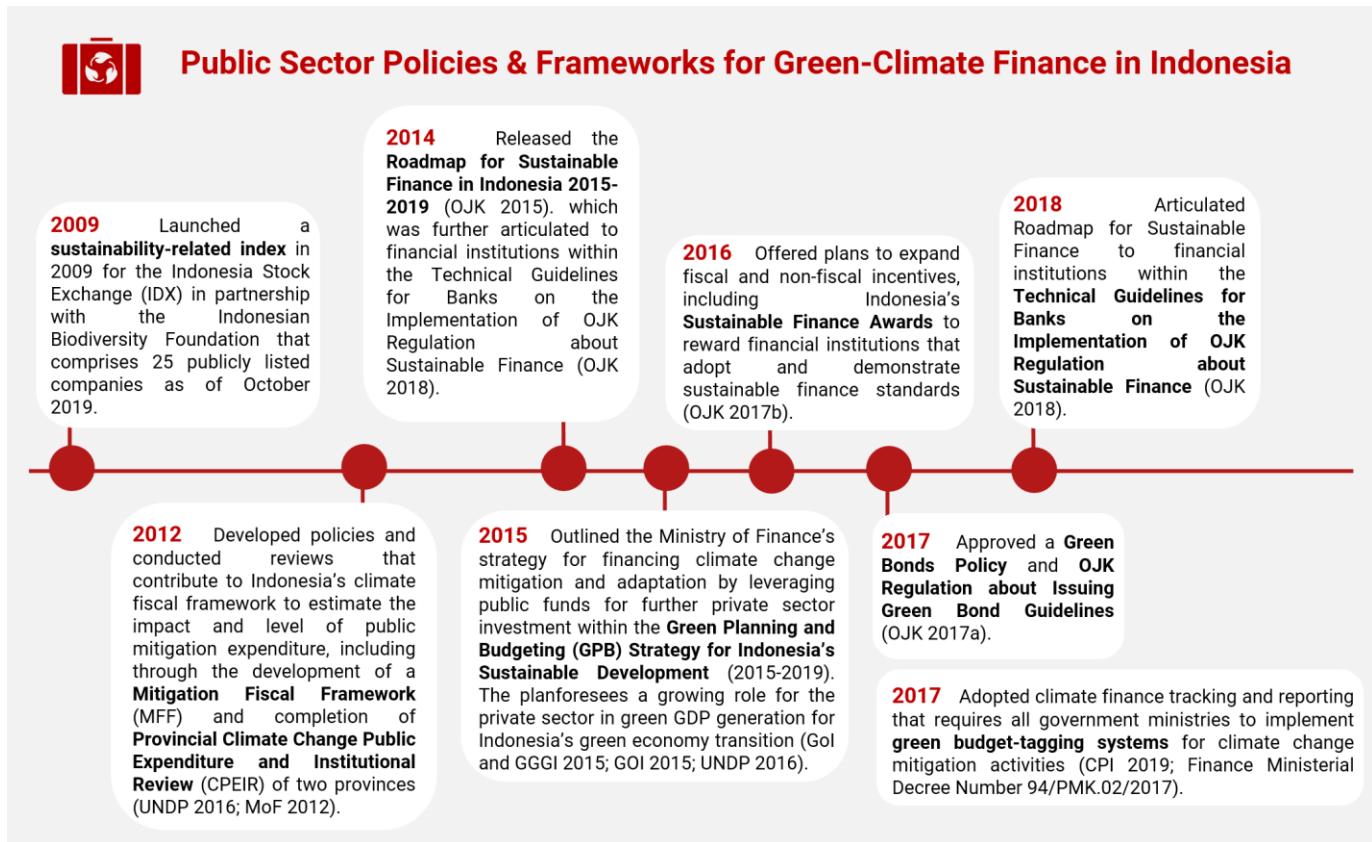
3.2.1. Public sector

In terms of green-climate finance business facilitation – or development of products and services, incentives and reporting approaches for green-climate finance – the GOI and public sector actors have made major steps towards market transformation through various policies and frameworks, many of which target an increased role for private sector financing and are included in **Figure 9**. Building on public sector commitments and frameworks, **Figure 10** summarises key public green-climate finance instruments or funds.

³ Importantly, multilateral climate funds more frequently incorporate smallholder farmers (for example, more than 80% of the Adaptation Fund projects) and objectives for “household

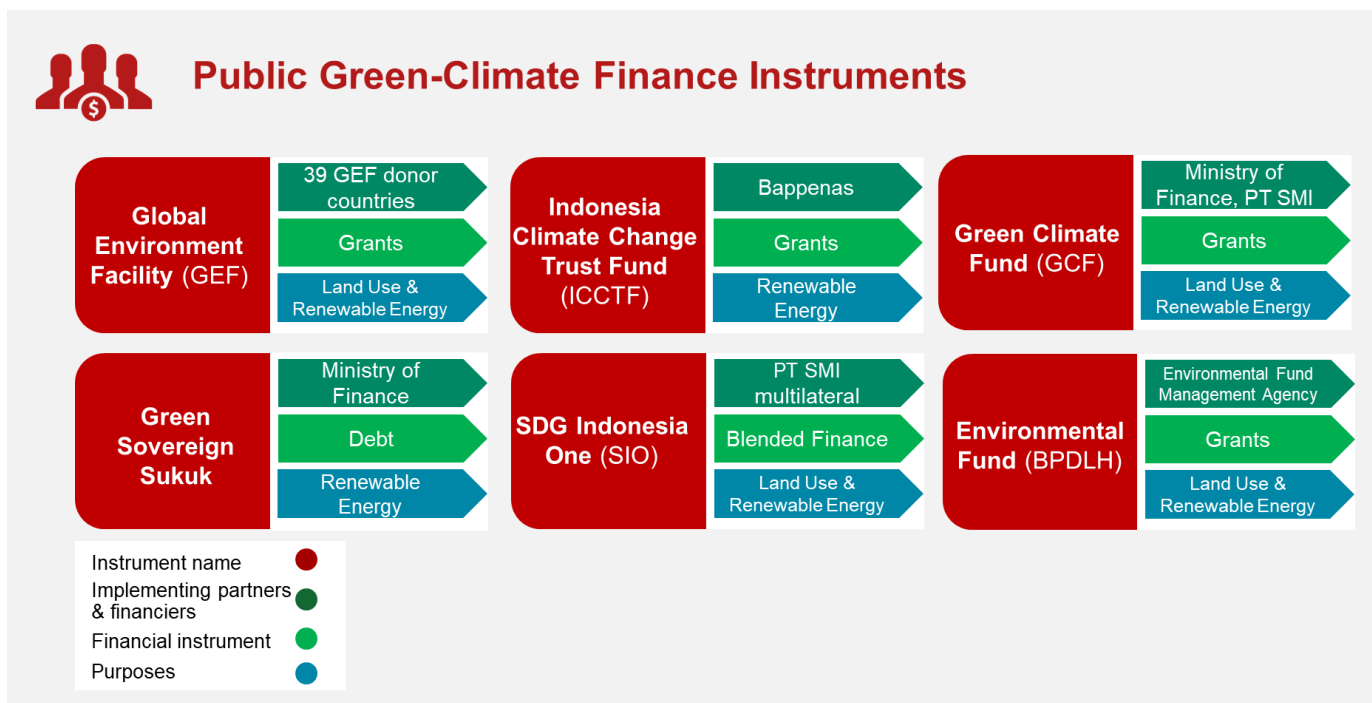
livelihoods diversification” or “rural community climate resilience” without an explicit relation to SMEs or MSMEs.

Figure 9: Public Sector Policies and Frameworks for Green-Climate Finance in Indonesia



Sources: Various (indicated in table).

Figure 10: Public Green-Climate Finance Instruments



Sources: Various (see Annex 1).

The activities and funds included above indicate a strong national commitment to green-climate finance facilitation and often support the development of a leading role for Indonesia's financial institutions. In light of many of these efforts, Indonesia has been classified within the International Finance Corporation's (IFC) Sustainable Banking Network (SBN) as one of only two "first movers" of all 38 SBN members from emerging markets with a "maturing" sustainable finance regime (IFC 2019c). These efforts within Indonesia are supported by various stakeholders, identified in the following pages. Further details on instruments and initiatives referenced throughout are included in **Annex 1**.

Government ministries and agencies

The GOI supports SME growth and recognises the potential that SMEs offer to employment and GDP generation. Various government agencies and ministries have initiated SME finance and/or climate finance-related schemes. Many existing initiatives and funds directly target SMEs, inclusive business, and/or green development. These activities include the establishment of large-scale renewable infrastructure and energy funds, channelling state-owned enterprise tax revenue to SMEs, and creating policies that formalise village-level enterprises. For example the Indonesia **Climate Change Trust Fund** (ICCTF) was established by the Minister of National Development Planning and Minister of Finance in 2009 "to attract, manage and mobilise financial investments in climate change mitigation and adaptation" (UNEP 2012). Furthermore, the Financial Services Authority (OJK) has been actively involved in shaping a future for sustainable financing with a greater role for private sector financial institutions with their **Roadmap for Sustainable Finance in Indonesia 2015-2019** (OJK 2015).

Additionally, government-backed **People's Business Loans** (KUR) offer favourable interest rates for (M)SME financing through participating private

sector commercial banks such as Bank BRI, BNI, Bank Mandiri, Bank BJM, and other regional development banks, including the BPD. KUR loans aim to improve the competitiveness of (M)SMEs as key drivers of economic growth, employment expansion and poverty reduction (ACMFN 2019).

Despite strong government support for financing climate action and promoting SMEs in green economy and development agendas, government-led or funded finance schemes included in **Figure 10** tend to focus on financing large-scale projects. When available, finance instruments that are offered to SMEs largely target enterprises that have the ability, technical skills, and existing funding to perform environmental and social risk management (UNEP et al. 2015). Collateral and credit history requirements can especially be limiting for many SMEs. That said, efforts are mounting to expand these activities. For example, OJK's Roadmap for Sustainable Finance in Indonesia aims to build a regulatory framework for green-climate finance that increases the share of productive loans to SMEs from bank lending (UNEP et al. 2015).

Public banks and microfinance institutions

Publicly-owned banks and microfinance institutions are active with SME financing and capacity building, while also being involved in many of the climate-green finance activities led by government entities mentioned in the previous section. Particularly relevant activities of public banks and publicly owned MFIs are included in **Annex 1**.

