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Climate mitigation finance in leveraging private investments in Indonesia

Aidy Halimanjaya^{a,b}

^aSDGs Centre, Padjadjaran University, Bandung, Indonesia; ^bSchool of International Development, University of East Anglia, Norwich, UK

ABSTRACT

This paper identifies and reviews arrangements by which climate mitigation finance taken from official development assistance (ODA) is used to leverage private-sector investment in Indonesia's greenhouse gas (GHG) emission reduction. It analyses eleven principal mitigation projects taken from 2010–2015 OECD Creditor Reporting System data, using an institutional analysis and development framework. The results show that within Indonesia's complex private-sector history and strong patronage system, mitigation finance has been deployed to support a number of early engagement activities with the private sector at the policy and administrative levels, with a less focus on the political level. Engagements to leverage private investment are initially made through research, prefeasibility studies and capacity-building. At later stages, mitigation finance offers the private sector opportunities to undertake pilot activities. Some pilot activities have had successful outcomes, with private sector entities acting as co-financiers and self-investors in large-scale infrastructure projects via arrangements such as public-private partnerships. Greater understanding of the history and political context of Indonesia's private sector is expected to improve donor and recipient strategies for leveraging private investment in risky projects, developing bankable business plans as well as providing accountability for the use of public finance in business-related international development activities.

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1. Introduction

Climate mitigation finance (hereafter 'mitigation finance') is a part of official development assistance (ODA) that is limited to paying for developing countries' emissions reduction towards the global target of limiting global temperature rise to 2°C above pre-industrial levels. They require US\$ 180–540 billion investment per year between 2010 and 2030 (Fankhauser et al. 2016). The 2016 biennial assessment of the United Nations Framework for Climate Change Convention (UNFCCC) estimates that the amount of leveraged private finance in 2014 was USD 16.7 billion (Buchner et al. 2015; UNFCCC 2016). This was relatively low, at approximately 41% of the total average flow of public finance to developing countries in 2013–2014, and less than 10% of the minimum

CONTACT Aidy Halimanjaya  aidy.halimanjaya@fe.unpad.ac.id, email@aidyhalimanjaya.com  Tyndall Centre for Climate Change Research, University of East Anglia, Norwich NR4 7TJ, UK

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investment required by developing countries. The contribution of private investment to the long-term global annual target for climate finance, US\$100 billion by 2020, is still far below its potential; the world has the opportunity to green foreign direct investment, whose 2014 outflow from developed countries is estimated reaching US\$ 795 billion (OECD 2016). Despite a pessimistic view on the US climate policy under Trump's leadership and the significant decrease of the European Union Emission Allowance Price since 2011, technological innovations and market activities to distribute low carbon commodities such as solar panel continue to escalate (Plumer 2017; Healy, Graichen, and Gores 2016).

A limited amount of public finance and the immense potential of private investment in large-scale green infrastructure projects around the world stimulate the global climate finance community to further leverage and track global private and public financial resources to achieve the global financial target (Clapp et al. 2012; VanKerkhoff et al. 2011). In light of this endeavour, some donor countries such as the UK include leveraging private investment as their performance indicator (ICF 2017), despite public debate regarding the use of public finance for mitigation projects, which arguably benefits large private companies rather than households (Mendick 2017).

Indonesia has a number of prominent national and international private-sector actors that play a significant role in the world's economy (Forbes 2016). They have enormous potential to support the country, which is one of the largest GHG emissions in the world, by mitigating its national emissions. Indonesia's commitment is stipulated in its national mitigation action plan (known as RAN-GRK) and intended national determined contribution (NDC), whose implementation will be accelerated by private investment.

However, to date there is little information on the amount of private investment in climate mitigation or on how climate mitigation finance via funded projects catalyses existing private investment in mitigating Indonesia's GHG emissions. Very few academic studies of private investment in climate mitigation in Indonesia exist. This paper responds to this gap to support mitigation projects in Indonesia with leveraging private investment in mitigation projects, and to inform the government about ways that mitigation projects can engage the private sector.

Awareness and interest are needed on the part of private and public companies around the world, including Indonesia's state-owned enterprises (SOEs), as potential investors and project implementors collaborating on projects funded by mitigation finance. Together, public and private mitigation finance can contribute to achieving Indonesia's NDC and the Paris Agreement's target of US\$100 billion in climate finance per year by 2020.

This paper addresses three main questions:

- Who are the major private-sector actors in Indonesia with a potential role in climate mitigation?
- How has mitigation finance been used to leverage the private sector's investment in Indonesia's GHG emission reduction?
- Does mitigation finance take into account the perceived incentives of the private sector and its patterns of interaction, to leverage its investments in Indonesia's GHG emission reduction?

The paper answers these questions in four sections: the first provides the overall context of Indonesia's private sector landscape and history, identifying the major potential actors in

the mitigation of Indonesia's GHG emissions. The second explains the data and methodology used in this research. The third section examines eleven mitigation projects with a private sector element as one of the main project objectives. The fourth section analyses the financial strategies employed by these mitigation projects to include the perceived incentives of the private sector and its patterns of interaction, to leverage private investment in Indonesia's GHG emission reduction. The last section offers concluding remarks.