Development finance institutions and multilateral development funds

There are several development finance institutions (DFIs) and multilateral development funds (MDFs) that provide grants, concessional loans, subordinated debt, equity, relief funds, and guarantees or technical assistance and capacity building for climate action. Indonesia is a recipient of **Global Environment Facility** (GEF) funds with focal sectors of biodiversity and climate change

(GEF 2020). Since 2014, Indonesia has collaborated with **Green Climate Fund** (GCF) in channelling climate mitigation finance towards two projects on (1) geothermal energy development and (2) renewable energy projects to reduce energy costs, GHG emissions and meet the growing energy needs of the Indonesia population (GCF 2020). The GCF funds are allocated to energy projects that align with Indonesia's INDCs and the aim to reduce carbon emissions by scaling the use of green energy sources.

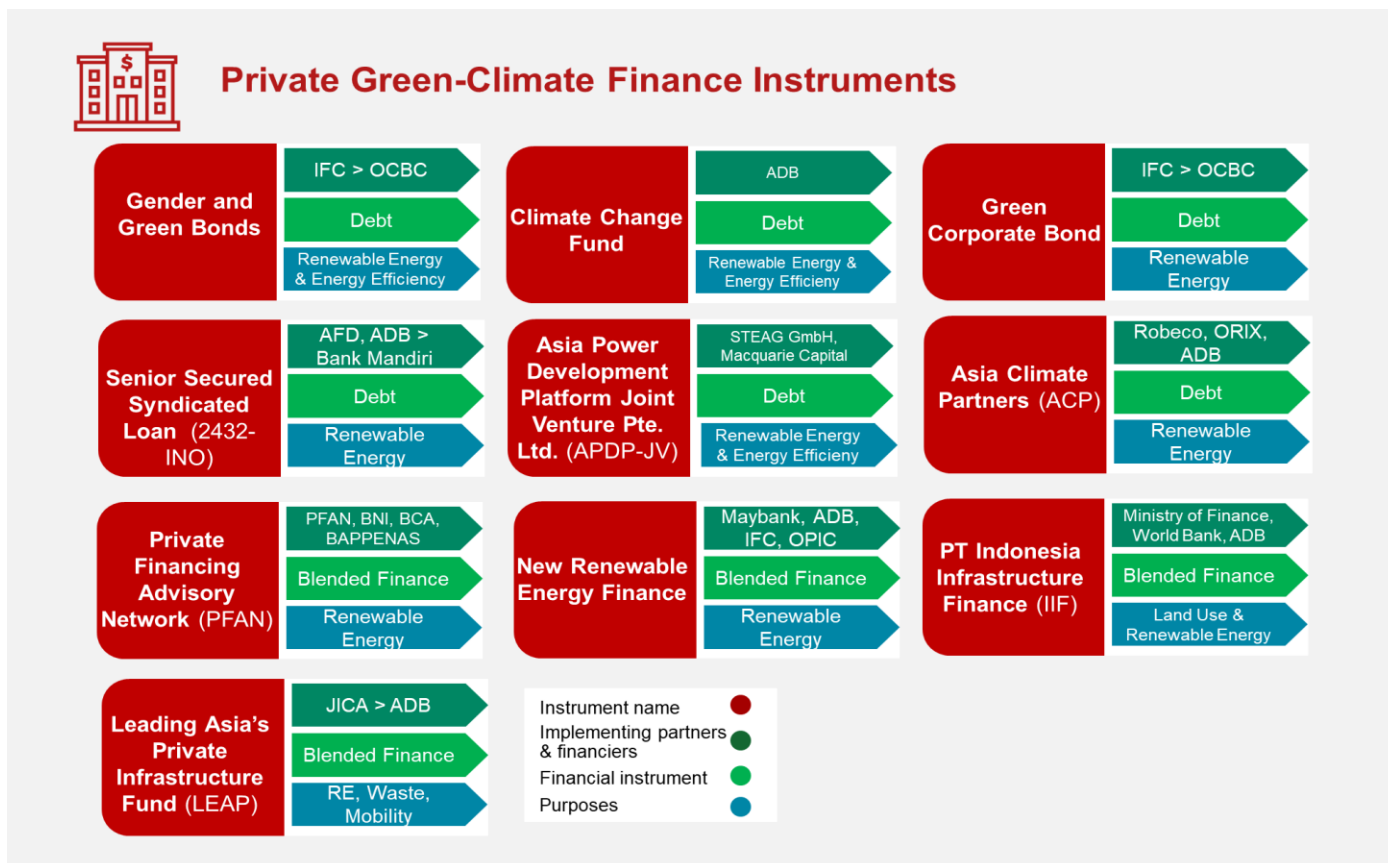
Bilateral institutions such as the German Development Bank (KfW), the Japan International Cooperation Agency (JICA), French development bank (AFD), Asian Development Bank (ADB), and Japan Bank for International Cooperation (JBIC) have diverse projects in Indonesia on renewable energy, natural resource management, and infrastructure. In addition, they provide low-cost debt financing to state-owned enterprises. There are also multilateral and bilateral agencies involved in large scale climate finance such as DFAT, USAID, GIZ, and the **UN Green Climate Finance Fund** that provide grants to a mix of private consultancies, NGOs, government ministries and public administrations involved in capacity building activities (CPI 2014). These multilateral agencies have committed and disbursed climate finance largely to state-owned enterprises and large-scale government programmes in the energy sector in Indonesia.

Despite the tremendous financial commitments to climate action that are supported by DFIs (and broader networks of INGOs and MDFs), the majority of activities do not directly support the role of SMEs in climate action. Ninety-nine percent of loans disbursed globally that are fed by climate finance flows went to support direct action (85% in mitigation and 14% in adaptation), the majority of which are implemented by state-owned enterprises through infrastructure projects in the energy sector (CPI 2014).

3.2.2. Private sector

CPI's preliminary tracking from 2015-2018 of climate finance flows from the private sector in Indonesia indicated that the bulk of private climate finance in the country stems from commercial financial institutions, with debt financing making up three quarters of total finance (CPI 2019). The SME finance landscape in Indonesia is more diverse, with microfinance institutions playing a central role in serving the financing needs of the wider Indonesian population, including SMEs. However, here too commercial banks dominate with Indonesia's largest private commercial bank dedicating 80% of its lending portfolio to SMEs. In terms of green-climate finance business facilitation, the private sector in Indonesia has taken significant steps towards market transformation through various financial products and services, included in **Figure 11**.

Figure 11: Private Green-Climate Finance Instruments



Sources: Various (see Annex 1).

These initiatives and financing instruments indicate a strong and growing role for private finance and private sector financial institutions and investors in addressing climate change. Some of these initiatives directly address the role of SMEs, such as the IFC-supported gender and green bonds. These instruments are supported by various stakeholders who are identified in greater detail in the following pages. Further details on instruments and initiatives referenced throughout are included in **Annex 1**.

Commercial banks

The Indonesian SME financing landscape has many different players with commercial banks at the forefront, accounting for nearly 80% of total assets (ACMFN 2018) and representing approximately 16% of

lending portfolios (ILO 2019). BRI is the oldest and largest bank Indonesia with 80% of its lending portfolio dedicated to investment in MSMEs, followed by private commercial banks such as BNI and state-owned Bank of Central Asia (BCA) (ACMFN 2019; ILO 2019). BJB (30% state-owned) is known for its philanthropic contributions, some of which involve financing cleantech initiatives (ACMFN 2019). Several smaller banks such as JTrust and Sampoerna focus on SMEs, but face great competition especially from large banks that offer government subsidised KUR loans to MSMEs (ILO 2019). In terms of product offerings, SMEs receive financing from commercial banks as working capital or investment loans, with **working capital making up three-quarters of lending portfolios** (ILO 2019). Additionally, various commercial banks are involved in green-climate finance, falling largely or fully outside of

the bank's SME lending activities. For example, eight pilot banks formed the **Indonesian Sustainable Finance Initiative** in 2018 in line with the OJK's **Roadmap for Sustainable Finance** (ACMFN 2018). These eight pilot banks include Bank Mandiri, BNI, BRI, Artha Graha International Bank, BCA, BJB, Bank Muamalat, and BRI Syariah (Cleantech Group and WWF 2017).

Despite significant SME financing portfolios and increases in green-climate finance products and services among commercial banks, available finance remains primarily earmarked for large scale infrastructural and energy sector projects, and is generally not channelled towards climate-smart SMEs. Meaning, banks' green-climate finance and SME finance activities tend to occur in silos, where SMEs fail to access green-climate finance products tailored to their specific business development needs. This can be attributed in part to banks' lack of credit risk assessment and knowledge of the risk-return profiles of climate-smart SME business models (Kemitraan and UNESCAP 2017). Furthermore, in light of the dominance of loans for working capital, SMEs largely do not have access to the growth financing needed to invest in scaling their businesses and thus contributions to climate action.

Microfinance institutions

Alongside generally low levels of access to finance among the Indonesian population, 17% of all debt-based financing is borrowed from microfinance institutions (MFIs) – meaning rural banks, savings and credit cooperatives (SACCOs) and unit savings cooperatives (UCC) according to Indonesian government legislation definitions (ILO 2019). Within Indonesia, microfinance typically involves the supply of finance to poor or low-income individuals and companies in the form of micro-credit, meaning **loans of less than IDR 20 million (USD 1,538) with no collateral requirements and common repayment periods of 6 to 12 months** (Siddharta and Rekan 2015). There are over 188,00 cooperatives as the largest group of non-bank MFIs in Indonesia, in addition to other unlicensed rural banks (BPRs), village credit institutions (BKDs) and NGOs offering microfinance

solutions (Siddharta and Rekan 2015). Government regulated MFIs serve mostly the larger ticket sizes of micro-finance markets in districts and sub-district towns. Other NGOs, cooperatives and village-based institutions (BKDs, LKBDs) reach the lower end of the market but are still sparse in rural areas outside the main islands of Java and Sumatra (Siddharta and Rekan 2015). SACCOs offer average loan sizes of IDR 0.81 million (USD 50), UCCs IDR 0.36 million (USD 22), micro-finance institutions operating under the sharia system (LDKP) IDR 0.28 million (USD 17), and pawnshops with IDR 0.12 million (USD 7.50) (Bank Indonesia Jakarta 2003). The total MFI loan book assets in Indonesia are estimated at approximately USD 650 million (Mekar 2018).