2. Indonesia's private sector landscape and history

In Indonesia's private sector, numerous business actors interact in a vast and intricate multilevel governance landscape. Micro, small and medium businesses comprise the majority in the private business landscape, which is politically influenced and dominated by a few large-scale private companies and SOEs connected to Indonesia's past political regime and history. Approximately 98% registered companies are small to medium businesses and they contributed approximately 57% of Indonesia's GDP in 2015 and absorbed 97% of the national labour force (Bank Indonesia 2015). Large businesses make up no more than 0.01% of all businesses in Indonesia, with not more than 10% of these (539 of 5066) listed on the Jakarta stock exchange. Twenty of the listed companies are well-performing SOEs (see Table 1) with a significant influence on national politics, and more broadly, on Indonesia's economy.

Although there are only a few mega businesses in Indonesia, their power to influence national politics and economy is immense. The case of PT Freeport Indonesia, one of the largest mining companies in Indonesia's landscape sector, has challenged the nation's stability. With US\$14.6 billion revenue in 2015, approximately 1.6% of Indonesia's GDP that year (PTFI 2017), the company manoeuvred its political and economic power to gain the support of Indonesian Members of Parliament for the extension of its contract, leading to a massive scandal that involved the head of the National Parliament (Kurniawan 2015).

Indonesia's private-sector landscape has been shaped by the country's historical development since the colonial period. Some state-owned enterprises and national and international companies in Indonesia with a crucial role in mitigating GHG emissions are linked to high-level politics in an inherently complex patronage system (McCulloch 2003; Widoyoko et al. 2003). The dominance of the colonial structure in the 1950s pushed the Indonesian government to nationalise some foreign colonial companies as state-owned enterprises (SOEs), whose senior management was entrusted to ex-military officers (McCulloch 2003; Wie 2006; Widoyoko et al. 2003). This system is still maintained by the government to some extent. The government argues that having ex-military officers as senior SOE managers is necessary to safeguard companies that operate in areas of land and social conflict (Metrotvnews 2016b). The national army commander, Gen. (ret) Sutarto, held the position of Chief Commissioner and Independent Commissioner of PT Pertamina (hukumonline.com, 2006), and Admiral (ret) Suhartono was President Commissioner of PT Bukit Asam (Utama 2015).

To date, 12 of the 119 SOEs listed in Table 2 are companies that can play an important role in climate mitigation. Despite their expected function as the main drivers of economic growth, innovators of new technologies and drivers of social investment and recently [contributors] to climate mitigation, some of these SOEs suffer from poor financial performance and low-capacity issues (Sutianto 2015), although they have received privileges

Table 1. Overview of private sector classification in Indonesia.

Aspect	Type	Number in Indonesia
Business scale according to Law Number 20 Year 2008 (GOI 2008)	• Micro (maximum net asset Rp. 50 m excluding land and building or maximum annual sales Rp. 300 m)	• 57,189,393 registered entities in 2013 (KKUKM 2017)
	• Small (net asset is in between Rp. 50–500 m excluding land and building or annual sales in between Rp. 300–2500 m)	• 654,222 registered entities (<i>ibid</i>)
	• Medium (net asset is in between Rp. 500–10,000 m excluding land and building or annual sales in between Rp 2500–50,000 m)	• 52,106 registered entities (<i>ibid</i>)
	• Large (implicitly with net asset or annual sales larger than the medium size company)	• 5066 registered entities (<i>ibid</i>)
Standard classification of business fields in Indonesia (BPS 2015)	• Agriculture, forestry and fisheries (partially cover agriculture forestry and land use (AFOLU))	• 21 registered entities (1 in crop, 16 in plantation, 3 in fisheries, 1 in other sub-sector) (Sahamok 2017)
	• Mining and excavation	• 41 registered entities (23 in coal, 7 in oil and gas, 9 in metal and mineral, and 2 in other sediments).
	• Processing industry	• 67 registered entities (6 in cement, 6 in porcelain and glass, 16 in metal, 11 in chemical, 13 in plastics and packaging, 4 in animal feed, 2 wood processing, 9 in pulp and paper)
	• Procurement of electricity, gas, steam/hot and cold air	• 5 registered entities
	• Water management, waste water, and waste management and remediation activities	• N/A
	• Construction	• 12 registered entities
	• Wholesale and retail trade	• 64 registered entities (35 in large goods for production and consumption, 23 in retail, 6 in others)
	• Repair and maintenance cars and motorcycles	• 13 registered entities
	• Transportation and warehousing	• 3 registered entities (3 in toll road, aviation, and port industry, 33 in transportation)
	• The provision of accommodation and provision of mass consumer goods including food and beverages	• 14 registered entities
	• Information and communication	• 6 registered entities (in communication)
	• Financial and insurance activities	• 92 registered entities (43 in banking, 16 in financing, 10 in capital and securities, 12 in insurance, and 1 in other, 10 investment)
	• Real estate	• 47 registered entities
	• Activities professional, scientific and technical	• 6 registered entities (computer and software)
	• Activities rental and leasing without option rights, employment, travel agencies and other business support	• 21 registered entities
	• Administration, defence and compulsory social security	• N/A
• Education	• N/A	
• Activities human health and social activities	• 5 registered entities	
• Arts, entertainment and recreation	• Listed under travel agencies	

(Continued)

Table 1. Continued.

Aspect	Type	Number in Indonesia
Legal basis (based on The Book of the Commercial Law or <i>Wetboek van Koophandel voor Indonesie</i>)	• Activities other services	• 15 registered entities (in advertising, printed and media)
	• Activities household as employer; activities that produce goods and services by household used to meet individual needs	• N/A
	• Activities of international agencies and other international extra firm	• N/A
	Type of formal entity with legal basis	
	• State own enterprise (BUMN) (Law No. 19 Year 2003)	• 119 registered entities up to 2015 (will be reduced to 85 units up to 2019) (Metrotvnews 2016a).
	• Limited Liability Company (or known as <i>Perusahaan Terbatas</i> (PT)) including holding companies (Law No. 40 Year 2007) with minimum capital of Rp. 25m	• 539 registered entities in Jakarta stock exchange up to 2017 and this includes 20 go-public-SOEs (Sahamok 2017).
	• Non private and for philanthropic purposes:	• 150,223 registered entities up to 2015 (BPS 2017)
	◦ Cooperative (Law No. 5 Year 1992)	• N/A
	◦ Foundation	• N/A
	Type of informal entity without legal basis	
• <i>Persekutuan perdata</i>	• N/A	
• <i>Commanditaire vennootschap</i> or (<i>persekutuan komanditer</i> (CV))	• N/A	
• Firm (<i>firma</i>)	• N/A	
• Individual company	• N/A	

such as a monopoly on the import of essential commodities and a continuous supply of state credit (Wie 2006).

During the colonial period, Chinese private companies with both foreign and national citizenship played an important intermediary role in some areas such as money-lending and food production and distribution (Wie 2006). The Suharto era promoted policies to increase the involvement of other actors, namely indigenous (*pribumi*) businesspersons and foreign investment companies; however, these policies were deemed ineffective (*ibid*). Due to low involvement by indigenous businesses the government introduced the Benteng Program, which gave indigenous businessmen easy access to cheap credit.

The landscape and structure of the private sector in Indonesia have been historically constructed and shaped by Indonesia's political transition from the colonial period to the New Order era (1966–1998) and then to the post-New Order era (after 2008). It is unsurprising that, as the legacy of several political regimes, the landscape of Indonesia's private sector has become a complex network of political and high-level actors and entities from different political regimes who have been objects, partners and agents of development (Cowen and Shenton 1996).

3. Methodology

3.1. Data and approach

This paper uses secondary data. Climate mitigation finance data at project level was extracted from the OECD's Creditor Reporting System (CRS) (OECD 2017). The

Table 2. Some Indonesian SOEs transformed from the colonial period with a potential role in climate mitigation.

Standard classification of business fields	Nature of service	Potential role in climate mitigation	Name during the colonial period	Current name
Procurement of electricity, gas, steam/ hot and cold air	Electricity company	Purchase and distribute low carbon energy sold by independent power producers, produce low carbon energy	Nederlandche Indische Electriciteit Maatschappij (NIEM) under N.V. Handelsvennootschap (before was Maintz & Co.) (Basundoro 2009)	PT Perusahaan Listrik Negara (PLN)
	Gas company	Produce an alternative to low carbon energy	I.J.N. Eindhoven & Co (PGN 2017)	PT. Perusahaan Gas Negara (PGN)
Agriculture, forestry and fisheries	Production forest company	Implement sustainable forest and landscape management	Djatibedrijf (state teak company) in Java Region (BUMN 2017a)	PT Perhutani
Construction	Steel and building	Promote green building and adheres to environmental and social safeguards	NV Constructie Werk Plaatsen De Vri'es Robbe Lindeteves or Robbe Linde & Co (AmartaKarya 2017)	PT Amarta Karya
	Mega construction, infrastructure and building		Architecten-Ingenuire-en Annemersbedrijf Associatie Selle en de Bruyn, Reyerse en de Vries N.V. (Assosiate N.V.) (ADHI 2017)	PT Adhi Karya
Transportation and warehousing	Railways	Promote the use of public transports and the use of low carbon energy, i.e. non-coal railway system	Hollandsche Beton Maatschappij (BUMN 2017b)	PT Hutama Karya
			Naamloze Vennootschap Technische Handel Maatschappij en Bouwbedrijf Vis en Co. atau NV Vis en Co. (WIKA 2017)	PT Wijaya Karya
	Jakarta's mass transportation		Volker Maatschappij Nv Aannemings (BUMN 2017c) Naamloze Vennootschap Nederlansch Indische Spoorweg Maatschappij (NV. NISM) (during Dutch Colonial Era) and Rikuyu Sokyuku (during Japan's colonial era) (KAI 2017) Bataviache Verkers Maatchppij (BVM NV) (BUMN 2017d)	PT Waskita Karya PT Kereta Api Indonesia Perum PPD
Mining and excavation	Oil and gas only (previously) now including renewable energy	Increase the portfolio of renewable energy sources	Royal Dutch Company (Pertamina 2017)	PT Pertamina
	Coal mine	Adhere to environmental social safeguards, reduce the production, improve the efficiency of machinaries	Open mining pit in Tambang Air Laya supervised under the Dutch Colonial Regime started in 1919 and transferred to be PN TABA in 1950 (PTBA 2017)	PT Bukit Asam
Financial and insurance activities	Banking	Channel finance and loan provision for mitigation and climate change projects	De Poerwokertosche Hulp en Spaarbank der Inlandsche Hoofden (BRI 2017)	PT Bank Rakyat Indonesia

OECD dataset used for the analysis here was prepared by the OECD administrator and excludes coal-related financing, other official flows (OOF) and regional projects, which may include Indonesia. This paper focuses only on principal climate mitigation projects (coded ‘2’ in CRS) with Indonesia the main destination, whose donor commitment took place in 2010–2015. A keyword search using “private” and/or “private sector” was used to filter 1064 projects that fulfilled the above criteria. It resulted in eleven climate mitigation projects that explicitly define the private sector as one of their main objectives. Restricted case studies, which consist of eleven projects, may not include all of the projects engaging the private sector, as some do not have a full project description mentioning the involvement of the private sector. Therefore project document and literature reviews were conducted to investigate the strategies of these eleven projects and their interaction with the private sector. The results of the restricted case studies are discussed in Section 4.