Regardless of the importance of MFIs to inclusive finance for the broader Indonesian population and for (M)SMEs in particular, the products and services offered by MFIs tend to miss the 'missing middle' financing gap as SMEs are looking to scale their activities. Ticket sizes remain small and are not well suited to growth finance for SMEs. Furthermore, despite multiple examples of MFIs offering inclusive finance solutions to various marginalised groups and SMEs, little evidence was found in Indonesia of a role for MFIs in financing "climate-smart" business models that are aligned with low carbon, climate-resilient development objectives.

SME intermediaries (incubators, accelerators, networks)

Though not direct sources of SME financing, often SME intermediaries such as incubators, accelerators and networks play a key role in building the financial capacities and investment readiness of (climate-smart) SMEs. There are around 100 active business incubators in Indonesia, which work directly with enterprises across sectors and with diverse impact objectives. The Association of Indonesian Business Incubators (AiBI) reports that three quarters of business incubators are university-based; 14 are operated by ministries, state-owned enterprises or regional governments; and the rest belong to the private sector. The government of

Indonesia published a **Roadmap to Incubator Development 2014-2029** (and issued Regulation 24/2015) that set the (1) objective to extend numbers of incubators throughout Indonesia with at least five incubators per province and (2) develop norms and standards for business incubators' activities (OECD 2018). This indicates a strong commitment to expanding the role of incubators as central SME intermediaries in delivering access to business development support for small and growing enterprises.

Currently, tailored support offered by intermediaries to "climate-smart" business models is still limited. Key financing and financial capacity building opportunities offered by SME intermediaries are summarised in **Annex 1**. SME services tend to focus on business development skills, especially for early stage enterprises. Support for building the investment readiness and financial planning of SMEs is still in its nascent stages. However, there are increasing efforts to identify, celebrate and build the capacities of SMEs that address environmental and social issues through their business models that can be learnt from and built on, thereby informing the direction of green-climate business facilitation by financial institutions and investors.

Impact and angel investors

Indonesia offers a sizable market for impact investing with high number of active investors (KPMG 2019). There are currently no impact investors that originate from Indonesia, rather several overseas-based funds are active across the country (Mekar 2018). Key private impact investors include over 22 fund managers, several family offices, and one impact-focused angel network, which deployed USD 148.8 million across 58 deals. Most impacts investors are interested in investing in financial services, agriculture, workforce development, and fisheries. Most **deal sizes range from USD 1 – 5 million with increasing opportunities for early-stage funding**. International impact investors active in Indonesia include Aavishkaar Frontier Fund, IIX Global, Capria,

Patamar Capital, Triodos Asset Management, C4D Partners and Root Capital. The largest investment from abroad in Indonesia is from the **Tropical Landscapes Finance Facility** (TLFF) established in 2016 by ADM Capital, BNP ParisBas, ICRAF, and UNEP.

Angel investor networks are individuals who back seed-stage firms and projects, targeting innovative and high-growth firms (KPMG 2019). Most angel investors in Indonesia operate within investor networks to co-invest in deals to reduce risks, gain bargaining positions in negotiations, assist each other in efficient investment screening, and tap into each other's expertise. These investors are motivated beyond financial gains, with common objectives being to improve their standing within their community, to build networks with specific industry actors or to advance a certain technology (UNDP 2017a). The angel investor networks that are based in Indonesia include Angin Angels, Angel-EQ and Kinara which all have impact investors in their networks (Mekar 2018).

Key financing opportunities offered by angel and impact investors are summarised in **Annex 1**. Some impact and angel investors in Indonesia are investing in "climate-smart" business models. However, to date there are few efforts to aggregate and take stock of all such investments across Indonesia. Furthermore, investors tend to struggle to assess the expected returns on investment from climate-smart business models, presenting a major barrier to the extension of capital to climate-smart SMEs through private sector angel and impact investment. The Asian Venture Philanthropy Network's launch of its **AVPN Climate Action Platform** in 2019 offers a growing opportunity to support sharing of best practices and facilitate deal share for tailored investments in climate-smart SMEs across the Southeast Asia region.

Fintech companies

The role of fintech companies in Indonesia is considerable, but they are not a large player in the

industry yet, largely offering niche products such as short-term invoice discounting. As of May 2019, there were 249 fintech companies operating in Indonesia, ranging from services for deposits, lending, payments and capital raising with the largest growing areas being peer-to-peer lending and e-payments (ADBI 2019). The emerging fintech sector is encouraging banks to recognise that there are alternatives to direct lending by partnering with digital companies, therefore combining the capital and knowledge of financial institutions with fintech's outreach and technology (ILO 2019). Fintech companies are currently providing up to IDR 2 billion (USD 128,000) in financing on certain platforms, some of which are allocated to climate-smart SMEs such as **GandengTangan's crowdfunding for cleantech SMEs** and **Mekar's loan vetting process that considers cleantech practices** as a part of issuing their loans (ACMFN 2019). There are also several peer-to-peer (P2P) microlending platforms offering financial technology solutions to Indonesia's financial access challenges via platforms such as **Iternak, Mekar, GandengTangan, investree, Amarta.com** and **Tanifun.id**.

The extension of financial technologies can improve financial inclusion by responsibly and sustainably providing individuals and businesses with access to financial products. Considering the benefits in terms of financial inclusion, there is an increasing role for fintech and big tech firms in providing funding to SMEs (ADBI 2019). The Indonesian government has recognised these benefits and developed regulation that assists in ensuring financial literacy requirements for fintech companies. The GOI's **Digital Financial Innovation in the Financial Services Sector** initiative seeks to improve the financial literacy of both enterprises and the general public (ADBI 2019; OJK 2018).

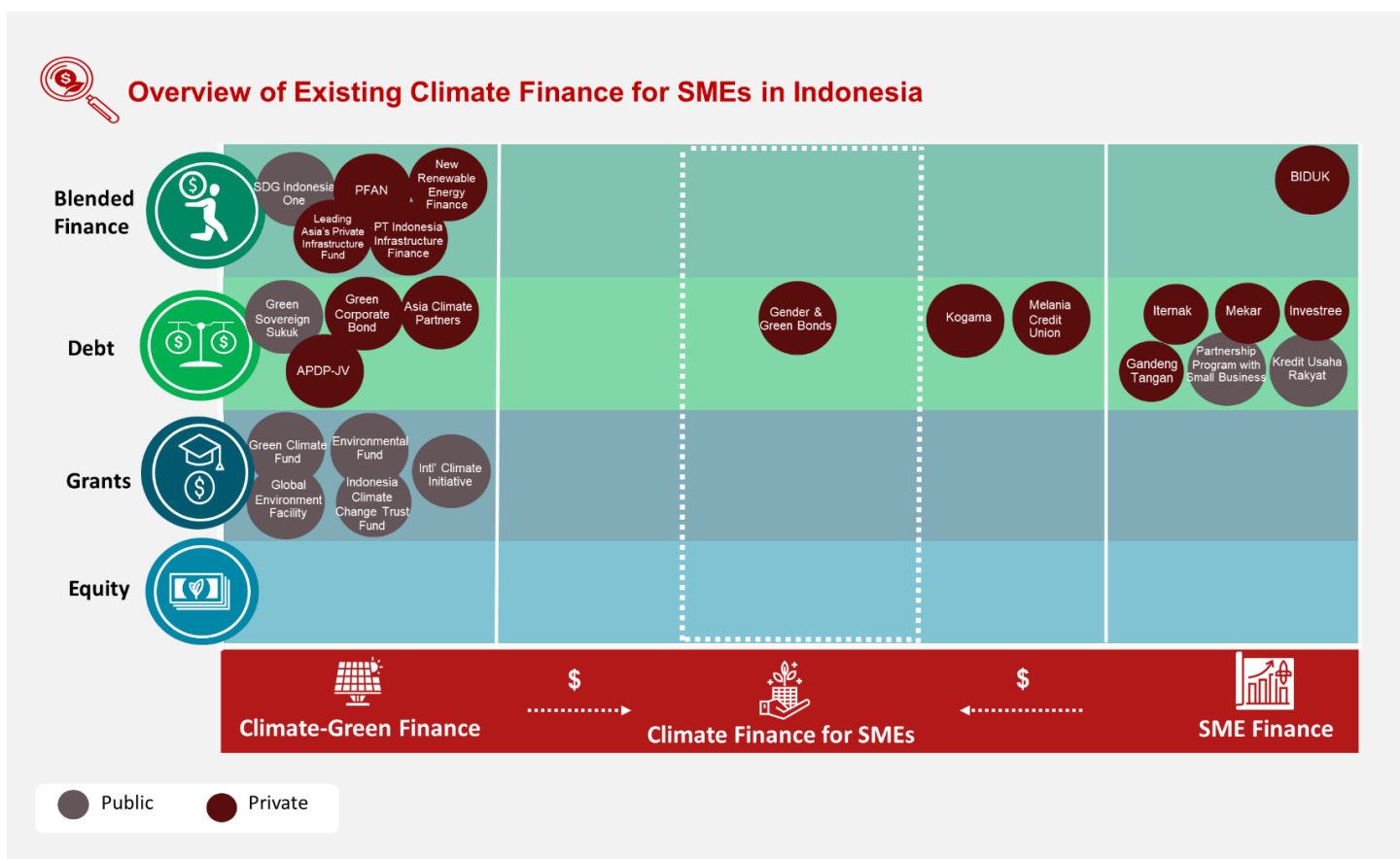
Key financing opportunities offered by fintech companies are summarised in **Annex 1**. The financing solutions offered by fintech and big tech

firms are well positioned to utilise alternative forms of data and technology and have the potential to overcome common challenges faced by SMEs with limited credit histories (ADBI 2019). However, there are a few potential challenges with leveraging fintech to expand climate finance for SMEs. Despite the opportunity to increase access to financial services through fintech solutions, the fintech sector in Indonesia remains heavily concentrated in Java (ADBI 2019). The trend for borrowing using financial technology is predominantly limited to Java due to the island's high levels of economic growth and financial literacy in comparison with other regions. Furthermore, there are doubts about fintech companies' financial and analytical capacities to provide the larger ("missing middle") loans needed by growing SMEs (ILO 2019).

3.3. Summary of trends and opportunities

Despite major steps by multiple stakeholders to address the climate risks and opportunities across Indonesia, climate-green finance has yet to facilitate fully the role of SMEs in building an inclusive, low carbon and climate-resilient Indonesian economy. **Figure 12** summarises the key initiatives and players active at the nexus of SME finance and green-climate finance in Indonesia, paying particular attention to climate finance flows that target SMEs. As indicated in **Figure 12**, desk research and consultation with SEED partners involved in the SEED Practitioner Labs Climate Finance reveals that various entities are designing and offering financial solutions for SMEs (*SME finance*) in Indonesia. Similarly, major *green-climate finance* flows have freed up much needed capital for the implementation of climate change mitigation and adaptation solutions (plus for broader sustainability objectives) across the archipelago. Nonetheless, few instruments or initiatives exist at the nexus of *climate finance for SMEs*.

Figure 12: Overview of Existing Climate Finance for SMEs in Indonesia



Source: SEED 2020.

The current offerings of *climate finance for SMEs* are limited in terms of capital commitments, private sector buy-in and accessibility for (climate-smart) SMEs. Private capital is taking on a more central role in both SME finance and green-climate finance. However, SME lending largely overlooks the unique financing needs and constraints of climate-smart business models. Few financial products are catered to the investment needs and growth trajectories of climate-smart SMEs that are well positioned to address the climate vulnerabilities of all Indonesians, including women, youth and rural communities. In terms of green financing, as of 2012, total 'green' lending by banks in Indonesia accounted for merely 1.3% of total bank lending, with the majority of green finance was dedicated to larger scale renewable energy projects (54%), with environmentally efficient machinery and sustainable

agriculture financing accounting for around 20% each (ADB 2017). These examples of existing green-climate finance and SME finance instruments indicate both a gap in terms of capital as well as reach, largely overlooking the need for private finance to support solutions beyond energy – such as for disaster risk management and coastal protection, according to CPI's 2019 analyses.

Based on Indonesia's National Long-Term Development Plan (2005-2025), it was estimated that in order to meet GHG emissions reduction targets, USD 9 billion from government funds plus an additional USD 18 – 69 billion (depending on the reference source) from additional funding sources is required (ADB 2017). Currently, available international climate finance in Indonesia has largely not yet been disbursed due to bottlenecks in

finance linkages and lack of solid pipelines for bankable projects (IFC 2019; ADB 2017).

In light of the status of climate finance for SMEs, solutions are required that:

(a) Improve the buy-in and institutional capacities of financial institutions and investors to absorb and disburse capital through tailored SME financing instruments; and,

(b) Support the business development and financial management capacities of climate-smart SMEs to better access and allocate funds while scaling climate impacts across their value chains.

These solutions should build on the tremendous achievements made by both the private and public sectors in Indonesia while addressing persistent challenges facing both SMEs as well as financial institutions and investors indicated in the past two chapters.



CHAPTER 4

From Climate Finance
Challenges to
Opportunities

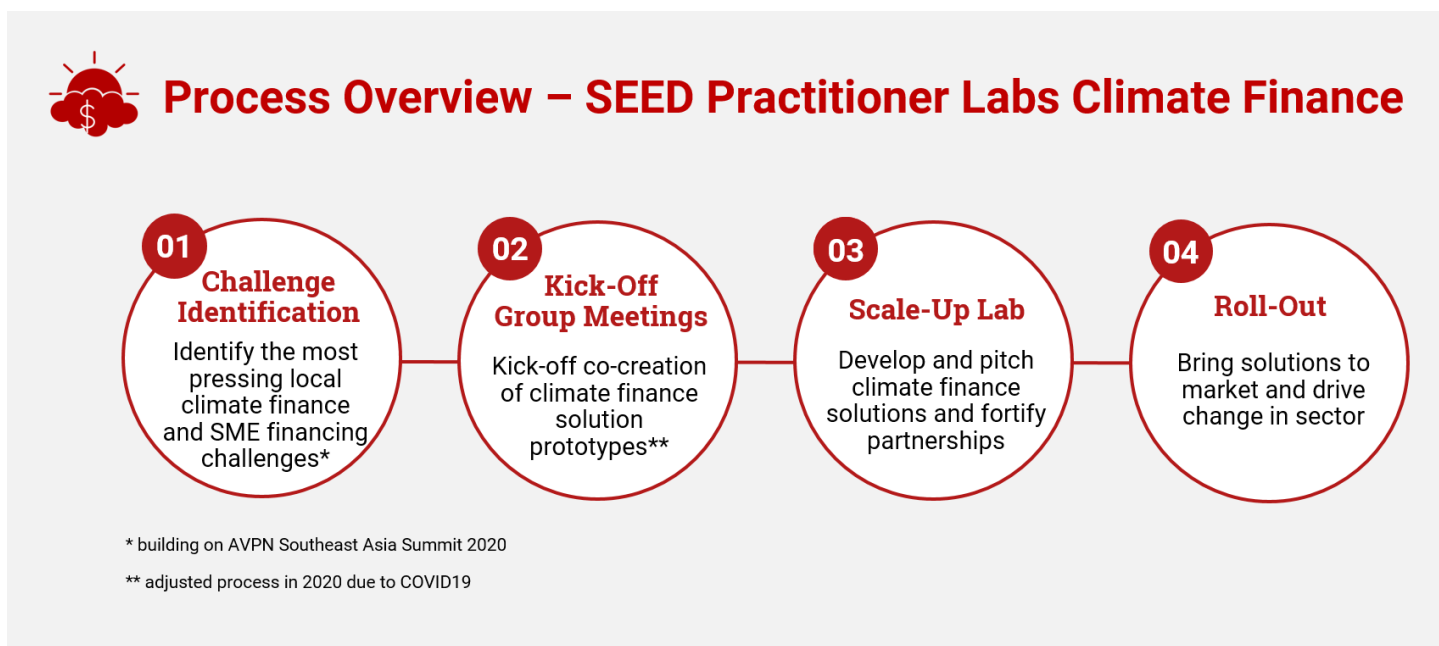
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4. From Climate Finance Challenges to Opportunities

The **SEED Practitioner Labs Climate Finance** engage financial institutions, funders, intermediaries and other small- and medium-sized enterprise (SME) ecosystem stakeholders over a highly collaborative, multi-step process outlined in **Figure 13**. Since 2018, the labs have successfully been implemented in India, Thailand, Uganda, South Africa and Ghana. During the labs, practitioners pool resources and expertise to co-create innovative climate finance mechanisms that finance the

growth of climate-smart SMEs offering products and services for climate change adaptation and mitigation. The labs aim to facilitate multi-stakeholder responses to locally-relevant climate and SME financing challenges while building the institutional capacities of financial institutions and investors to leverage global climate finance flows and realise the contributions of SMEs to climate action at scale.

Figure 13: Phases in SEED Practitioner Labs Climate Finance process

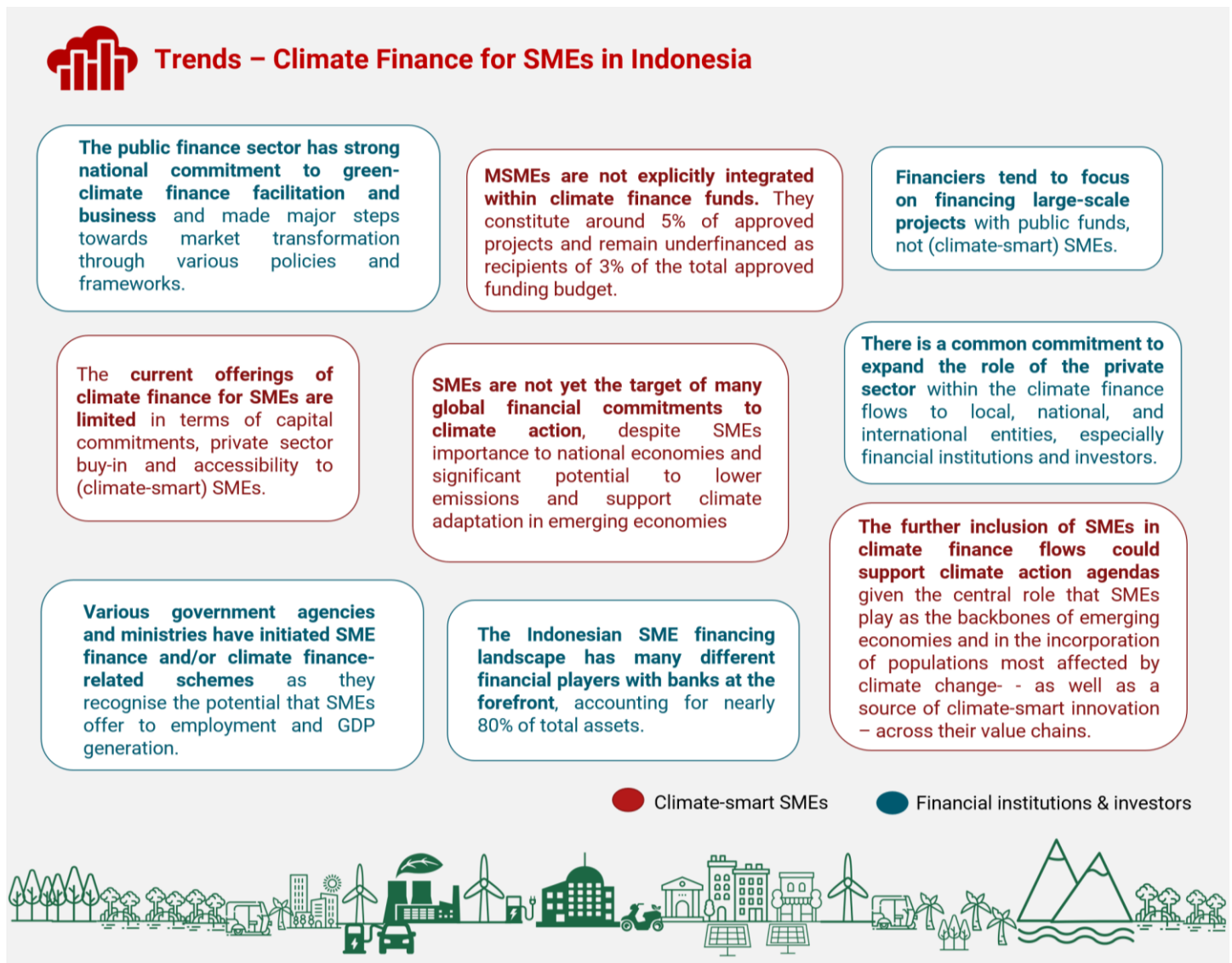


Practitioners co-create tailored solutions for financing climate-smart SMEs that combine: **(1) financial instrument** or mechanism (debt, equity, blended/hybrid or grants/donations); **(2) features** such as for capacity building, technology access, credit assessment and more; and **(3) an ecosystem of partners** for knowledge sharing, implementation and financing that leverage their institutional capacities and expertise to meet the financing demands of (climate-smart) SMEs.