3.2. Institutional analysis and development (IAD) framework

The IAD framework was introduced in 1973 and has been widely used to analyse various aspects of foreign aid (Gibson et al. 2005; Ostrom 1999, 2005). However, it has never been used to analyse mitigation finance as part of foreign aid. With the aim of investigating the mechanism through which mitigation finance devises possible incentives for the private sector to invest in Indonesia’s climate mitigation, the framework becomes relevant and useful in two ways. First, it identifies the universal elements that studies of incentives need to include (*ibid*): context, action arena, patterns of interactions, evaluation criteria, and outcomes (Figure 1). Second, the design of the IAD framework (see Figure 1) allows observation of a relationship: in particular, the donors (through the project managers) and their financial allocation strategy respond to the private sector’s perceived incentives and patterns of interactions to achieve the desired outcomes, leveraging the private sector’s investment in Indonesia’s GHG emission reduction.

The first and second elements of the IAD framework, context and the action arena, are covered in Section 2. The history of the private sector in Indonesia explains the three components of the context: (1) the material conditions: how the private sector in Indonesia was

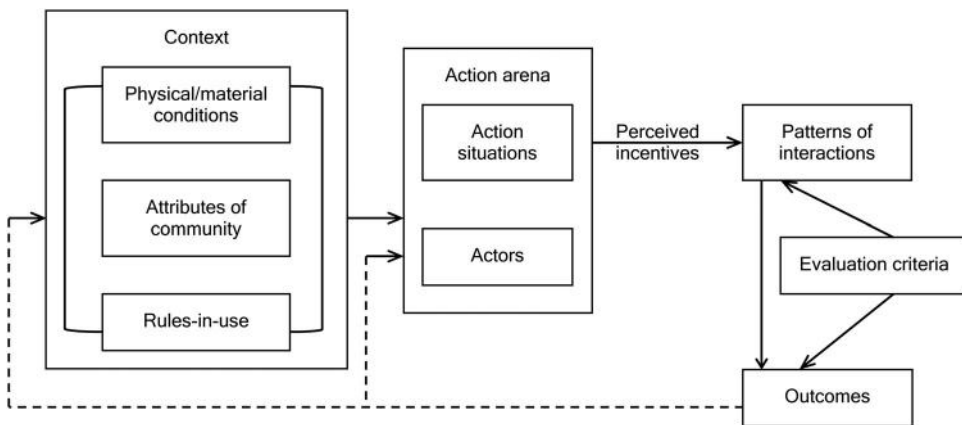


Figure 1. A framework for institutional analysis. Source: Gibson et al. (2005, 26).

constructed; (2) the private sector's attributes: the scale of business and classification of business fields; and (3) the rules-in-use: the legal basis of the private sector (Table 1) and the political economy of Indonesia's private sector. This is broadly explained by the landscape of the private sector in Indonesia.

The landscape of the private sector in Indonesia also provides an overarching perspective on the action arena, the second element of the IAD framework. Some relevant private-sector actors in Indonesia are outlined in Tables 2 and 3. Their situation, such as SOEs' monopolistic nature and the preferential treatment that they receive despite the country's economic reliance on micro-, small- and medium-scale businesses, is explained as part of the history of Indonesia's private sector. The next section identifies the patterns of interaction between mitigation finance and private-sector actors at project level, and discusses how mitigation projects respond to the private sector's perceived incentives and to financial or non-financial benefits that attract private investment in mitigation projects.

4. The mitigation finance approach to leveraging private investment in mitigation projects

With an underlying mission to transform financial systems and key mitigation sectors (NCE 2016), mitigation finance relies on several SOEs and large private-sector actors who play a central role in the implementation of numerous mitigation projects across Indonesia. Table 4 shows eleven mitigation projects that engage the private sector by various means in the agriculture, forestry and land use (AFOLU) and energy-related sectors.

4.1. Agriculture, forestry and land use sector

The AFOLU sector makes the largest contribution to Indonesia's GHG emissions and is largely managed by private-sector actors through land concessions and licenses. This paper identifies the key activities in which such actors are expected to take specific roles in mitigation project activities, namely forestry-related research, sustainable palm-oil development, land-mapping, and general forestry and climate protection projects.

4.1.1. The private sector in a REDD+ research project

The forestry research for reducing emissions from deforestation and forest degradation (REDD+) programme engages palm and soy plantation companies, producers of timber and fibre for pulp and paper, and smallholders from which large companies usually source their materials (ACIAR 2017). The programme expects these companies to be able to involve themselves in REDD+ payment schemes, a benefit-sharing mechanism (*ibid*) that allows the private sector, the government and communities to share some of the costs and benefits associated with land use for REDD+. However, the research project does not directly leverage private-sector investment in REDD+. A significant direct leverage will only be possible when the REDD+ financial mechanism and the whole programme is up and running.

Although the private sector's involvement in this research is limited and no significant direct private investment is leveraged, private sector entities are involved in the project as respondents or informants. Their involvement is expected to improve their understanding

Table 3. Indonesia's large private companies with a potential role in climate mitigation.