4.1. Building on trends in climate finance for SMEs

Over the course of the SEED Practitioner Labs Climate Finance 2020 cycle in Indonesia, key ecosystem actors will offer their knowledge of the major challenges and barriers to climate-smart enterprise development, SME financing and the expansion of climate finance to SMEs. In part, they will build on some of the key trends in climate finance for SMEs highlighted throughout this scoping paper and included in **Figure 14**.

Figure 14: Trends – Climate Finance for SMEs in Indonesia



Source: SEED 2020.

4.2. Engagement of Ecosystem Actors

In-country partners, or Challenge Hosts, serve as a focal point for each solution development group throughout the multi-step labs process, co-facilitating group sessions for product development and refinement, as well as resource mobilisation and partnership building. The Challenge Hosts also play a central role in the initial framing of core challenges to address during the labs, based on the major issues they experience in their work with SME

financing, climate finance, climate-smart SME development and more.

These key Challenge Hosts partners – and participating practitioners more broadly – are typically (a) active within climate finance and/or “missing middle” SME financing space as financial institutions, investors or SME intermediaries; (b) offering or developing solutions relating to financing for climate action and/or access to finance solutions for climate-smart SMEs; and (c) have high

level of interest in and/or institutional capacity to target “missing middle” climate-smart SMEs, requiring capital.

In 2020, the “Challenge Hosts” in Indonesia include:

Figure 15: Challenge Hosts – Indonesia 2020



4.3. Identifying challenges and aligning solutions

In this section, each of the four challenges presented by the labs Challenge Hosts will be presented in turn by (1) outlining the context, (2) identifying core challenges and sub-challenges to expanding climate finance for SMEs, and (3) framing opportunities for action.

4.3.1. Leveraging blockchain to generate and meet consumer-demand for ecosystem services markets

Hosted by Lestari Capital

Context – Valuing Natural Capital

The true value of natural capital remains largely unaccounted for by the private sector – as well as by individual consumers along value chains. A landmark UNEP report from 2013 estimated that more than USD \$7.3 trillion in unaccounted liability costs, or externalities, were generated through the operations of major global industries – calculated based on impacts on the environment and third parties, including through greenhouse gas (GHG) emissions and negative impacts on ecosystems, watersheds and forests (UNEP 2013).

In light of the major climate impacts of businesses and rising imperative to account for these liabilities, corporate commitments to climate action have expanded significantly since 2015. More than 3,700 companies and over 1,100 investors have made commitments to climate action through the UNFCCC’s Global Climate Action portal (NAZCA 2020); 1,249 companies with a total market capitalization of USD \$24.8 trillion have been mobilised through the Take Action campaign of the We Mean Business coalition (We Mean Business 2020); and, corporate commitments to science-based targets have expanded across sectors to now include 854 companies who are setting GHG emission reductions targets in light of climate science (Science Based Targets 2020).

Over the years, there has been increasing demand for voluntary carbon markets where companies, individuals or other emitters purchases carbon credits to offset their carbon footprint (CDP 2020; Gold Standard 2020). In 2016, a World Bank report estimated that carbon markets offer the opportunity to reduce global mitigation costs by over 50% by 2050 (World Bank 2016). This has opened up opportunities for innovation in markets for ecosystem services, including for the market-linked

finance solutions offered by Lestari Capital, which has actively facilitated corporate compliance with the requirements of sustainable commodity certification bodies, such as the Roundtable on Sustainable Palm Oil (RSPO), through long-term investments in certified, bundled conservation projects in Indonesia (Lestari Capital 2020).

Challenge – Aggregating Consumer Demand

Despite these significant commitments and the growth of market-based solutions to finance conservation, for example through carbon offsetting and financing ecosystem services, significant **variations in monitoring and reporting across jurisdictions of investments in ecosystem services** challenges the capacity to scale impacts and to reliably hold companies to account. Furthermore, the emphasis on corporate efforts to offset their impacts largely **overlooks the potentially transformative role of consumers in value chains**, as key actors for holding companies to account. In light of these core challenges, solutions are required that make conservation competitive, building a role for the private sector corporations while engaging individual consumers in driving market demand.

Future solutions that build a central role for consumers in building sustainable and competitive markets for ecosystem services, must address central issues relating to:

- **Lack of competitiveness of ecosystem services credits** due to government regulations that may reduce the free markets for carbon offsets.
- **Limited consumer demand at scale for commodified ecosystem services**, backed by technology that enables market-based solutions to meet real-time demand for variable carbon offsets.
- **Absence of platform to aggregate and track carbon offsetting** across jurisdictions that is traceable and verifiable.

Opportunities – Blockchain for Ecosystem Services Markets

In light of these challenges, solutions are needed that (1) align consumer activities with ecosystem services markets and (2) underwrite industry-wide environmental liabilities through blended finance investments. The basis for such solutions has been built by:

- **Achievement of critical mass of (certified) conservation projects** with numerous certified credit providers (largely community-based organisations) that are looking for markets to sell their certified credits since the growth of voluntary carbon markets and certification since the early 2000s.
- **Aggregation of demand data for conservation across supply chains** through advances with ecosystem services for corporate purchase, as evidenced by the work of Lestari Capital and others to meet corporate demand through carbon credits and long-term sustainable investment products.
- **Development and expansion of blockchain-backed solutions** to enable transparent, immediate and immutable tracking and tracing of transactions across jurisdictions in real-time.

In building a blockchain-backed application for accessing ecosystem services markets, consumers will have the opportunity to offset their carbon impacts through the purchase of divisible chunks of carbon credits, catered specifically to their purchasing behaviour. This solution offers great potential not only to directly engage businesses and their consumers in building low carbon markets, but also offers great potential to generate future opportunities for SMEs and community-based organisations engaged in ecosystem services markets to easily tap into these existing markets and easily find buyers for their certified credits.

4.3.2. Stimulating markets for carbon offsets and certification via P2P SME lending platform

Hosted by Mekar

Context – The Making of Indonesia’s Social Forestry Programs

Indonesia’s INDC sets an **unconditional land-use and forestry emissions reduction target of 29%** and conditional reduction target up to 41% of the business-as-usual scenario by 2030 through reducing emissions from land use, land use change and forestry (LULUCF). Indonesia had also **adopted social forestry programmes in its INDCs** that involve the active participation of the private sector, SMEs, and civil society organizations, local communities and the most vulnerable group, especially the Indonesian indigenous people group of Masyarakat Hukum Adat communities (UNFCCC 2016).

To achieve the INDCs, Indonesian government’s ongoing efforts in recent decades have democratized forest ownership and management. **The government’s social forestry program aims to alleviate poverty, halt deforestation and end forestland conflicts by giving local communities the opportunity to manage forests themselves while developing sustainable livelihoods.** This program is also promoted as a part of climate change mitigation through the UN-backed Reducing Emissions from Deforestation and Forest Degradation (REDD+) program (Evans, 2019).

The social forestry program in Indonesia has a long history, beginning in 1999 (RECOFTC 2011). In 1999, the government revised the Basic Forestry Law, granting forest villages equal access to use and manage state-owned forests. Although the state has official ownership of forestland, this law has provided the legal basis for many of the forms of community forest management that have emerged since the social forestry programme’s inception. Several forms of social and community forestry now exist in Indonesia, where eight are sponsored by the

government with supportive policies 1999 (RECOFTC, 2011). Two most recent and popular forms are Community-Based Forest and Village Forests programmes:

- **Community-Based Forests** (Hutan Kemasyarakatan or HKm) is a programme that offers farmers a 35-year license to manage and use protected forests for production, with the ability to harvest forest products.
- **Village Forests** (Hutan Desa) programme enables village-based institutions to obtain a 35-year license to manage and protect state forestlands that have not been assigned to other entities. In 2009, the Bantaeng Forest Village in South Sulawesi became country’s first officially recognised Village Forest.

Challenge – Forest Land Benefit Sharing

Despite the efforts of the social forestry programme, local communities are only minor players in the country’s forestry sector. **Communities manage under 5% of the total forestland concessions, while the private sector manages 95% and more.** These rural communities consequently remain poor (Evans 2019). Mekar aims to address this issue of elite capturing benefits of the social forestry projects by using their P2P lending platform to break down hierarchies and ensure that benefits go towards the farmers and tree planters.

Opportunities – Carbon Offsets Online Platform

Solutions are required to innovate a carbon offsets extension onto Mekar’s P2P SME lending platform. This carbon offsets extension will incentivise farmers and tree planters to plant trees for carbon offsets, forest production, and forest protection. To support this initiative, currently Mekar has a network of 100,00 farmers who are interested. Mekar plans to integrate and mainstream a farmer and tree planter-centered climate finance impact platform onto Mekar P2P lending platform by creating:

- (1) Incentives for Mekar-supported farmers and tree planters to plant trees for the social forestry program; and
- (2) Certified projects for the carbon offsets that can be purchased on Mekar's climate finance impact platform.

In developing this solution, collaboration of various stakeholders is required to ensure that carbon offsets are quantified and evaluated in line with national, regional, or global carbon offset standards and that the benefits of the platform reach the tree planters and farmers who are actively ensuring the sustainable management of forestry resources in Indonesia.

4.3.3. Building green-climate finance strategies and mobilising climate finance flows for commercial lending

Hosted by PUPUK

Context – Acting on Frameworks for Green-Climate Finance

Indonesia has made tremendous progress with the development of policies and frameworks for climate-green finance, particularly within the remit of the Financial Services Authority (OJK) and Indonesia's membership with the IFC's Sustainable Banking Network. Many of these efforts have explicitly called on a greater role for financial institutions to facilitate green-climate business facilitation – meaning development of products and services, incentives and reporting approaches for green-climate finance. Major milestones achieved in green-climate finance in Indonesia include:

2014	Released the Roadmap for Sustainable Finance in Indonesia 2015-2019 (OJK 2015), which was further articulated to financial institutions within the Technical Guidelines for Banks on the Implementation of OJK Regulation about Sustainable Finance (OJK 2018).
2016	Offered plans to expand fiscal and non-fiscal incentives, including Indonesia's Sustainable Finance Awards to reward financial institutions that adopt and demonstrate sustainable finance standards (OJK 2017b).
2017	Approved a Green Bonds Policy and OJK Regulation about Issuing Green Bond Guidelines in 2017 (OJK 2017a).

Examples of efforts by both private and public banks to deliver financing in line with climate action and broader sustainability objectives were outlined in Chapter 3. These examples indicate that momentum is building around green-climate finance facilitation by Indonesia's banking sector, in line with the policies and frameworks in indicated above.

Challenge – Establishing baselines for green-climate portfolio assessment

Further leadership from, in particular, private commercial banks is required to translate these mounting commitments into tangible, tailored financial products that meet the demands of climate-smart SMEs and climate action projects. In order to incentivise and build the capacities of commercial banks to deliver green-climate finance, solutions are needed to assist senior bank managers and relevant bank departments to expand their lending portfolios in line with climate and broader green objectives, mobilising additional finance for climate-related projects. Major challenges that banks face across contexts in developing tailored products include:

- **Lack of common understanding or definition of green-climate investments**, especially those that would be supported through climate finance or other green finance flows.
- **Missing institutional structures to design and facilitate access to green-climate finance** with activities often falling across different bank departments, for example for SME financing, corporate finance, etc.

Opportunities – Developing a Green-Climate Strategy

The development of green-climate finance strategies by commercial banks that deliver financing to climate-smart SMEs depends on close coordination between banks and SME intermediaries – that are aware of the major financing challenges and investment opportunities of small and growing enterprises. Working in coordination with SME intermediaries and the support of technical assistance, banks in Indonesia can build opportunities for green-climate business facilitation by:

1. **Determining portfolio status** while adopting a green-climate finance definition and assessment of the current portfolio status in terms of climate or green measures.

2. **Assessing external benchmarks** to better understand the current status of initiatives by Indonesian banks and international financial institutions (building on Chapter 3), with attention to major asset classes.
3. **Defining key goals and resourcing needs** based on set green-climate criteria for implementation of green-climate finance products, while looking to internal processes and structures required within the bank as well as available climate finance (and green finance) flows relevant to bank's priorities.
4. **Taking next steps** by combining lessons from the perspective of assets (deploying green-climate finance) and liabilities (raising climate finance) to capitalise on opportunities at an organisational level, for example through a pilot project facilitating finance for climate-smart SMEs in sectors where the bank is already active.

4.3.4. Financing small island coastal communities' renewable energy transition

Hosted by UNDP

Context – Developing Innovative Financing for Renewables

There is a need to develop innovative financing to support an increase in energy access for coastal small island communities. In these communities, **30 million people have no access to electricity** and there is incremental growth of electricity demand (6.8%) (UNDP 2018). Renewable energy solutions are required to address this growing electricity consumption and increase electrification in Indonesia in the context of climate change impacts, specifically to rural areas where the national electricity grid is not accessible (UNDP 2018).

Barriers to **implementing renewable technology across Indonesia include the high costs of renewables, particularly when implementing in remote rural places** (UNDP 2018). The high initial costs are due to having to import technology and operations/maintenance costs. Furthermore, financial institutions consider renewable energy investments to be high risk and therefore tend to offer unfavourable loan interest rates (UNDP 2015).

Challenge – Barriers to Innovative Financing

The Government of **Indonesia's National Energy Policy aims to achieve 23% renewable contributions in primary energy by 2025, building from the baseline of 4% in 2014** (UNDP, 2015). To achieve this government target, **collaboration with the private sector and private financial investments are crucial due to the government's limited fiscal capacity**. Thus, UNDP has initiated a project to produce innovative financing to address the barriers to financing renewable energy in Indonesia (UNDP 2018). Establishing "innovative renewable energy financing" here means financing mechanisms that involve concessional, mixed grant-loan mechanisms to reduce financing risks (UNDP 2015).

Opportunities – Public-Private Partnership to Energize Indonesia's Coastal Communities

Through a partnership between UNDP, PTSMI bank, local and provincial governments, the project aims to finance renewable energy including, but not limited to, construction of hydropower plants and revitalisation of existing power plants (UNDP 2018). **Solutions are required that assist local and provincial governments to develop climate change mitigation and adaptation projects by providing technical assistance to help with pipeline building and public-private partnerships, specifically PPPs that engage SMEs.** This envisaged public-private partnership includes the government's assistance in issuing attractive tariff regulations for the purchasing of renewable energy-based power generation by the State-owned Electricity Company (PLN) and for non-commercial micro and mini scale renewable energy projects to attract private investment (UNDP 2015).

UNDP will leverage their Innovative Finance Lab (IFLab) that uses innovative solutions to finance the SDGs in partnership with government, private sector, investors and entrepreneurs, religious organisations, and civil society through various investments, including Islamic Finance, Green Finance, Blended Finance, and Impact Investment (UNDP 2017b). It will map and analyse financing gaps and opportunities, co-design and test new financing solutions, help align investments with SDGs impact and progress benchmarks. The innovative lab is currently in the process of refinement to have a climate-focused angle, in part through the inclusion of this challenge for financing small island coastal communities' renewable energy transition (UNDP 2017b).

Solution development will build on previous efforts and lessons learned with funding smaller scale projects. PT Sarana Multi Infrastruktur (Persero) (PTSMI) is an infrastructure bank in Indonesia that already funds small-scale projects (PT Sarana Multi Infrastruktur (Persero), 2020). PT SMI is one of the Special Mission Vehicles (SMV) under the Ministry

of Finance, which is engaged in financing and preparing infrastructure projects. In 2018, PTSMI issued Indonesia's first corporate bond of IDR 500 billion, as the first batch of an IDR 3 trillion programme. This corporate bond is an innovative financial instrument to finance the construction of renewable energy in Indonesia (PT Sarana Multi

Infrastuktur (Persero), 2020). A partnership that brings together key renewable energy stakeholders including the local and provincial governments, PTSMI, and UNDP will address the missing middle financing challenge facing SMEs that manufacture, distribute and maintain renewable energy across Indonesia.

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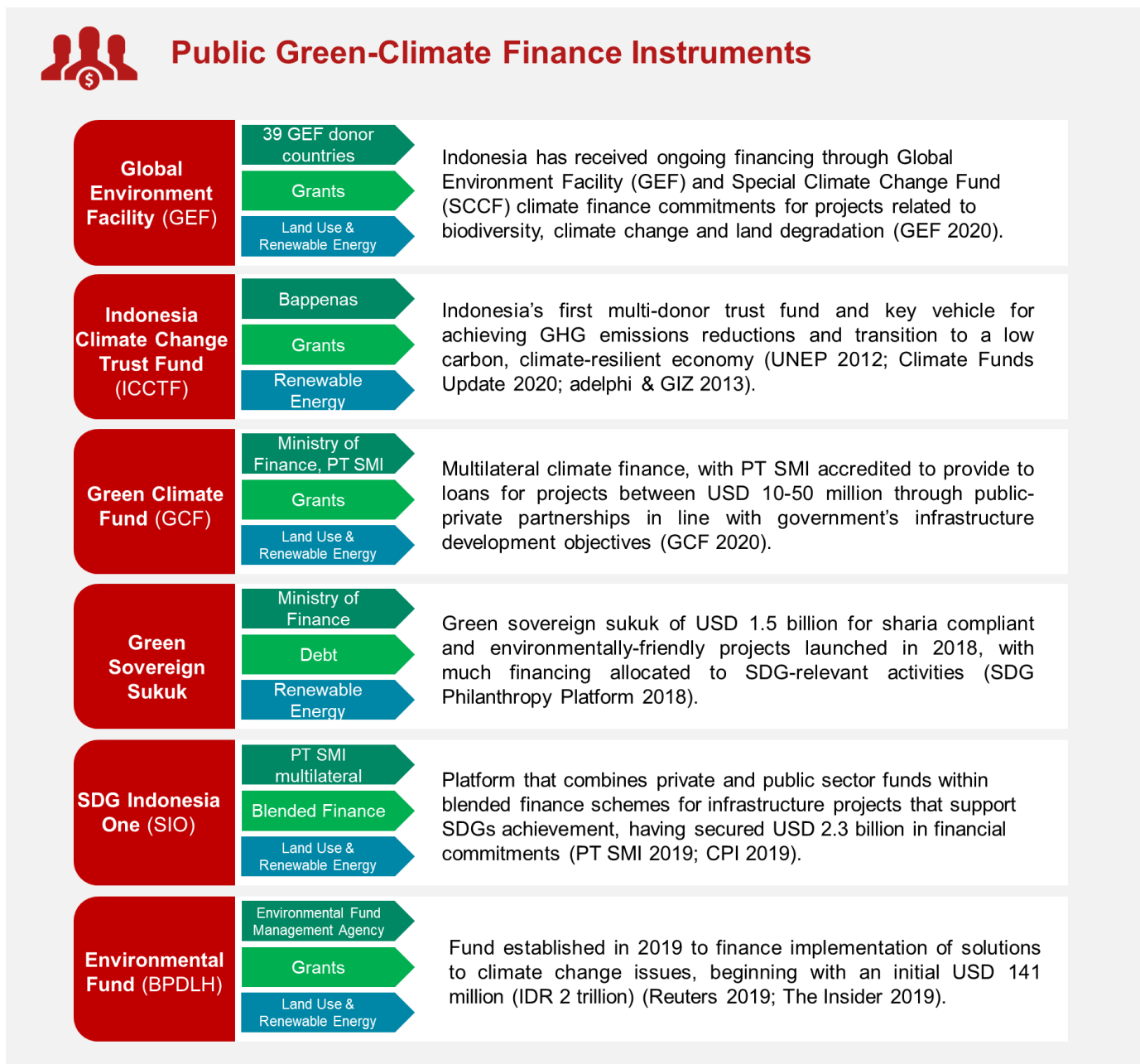
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Annex 1: Current SME – Green-Climate Finance Offerings

Public Sector

Figure 1a shows the SME finance and/or green-climate finance-related schemes from various government agencies and ministries. Many existing initiatives and funds directly target SMEs, inclusive business, and/or green development. These activities include the establishment of large-scale renewable infrastructure and energy funds, channelling state-owned enterprise tax revenue to SMEs, and creating policies that formalise village-level enterprises.