Standard classification of business fields in Indonesia	Nature of service	Potential role in climate mitigation	Name of company	Forbes Rank	Sales 2016 (trillion IDR)	% of Indonesia's GDP*
Agriculture, Forestry and Fisheries	Plantation company	Implement sustainable forest and landscape management	PT FKS Multi Agro Tbk.	43	13.4	0.45%
			PT Wilmar Cahaya Indonesia Tbk.	44	3	0.10%
Construction		Implement environmental and social safeguards	PT Nusa Raya Cipta Tbk.	25	3.6	0.12%
			PT Acset Indonusa Tbk.	38	1.4	0.05%
The provision of accommodation and provision of mass consumer goods including food and beverages	Mass consumer goods (MCG)	Implement sustainable sourcing and supply chain	PT Unilever Indonesia Tbk.	1	36.5	1.24%
			PT Indofood CBP Sukses Makmur Tbk.	17	32	1.09%
			PT Cardig Aero Services Tbk.	23	1.7	0.06%
			PT Industri Jamu & Farmasi Sido Muncul Tbk.	24	2.2	0.07%
			PT Tiga Pilar Sejahtera Food Tbk.	31	4.7	0.16%
			PT Siantar Top Tbk.	32	2.5	0.08%
			PT Sekar Laut Tbk.	50	0.745	0.03%
			PT Pakuwon Jati Tbk.	3	4.6	0.16%
			PT Metropolitan Kentjana Tbk.	7	2.1	0.07%
			PT Bumi Serpong Damai Tbk.	8	6	0.20%
Real estate	Property	Promote green building and implement environmental and social safeguards	PT Sumarecon Agung Tbk.	9	5.6	0.19%
			PT Lippo Cikarang Tbk.	21	2	0.07%
			PT Modernland Realty Tbk.	22	3	0.10%
			PT Ciputra Surya Tbk.	28	2	0.07%
			PT Indonesia Paradise Property Tbk.	34	10	0.34%
			PT Metropolitan Land Tbk.	36	1	0.03%
			PT Intiland Development Tbk.	39	2.2	0.07%
			PT Perdana Gapuraprima Tbk.	48	0.4	0.01%
			PT Sri Rejeki Isman Tbk.	30	9	0.31%
			PT Ekadharna International Tbk.	46	0.532	0.02%
Processing industry		Implement energy efficiency program	PT KMI Wire and Cable Tbk.	47	3	0.10%
			PT Bank Central Asia Tbk.	6	23	0.78%
Financial and insurance activities	Banking	Channel fund and loan provision	PT Bank Mayapada Internasional Tbk.	29	5	0.17%
	Multi-finance Company		PT Clipan Finance Indonesia Tbk.	41	1	0.03%
			PT Batavia Prosperindo Tbk.	45	0.25	0.01%
Total sales % of 2016 GDP						6.18%

Note: The private companies above are among the top fifty private companies including SOEs according to Forbes (2016), whose evaluation is based on sustainable performance in sales, net profit and return on equity in a 3–5-year period excluding SOEs and business fields indirectly connected with climate mitigation, namely financial and insurance activities, information and communication, rental and leasing, and wholesale and retail trade.

*GDP Q1 (2016) = IDR Rp2.947,6 trillion (BPS 2016).

Table 4. List of mitigation projects in Indonesia aiming to leverage private investment as one of their main project objectives.

No	Project name	Donor	Sector or nature of project/program	Role of private sector in the project	Expected from the private sector as stated in the project document or CRS	Financial commitment stated in the CRS in million US\$ (total budget in the project document)	Financial commitment period (project life cycle)	Government counterpart
<i>AFOLU sector</i>								
4.1.1	Enhancing smallholder benefits from reduced emissions from deforestation and forest degradation (REDD+) in Indonesia	Australia	Forestry research	Respondents and research subject	Private sector involvement in REDD+ activities and REDD+ payment schemes	0.34 (US 1.6m)	2014 (01/05/2013 – 30/04/2017 extended until 30/04/2018)	Forestry Research and Development Agency, Indonesia
4.1.2	CGIAR (Consultative Group on International Agricultural Research) Fund grant with the World Bank. – Agricultural Sector Capacity	United States	Agriculture development	Participation in agricultural research	Private sector involvement in learning and engagement event	0.26	2012–2013 (30/09/2011 – 30/09/2011)	Unspecified
4.1.3	Sustainable Palm Oil	Germany	Mutlisector	Implementers in pilot projects of sustainable palm oil initiative	Implement sustainable palm oil principles and approach	0.48	2015	Ministry of Agriculture
4.1.4	Grant to World Resources Institute (WRI) for creation of degraded land-mapping for Kalimantan and Papua Provinces (POTICO)	United Kingdom	General environment protection – environmental policy and administrative management	Participants of degraded land-mapping in Kalimantan and Papua Provinces	Implement policies to support socially equitable oil palm expansion onto low-carbon degraded land and reduce conversion of forested areas	0.19 (£2.2 m)	2012 (10/03/2012 – 31/01/2015)	BAPPENAS, RSPO, BP-REDD*, Ministry of Agriculture
4.1.5	Forest and Climate Protection FORCLIME	Germany	Forestry policy and administrative management	Sustainable forest management implementers	Improve the institutions and normative framework conditions, methods and services for sustainable forest management, biodiversity protection and REDD	20.91 (€ 14.8 m)	2012, 2014 (11/11/2008 – 31/01/2013; 06/12/2012 – 31/12/2014 implementation period 2013 to 2016)	The Ministry of Environment and Forestry