Figure 1a. Public Green-Climate Finance Instruments (elaborated)



Sources: Various (indicated in figure).

Table 1a, Table 2a, and Table 3a collate the initiatives and frameworks of the public green-climate finance and SME finance ecosystem of government ministries, public banks, DFIs, MDFs and others.

Government ministries and agencies

The core government bodies in Indonesia that are active in facilitating SME finance or green-climate finance include: the Ministry of Finance (MoF), Financial Services Authority (OJK), Ministry of National Development Planning (Bappenas), Ministry of Cooperatives and SMEs (KemenkopUKM), Ministry of Industry (Kemenperin), Ministry of Research and Technology (RISTEK-BRIN), Ministry of Environment and Forestry (MoEF) and Ministry of Tourism and Creative Economy (Kemenparekraf RI). Key activities of these public sector entities are summarised in **Table 1a**.

Table 1a: Summary of Government Activities

Ministry of National Development Planning (Bappenas)	<ul style="list-style-type: none"> Promotes impact investment and social entrepreneurship by building synergy between planning, budgeting, regulations, and institutions. Collaborates with UNDP in developing priority programs and targets in line with the SDGs. Established Indonesia Climate Change Trust Fund (ICCTF) as a key instrument in reducing GHG emissions. Partners with Private Financing Advisory Network (PFAN).
Ministry of Cooperatives and SMEs (KemenkopUKM)	<ul style="list-style-type: none"> Works to provide training in business skills and access to funding, having mapped out 240 social entrepreneurs.
Ministry of Finance (MoF)	<ul style="list-style-type: none"> Represents the first of such national finance ministries in Asia to issue a green bond used to support renewable energy, green tourism, and waste management projects. Leads climate change policy, GPB Strategy and MFF. Houses SDG Indonesia One (PT SMI) integrated financing platform. Designated as National Designated Authority for GCF within Centre for Climate Finance and Multilateral Policy.
Financial Services Authority (OJK)	<ul style="list-style-type: none"> Supports fintech innovation and start-up funding for SMEs. Serves as focal point for Indonesia's Sustainable Banking Network (IFC) membership and sustainable finance policy regulation development.
Ministry of Environment and Forestry (MoEF)	<ul style="list-style-type: none"> Serves as GEF Operational Focal Point. Involved through the Director General of Climate Change as the strategic focal point for the government's climate change activities, including NDCs as the UNFCCC's National Designated Entity (NDE) for Indonesia. Established Environmental Fund Management Agency, announced in October 2019, to manage Environmental Fund for mainstreaming climate change issues in national development programmes.
Ministry of Industry (Kemenperin)	<ul style="list-style-type: none"> Supports entrepreneurship and partners within ANGIN to support tech entrepreneurs and SMEs through various initiatives such as the Startup 4 Industry competition to accelerate SMEs' digitalisation.
Ministry of Research and Technology (RISTEK-BRIN)	<ul style="list-style-type: none"> Supports technological innovation and youth entrepreneurship in universities.

Ministry of Tourism and Creative Economy (Kemenparekraf RI)	<ul style="list-style-type: none"> Focuses on tourism affairs and the creative economy by providing coaching for marginalised populations.
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Sources: Various government websites; Soukhasing 2019; RECOFTC and AWG-SF 2017; AVPN 2020; ICCTF 2020; UNDP 2016; GCF 2020; Soeprapto 2019.

Table 2a: Summary of Public Bank and MFI Activities

MBK Ventura (Mitra Bisnis Keluarga)	Launched in 2003, is a MFI regulated by the Indonesian OJK and licensed as a non-bank finance company.
Permodalan Nasional Madani (PNM)	Is a state-owned financial institution with strong competencies in business development for micro and small enterprises . Appointed as one of the coordinating state-owned enterprises for distributing and managing 12 schemes of the People's Business Loans (KUR) for SMEs.
Bank of Central Asia (BCA)	Is a member of the Private Financing Advisory Network (PFAN) .
Indonesian Central Bank (BI)	Recommended in 2018 that all Indonesian banks channel at least 20% of their total loans to SMEs .
Bank Negara Indonesia (BNI)	Possesses a large portfolio of SME investments and is the fourth largest bank in Indonesia in terms of assets.

Sources: Various organisation websites; Sendjaya 2019; Mekar 2017.

Table 3a: Summary of DFI and MDF Activities

Green Finance Catalysing Facility (GFCF)	<ul style="list-style-type: none"> Proposes a blended finance framework for governments and development entities to better leverage development funds for risk mitigation, generate a pipeline of bankable green infrastructure projects, and catalyse private finance.
Asian Development Bank (ADB)	<ul style="list-style-type: none"> Established Climate Change Fund in 2008 to facilitate investments in developing countries that address climate change consequences and climate resilient development.
World Bank	<ul style="list-style-type: none"> Involved in Indonesia as GEF agency and established the Indonesia Infrastructure Finance (IIF).
International Finance Corporation (IFC)	<ul style="list-style-type: none"> Represents first MFI in Indonesia to invest in gender and green bonds for women-owned SMEs in 2020. Acts as commercial lender for environmentally friendly and climate change mitigation projects.
Agence Française de Développement (AFD)	<ul style="list-style-type: none"> Provides funds to support and accelerate sustainable development such as for long-term loan facilities for clean energy projects and USD 100 million for environmental credit line offered via Bank Mandiri.
Japan International Cooperation Agency (JICA)	<ul style="list-style-type: none"> Offers funds to support Indonesia's infrastructure development, including through the Leading Asia's Private Infrastructure Fund.
United States Agency for International Development (USAID)	<ul style="list-style-type: none"> Provides consultation, technical assistance and co-investment in sustainable development.

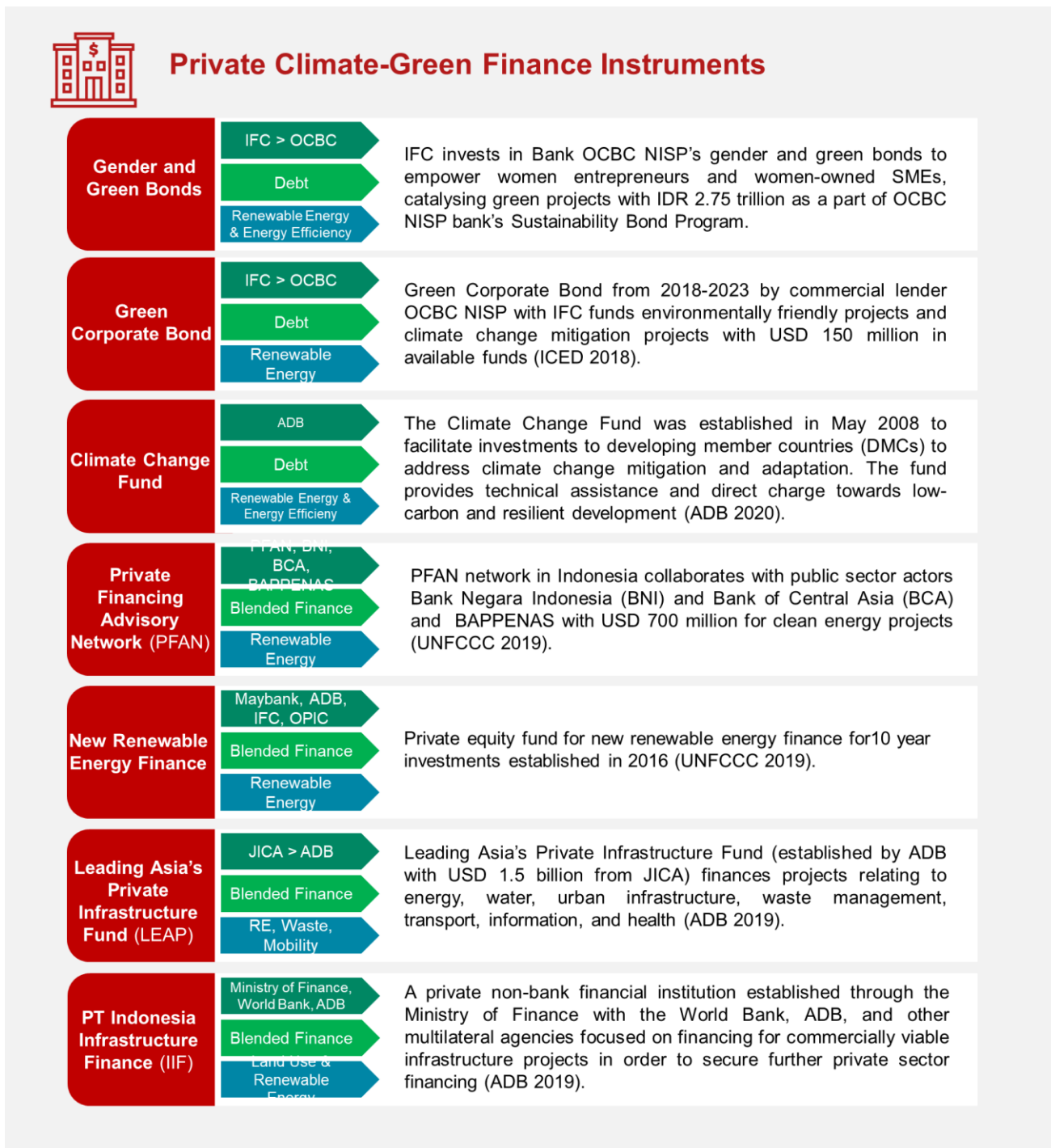
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)	<ul style="list-style-type: none"> • Offers grant funding for projects on protection of environment and biodiversity.
World Wildlife Fund (WWF)	<ul style="list-style-type: none"> • Collaborates with Ministry of Environment and Forestry to execute GEF programmes.
Australian Government Department of Foreign Affairs and Trade (DFAT)	<ul style="list-style-type: none"> • Contributes to multilateral funds, including ongoing commitment to GCF and GEF in Indonesia.
Conservation International	<ul style="list-style-type: none"> • Formed a Sustainable Landscapes Partnership (SLP) with GOI, which includes sustainable finance for innovative low-emission business models.
International Fund for Agricultural Development (IFAD)	<ul style="list-style-type: none"> • Acts as an executing agency of the GEF and GCF that finance sustainable ecosystem management and climate change adaptation and mitigation.
United Nations Development Programme (UNDP)	<ul style="list-style-type: none"> • Contributes to GCF and the GEF on strategic planning and action in order to strengthen climate resilience of rural communities.
UN Environment Programme (UNEP)	<ul style="list-style-type: none"> • Offers Finance Initiative that supports private sector financial institutions to mitigate climate risks and seize commercial opportunities from climate action by aligning portfolios to Paris Agreement objectives. • Conducts climate finance-related projects with governments in developing countries to access finance from GCF, GEF, and Adaptation Fund (AF).