4.1.6	Sustainable Landscapes Partnership (SLP)	United States	General environment protection – biodiversity, biosphere protection	Project participants	Participation in the Public Private Partnership for Low Emissions Development in Indonesia	2.63	2011, 2015 (21/01/2011 – 21/01/2011)	Local governments
4.1.7	The Interim Forest Finance Facility – Indonesia (IFFF)	Norway	General environment protection – environmental policy and administrative management	Capacity building participant	Improve understanding of the Interim Forest Facility Business Case	47.4 (6 m Norwegian kroner)	2013–2014 (01/01/2013 – 31/12/2014)	Unspecified
<i>Energy and related sector</i>								
4.2.1	Private Sector Geothermal Energy Program	CIF	Geothermal energy development	Project operators and lender	Private sector and SOEs borrow finance without government guarantee and co-finance as much as US\$ 2475 m.	149.8 (US\$ 150 m)	2013 (01/12/2013 – N/A)	Ministry of Finance
4.2.2	Energy and Environment Partnership Program (EEP)	Finland	Energy generation, renewable sources – multiple technologies	Biomass project implementers	Co-investment in biomass projects in rural areas in two provinces, Riau and Central Kalimantan	0.15 (€ 4m)	2013 (10/12/2009 – 31/12/2014)	The Ministry of Energy and Mineral Resources
4.2.3	Cities Development Initiative for Asia, Urban Development Indonesia	Switzerland	Mutlisector aid	Not defined	Urban infrastructure investors	2.06	2013 (08/06/2013 – 31/12/2017)	Various**
4.2.4	Indonesia Clean Energy Development (ICED)	United States	Energy and general environment protection (clean productive environment, energy policy and administrative management (Modern Energy Services))	Energy efficiency and on- and off-grid renewable energy pilot project implementers	Investment in energy efficiency and on- and off-grid renewable energy pilot projects	3.26	2011–2014 (08/03/2011 – 08/03/2014)	Ministry of Energy and Mineral Resources

*Institution is integrated under the Ministry of Environment and Forestry.

**Provincial Government of Aceh; Ministry of Transportation; Ministry of Public Works; Bappenas; Ministry of Economy.

of forestry issues and the solutions offered such as the REDD+ benefit sharing mechanism. It also allows them to provide invaluable input on how REDD+ can optimise the benefits and mitigate the risks so that the programme can accommodate the private sector's perceived incentives.

4.1.2. The private sector in an agricultural research project

CGIAR research engages the private sector in scaling up climate-smart agriculture. The research aims to indirectly catalyse private investment in demand and supply. On the supply side, it aims to strengthen the climate resilience of agricultural landscapes and farming communities through agroecological approaches. These approaches are expected to result in private investment from the smallholders who make up 80% of the farmers around the world (*ibid*). The target is for these smallholders to finance investment in agricultural systems, with the goals of adaptation, mitigation and beyond including food security, biodiversity conservation, and poverty alleviation (Harvey et al. 2014). In Indonesia, studies aligned with the CGIAR's flagship agricultural development programme (CGIAR 2017) include a study of the palm oil industry and one of smallholders in East Kalimantan conducted by the Centre for International Forestry Research (CIFOR).

On the demand side, CGIAR's research aims to motivate food and beverage companies to make bold commitments to sustainable sourcing (Dinesh 2015). Such companies have been engaged through dialogue at a number of public-private sector learning events where the private companies communicate their views and their perceived incentives (CGIAR 2017; Knowledge4Food 2015). As with REDD+ forestry research, direct private-sector investment in CGIAR research is limited, although the programmes may evaluate the volume of private investment catalysed as one of the impacts of the research.

4.1.3. The private sector in a sustainable palm oil project

A sustainable palm oil project funded by Germany engages large, medium and small palm-oil companies to implement standards of practice that will mitigate any negative effects of their operations on the environment. The implementation of these standards requires significant company investment. A study estimates that independent palm-oil smallholders in Indonesia need to invest approximately 5%–14% of their mean annual revenue from oil palm in the up-front cost of Roundtable on Sustainable Palm Oil (RSPO) certification (Reitberg and Slingerland 2016). These costs are for documentation and materials; training and organisation; land assessment and management, and the certification process (*ibid*). With a commitment of US\$477,000, the project has the potential to simultaneously catalyse private investment in obtaining RSPO certification during the delivery of the project, although this certification is arguably ineffective in protecting forests and habitats (Ruysschaert and Salles 2014).

4.1.4. The private sector in a land-mapping project

Like a research project or programme, a land-mapping project known as POTICO engages private forest and agriculture companies in discussion and dialogue in order to accommodate their perceived incentives. However, it leverages limited direct private investment. What engages private-sector actors, notably palm-oil, pulp and paper and mining companies and other stakeholders, in the project is the lack of agreement among them about land boundaries in many areas in Indonesia. The UK government provided grants to the World

Resources Institute (WRI) to produce spatial interactive maps with advanced satellite imagery technology (known as ‘the suitability mapper’) for Kalimantan and Papua Provinces.