Sources: Various organisation websites; ADB 2013, 2017, 2020; GEF 2020; ICED 2018; IFC 2020; USAID 2013; GIZ 2019; DFAT 2018; Conservation International 2020; IFAD 2020; UNDP 2020; UNEP 2020.

Private sector

In terms of green-climate finance business facilitation and SME financing, the private sector in Indonesia has taken significant steps towards market transformation through various financial products and services, included in **Figure 2a**.

Figure 2a. Private Green-Climate Finance Instruments (elaborated)





Private Climate-Green Finance Instruments (continued)



Sources: Various (indicated in figure).

Table 4a, Table 5a, Table 6a, Table 7a, and Table 8a summarise the activities and instruments of the private green-climate finance and SME finance ecosystem of commercial banks, MFIs, investors, SME intermediaries, fintech and others.

Table 4a: Summary of Commercial Bank Activities

Bank Rakyat Indonesia (BRI)	Invests 80% of its lending portfolio in MSMEs , as the oldest and largest bank in Indonesia.
Bank BJB	Offers financing for cleantech SME initiatives . Eligible to disburse KUR loans, Kredit Clinta Rakyat (KCR), and PESAT loans for MSMEs .
PT Bank Artha Graha Internasional	Integrates environmental, social, and governance aspects through programmes.

Sources: Various organisation websites; ACMFN 2019; WWF 2018.

Table 5a: Summary of MFI Activities

Komida	Is the second largest microfinance institution in Indonesia and provides financial and non-financial services to low-income and financially marginalised women .
Bina Artha Ventura	Is a growing venture capital company, active since 2011 in providing microfinance to women-led SMEs . Provides services through an extensive network reaching over 382,421 clients in Java and Sulawesi islands.

Sources: Various institution websites; ADBI 2019; Annadanam et al. 2017; Foundation Grameen 2019; Bina Artha 2018.

Table 6a: Summary of SME Intermediary Activities

Instellar	Is one of the oldest impact players in Indonesia and is the country-level SEED Hub in Indonesia, offering support for social entrepreneurs through a mix of cohort-based incubation and acceleration programs, consultancy services and access to impact enterprises network . Involved as SEED Indonesia Hub in delivering business development support to climate-smart and socially inclusive enterprises across sectors.
UnLtd Indonesia	Runs programs for supporting early stage social enterprises in Indonesia.
Digitaraya	Assisted 82 start-ups in 12 countries through their business acceleration program, collaborating with Indonesia's tech giants to support SMEs .

Sources: Various institution websites; ANGIN 2019.

Table 7a: Summary of Angel and Impact Investor Activities

ANGIN	Formed in 2012, is the largest angel investment network in Indonesia with 66 members, providing two services areas for ANGIN Investment and ANGIN Impact.
KINARA	Focuses as an early-stage impact-investing firm on providing financial access and scale-up support to impact enterprises .
New Energy Nexus	Supports clean energy entrepreneurs with funding, acceleration, and network building .
Angel-EQ	As Indonesia's first tech-focused investor network founded in 2015, investing in innovative companies that place technology at the core of their business models in order to scale and replicate.

Sources: Various institution websites; GIIN 2018.

Table 8a: Summary of Fintech Activities

GandengTangan	Matches SMEs that need business capital loans through an online crowd-lending platform for entrepreneurs and lenders where lenders "pool" money and choose businesses they want to support, starting from IDR 50,000.
Iternak	Provides loans for animal husbandry businesses through a P2P lending platform that has expanded outside West Sumatra into areas of Java.
Mekar	Is one of Indonesia's few marketplaces for productive and impact loans with 95% of their loans provided to women's businesses. Sources the businesses included in P2P lending platform via its large network of partner credit cooperatives that finance the underfinanced MSMEs in rural Indonesia.
Investree	Is an online P2P financial marketplace for SME lending .

Sources: Various institutions website; DBS 2019; ADBI 2019.

Further details on SME financing and green-climate finance – organised by instrument – in Indonesia are included in **Table 9a**.

Table 9a: SME Finance, Climate finance, Climate Finance for SMEs

Name of fund/initiative	Year	Financial Instrument	Ticket/fund Size	Stakeholders	Requirements / Features
SME Finance					
Komida and Mekar microfinance (ADBI, 2019, p.196)	2004	Impact investment in MSMEs	Savings and loans cooperative, offering small loans (IDR2 million- 15 million) without collateral	Komida, Mekar	SMEs finance for low-income and financially marginalized women
Kredit Usaha Rakyat (KUR) (Burger et al., 2015)	2007	KUR loans require no collateral and the government provides a partial credit guarantee to enterprises with limited collateral	Commercial banks were required to allocate 20% of their loan portfolio to SMEs and cooperatives at market interest rate	Yudhoyono administration; all commercial banks that provide KUR loans; Ministry of Finance	MSMEs finance
Partnership Programme with Small Business (PKBL) (OECD, 2018, p.151)	2007	SMEs benefit from subsidised loans to finance acquisition of fixed assets or working capital	SOEs should reserve 4% of their after-tax profits as loans for SMEs	SOEs, Ministry of SOE, SMEs	MSMEs finance
Mekar P2P lending loan (Mekar, 2020)	Est. 2010	P2P lending to SMEs through crowdfunding	US 250\$ per loan, raised IDR100billion from 2016-2017 for 50,000 SMEs	Women-led SMEs	MSMEs finance majority of which are for women-led SMEs
.BUMDes (Rodiyah, 2019, p.571)	2014	Base on the Law Number 23, BUMDes is a blended finance policy that forms village enterprises as commercial institutions to	Raised USD 2 billion via a “Green Sukuk” (a shariah government green bond)	Regional government, village owned enterprises	SMEs village-based enterprise finance

		establish village owned enterprises			
Investree (investree, 2019)	2015	P2P loans: Shariah, working capital loan, loans	Loan of up to IDR 2 billion	SMEs, lenders	For online seller financing: -Short tenor - Fast, flexible, 100% online approval - Without collateral - Interest starts at 0.9% per month
Gandeng Tangan	2015	P2P loans	-Loans Rp2.000.000 - Rp25.000.000 -Tenor 8, 12, 24, and 48 weeks	SMEs, lenders	1. Business has been running for at least 6 months 2. Funding is used for productive purposes 3. Has passed the verification and selection analysis of GT-Trust in your area, and 4. Willing to follow the assistance process, including regular meetings with GT-Trust
Iternak (Batunanggar, 2019)	2017	P2P loans	Offer period is 2 weeks Loan of IDR15,000,000 Investment value of Rp15,000,000 Estimated Profit Sharing 16% p.a. (status: frozen)	Animal husbandry SMEs concentrated in West Sumatra	Empowerment of farmers, livestock product maintenance, report the development of livestock units
BIDUK (Athena Global, 2020)	2020-2022	Blended finance loans and equity funding by IW and DFAT's Frontier Broker's program	15,000-75,000 USD without collateral	SMEs, Women-led SMEs, Australia DFAT	Focus on women-led SMEs
Climate Finance					
Green Corporate Bond (ICED, 2018)	2018	Blended finance debt by commercial lender OCBC-NISP with IFC. It is a five-year green bond to fund environmentally friendly projects and climate	USD 150 million	Lender bank OCBC NISP and the IFC	Green-climate fund

		change mitigation projects			
Green sukuk (SDG Philanthropy platform, 2018)	Est. in 2018	Five-year issuance raised shariah government green bond	USD1.25 billion	Ministry of Finance, investors include conventional, Islamic, and green investors	Much of these funds have been allocated for returns-generating SDG-relevant investments
Indonesia Climate Change Trust Fund (ICCTF)	Est. in 2009	Managed by Mandiri Bank since 2014 – as the country’s first multi-donor trust fund and key vehicle for achieving GHG emissions reductions and Indonesia’s transition to a low carbon, climate-resilient economy		Mandiri Bank	GHG emissions reductions
Global Climate Fund (GCF) (GCF 2020)	Est. in 2017	Designated within the Ministry of Finance to disburse fund climate finance flows from multilateral commitments, with the PT Sarana Multi Infrastruktur (PT SMI) through public-private partnerships in line with the government’s infrastructure development objectives	Accredited to provide to loans for projects between USD 10 – 50 million	Ministry of Finance	Climate finance
SDG Indonesia One (PT SMI) (CPI 2019)	Est. in 2018	Established SDG Indonesia One (PT SMI) platform that combines private and public sector	Secured USD 2.3 billion in financial commitments	PT SMI	Sustainable Development Goal (SDG) achievement

		funds within blended finance schemes for infrastructure projects that support Sustainable Development Goal (SDG) achievement			
Climate Finance for SMEs					
Kogama financial institution-providing loans for female led SMEs (ACMFN, 2018)	2017	Provide 3 types of loan between 1 to 10 million IDR per customer	Loan between 1 to 10 million IDR per customer.	Grassroot association (Kommunitas), community members associated with AIKMA, green-climate SMEs, prioritize female-led SMEs	Female-led SMEs, promotes green products, services, and clean-tech
IFC (IFC 2020)	2020	IFC invests in Bank OCBC NISP's gender and green bonds to empower women entrepreneurs and women-owned SMEs, catalyse green projects	IDR 2.75 trillion	IFC, Bank OCBC NISP as part of the bank's Sustainability Bond Program	Green and gender bonds
Credit cooperative from Melania Credit Union (ACMFN, 2019)	Est. 1991	A non-bank financial services institution provides savings and credit products for members, including cleantech SMEs	IDR 150 billion provided to SMEs	2000 SMEs	SMEs savings and credit products

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