POTICO believes that key stakeholders, including palm-oil companies, can be motivated to invest in degraded or low-carbon areas – that is, to move away from natural forests – by the provision of clear maps whose boundaries and territories agreed by key stakeholders (WRI 2017). The project does not directly leverage private investment but facilitates palm-oil companies’ sustainable investment decisions.

A post-project evaluation may seek to measure the project’s success in leveraging investment from palm-oil companies; however, the project’s achievement is arguably conditional upon the availability of so far non-existent government regulations to reinforce the implementation of sustainable forest production.

4.1.5. The private sector in a forest- and climate-protection project

The German forest and climate protection project (FORCLIME) provides approximately US\$20 m of technical assistance and involves the private sector in several strategic windows. It supports various technical aspects of forest development at the national, provincial and district levels. The project aims to improve the relevant institutions and their normative framework conditions, methods and services for sustainable forest management and biodiversity.

One of its strategic windows engages with concession-holders such as timber plantation companies to assist them with obtaining Forest Stewardship Council (FSC) certification, promoting and implementing best practice in concession management, and improving their forest management data and information (FORCLIME 2017). With FSC certification, businesses can access new markets and a stronger and more diverse customer base (FSC 2017a, 2017b).

Another of FORCLIME’s strategic windows engages small to medium community-based businesses in the development of forest management units (FMUs). FMUs are the smallest entity under the supervision of provincial government, and report to the Ministry of Environment and Forestry. Their mandate is mainly to monitor and manage allocated forest areas. In December 2013, 120 of the 530 FMUs across Indonesia had been developed (MOEF 2017). While they are expected to become the backbone of REDD+ implementation and to facilitate community-based business development initiatives, in reality many are constrained by a lack of human resources and technical capacity. Problems with government capacity and other factors such as transportation access, business scale, and uncertain non-timber forest product supply may increase both the costs and the risks of investing. These factors can hinder private investment in community-based businesses, which usually rely on or are controlled by informal actors such as middlemen and loan sharks (Yusi 2015).

In a wide-scope forestry policy programme such as FORCLIME, projects interact with various private-sector actors from large concession-holders to small and medium community-based businesses. In FORCLIME, the private sector’s perceived incentives are channelled through multi-stakeholder discussion and capacity-building activities such as training sessions and workshops.

Like a land-mapping project, FORCLIME can leverage private investment in two ways. The first is by motivating forest concession-holders to achieve FSC certification. The direct

audit costs for a five-year certification contract for 2500 acres start at about US\$10,000. This increases based on acreage and management intensity (FSC 2017b): for a forest group of 100 members with 5000–50,000 acres, the costs could reach US\$35,000, and for 40,000 members with 2 million acres it could reach \$120,000 plus (*ibid*). On top of this there are indirect certification costs, such as for the development of policies for environmental, social and economic performance criteria, and compliance with management system criteria for forest and resource inventory, planning, implementation, monitoring, records, and reports (*ibid*). The private sector may see investment in the whole process of FSC certification as an extra and dispensable cost which also needs a certificate from Indonesia's Timber Legality Verification System (SVLK) for market access to the European Union.

The second way that FORCLIME can leverage private investment is by supporting FMUs that are successfully demonstrate sustainable forest management plots to develop a robust business plan that can attract sizable private investment.

4.1.6. The private sector in the sustainable landscape partnership (SLP) project

The SLP project focuses on private actors upstream and downstream of the landscape sector to improve commercial agricultural land use in Indonesia. The project interacts with palm-oil companies and other large companies that source agricultural commodities, such as Starbucks, and takes place in forums, discussions and project collaborations (CI Indonesia 2016). The SLP promotes best production and supply chain practices by supporting these large companies' efforts to create sustainable action plans, implement best management practices and forge supply agreements with farmer groups.

Some of the SLP project's main activities with private companies include greening the supply chains for rubber, cocoa and coffee, and developing a low-emission business model using payment-for-ecosystem services (PES) as an alternative to deforestation. The expectation is that commercial activities can positively benefit these companies and farmer and community livelihoods, while protecting the forest and wildlife (CI 2017). One PES case that the SLP is promoting is improved watershed management to ensure the water quality of irrigation systems, such as in its project with the Wey Besai dam operators in Lampung. The incentive offered to the river-care group is US \$1000 for a sediment reduction of 30%, US\$700 for a 20% reduction and US\$500 for a 10% reduction (CI n.d.). While there is no regulatory framework for the PES, formulating the private sector's perceived incentives is facilitating a win-win situation between stakeholders in several cases.

4.1.7. The private sector in the interim forest finance facility (IFFF) project

The Interim Forest Finance Facility is set up to leverage private-sector demand for REDD+, which is lagging far behind its supply. The project interacts with the private sector through discussions and knowledge exchange to improve private-sector and other stakeholders' understanding of key areas: financing mechanism and options for REDD+, agricultural commodities, and the way of IFFF operating in Brazil and Indonesia (Norad 2017). The project is limited to directly leveraged private investment and is in the early phase of identifying perceived incentives for the private sector to invest in REDD+.

4.2. Energy and related sectors

In the development of Indonesia's energy and energy-related sectors there has been much focus on leveraging private investment in renewable-energy generation such as geothermal and biomass developments, energy-efficiency programmes, and mass public transport projects.

4.2.1. The private sector in the private sector geothermal energy program

The Private Sector Geothermal Energy Program directly leverages private investment using various financial instruments such as insurance and concessional debt, with various tenor or the time-to-maturity and grace periods. These instruments are tailored to meet the needs of private-sector actors, notably independent power producers (IPPs) in Indonesia and the Philippines (CIFs 2016). The programme was initiated by the Climate Investment Funds' Clean Technology Fund under the umbrella of the Dedicated Private Sector Program (DPSP), which is delivered by the Asia Development Bank (ADB)'s Private Sector Operations Department.

Despite an explicit and strong focus on leveraging a significant amount of private investment and the aim of providing a speedy and efficient processing procedure, the project has made a late start (*ibid*). The CIFs' steering committee approved the project in 2013, and it is expected to be implemented in 2017. The CTF have allocated US \$150m to this project alone, to be co-financed by the ADB (US\$30m) and private investment (US\$120m) (*ibid*).

The IPP's perceived incentives in the case of the Private Sector Geothermal Energy Program are well integrated into its financing and capacity-building strategy to directly leverage private investment. The project backs the IPPs by providing limited-recourse project debt, which is essential considering the capital intensity of its exploration and early development phases (IFC 2011).

However, well-formulated financial instruments according to the perceived incentives of the private sector are not the only factor determining private-sector willingness to invest in geothermal projects: the suitability and stability of the policy regime and preferential price and tariff support are key factors in increasing such investment in geothermal development and other renewable energy sources in Indonesia and everywhere else (*ibid*). In countries such as Indonesia the unstable policy regime can become a major bottleneck, with policies changing when the government changes (Halimanjaya and McFarland 2014).

4.2.2. The private sector in the energy and environment partnership program

The Energy and Environment Partnership Program (EEP) in Indonesia interacts with the private sector in renewable energy development. The EEP provides co-financing and incentivizes the private sector through capacity-building for biomass development in two provinces, Riau and Central Kalimantan (FORMIN 2016). Mitigation finance ranging from €70,000–200,000 is granted to Indonesian-based private companies, NGOs, farmer/industry associations, research institutes and universities to fund pilot and demonstration projects, feasibility studies and strategic studies for renewable energy and energy efficiency development. The EPP project provides grants to the private sector to fund pilot activities, while a creative financing strategy beyond grants may result in leveraging a significant amount of private investment.

4.2.3. The private sector in an urban development initiative

The Cities Development Initiative for Asia (CDIA) Urban Development Indonesia is a US \$2.4m cross-sector initiative that provides grants primarily to conduct pre-feasibility studies (pre-FS). In Indonesia, CDIA involves three national institutions: a state-owned enterprise recently accredited by the Green Climate Fund, PT Sarana Multi Infrastruktur (PT SMI), and two civil society organisations, the Foundation for Local Government Innovation (*Yayasan Inovasi Pemerintahan Daerah* or YIPD) and the Urban and Regional Development Institute (URDI). Pre-FS have engaged the private sector, government agencies, and donors in financing the development of eight urban transport and solid waste management projects across Indonesia (see Table 5).

By communicating the results of the pre-FS to a number of potential investors, the CDIA aims to leverage approximately US\$700m-worth of private and public investment in green infrastructure projects in the eight cities. Some of the CDIA projects have been developed further and have been put out for tender for implementation. However, there is limited information on the proportion of the implementation of the project that is funded by the private sector. A clear measurement of private investment being leveraged from initiatives such as CDIA requires a strong post-project monitoring and evaluation mechanism.

4.2.4. The private sector in Indonesia clean energy development

Indonesia Clean Energy Development (ICED) interacts with the private sector, including SOEs, via cost-sharing provisions, technical assistance and capacity-building. Through these activities the project aims to leverage private investment in four targeted provinces: Aceh, North Sumatra, DKI Jakarta and South Sulawesi. The ICED has worked on multiple fronts to reduce the risks perceived by the private sector. It mitigates policy risk through a partnership with the state electricity company, PT PLN (ICED 2016). One of the aims of the partnership is to accelerate purchasing power agreements (PPAs) for renewable energy projects. The ICED mitigates financial risk in energy efficiency and renewable energy projects through a cost-sharing mechanism. Perceived risk due to lack of information is addressed by providing private companies and SOEs with technical assistance, capacity-building and information guidelines for the implementation of renewable energy (RE) and energy efficiency (EE) projects such as for hotel industry (Kencana et al. 2015). The technical assistance and capacity-building are designed to improve the companies' internal capacity for developing renewable energy projects, conducting proper assessments of clean energy projects, increasing their clean energy portfolio and using diverse project financing mechanisms for clean energy projects.

Most of ICED's activities have addressed perceived incentives for the private sector; however the extent of private investment leveraged has neither been reported nor clearly measured. With the extension of ICED's phase I (2012–2014) to phase II (2015–2020), it has the opportunity to further expand its perceived incentives for the private sector and to continue to mitigate perceived risks while improving its transparency regarding the amount of private investment it has leveraged.

4.3. Formulating mitigation finance criteria to leverage private investment

Mitigation finance has the catalytic power to leverage private investment when its deployment criteria are formulated and matched to private sector needs. A review of eleven case

Table 5. List of CDIA projects in Indonesia.

Location	Sector	CDIA support	Period of support	Investment value	Potential sources of financing	Modality	Status
Banda Aceh (CDIA 2008)	Water and Sanitation, Transport, and Urban Renewal	US\$327,500	October 2008 to April 2009	US\$ 22.6m	Provincial Government (Aceh fund)	Public Private Partnership (PPP)	N/A
Palembang (CDIA 2010a)	Urban transport	US\$ 398,000	July 2010 to January 2011	US\$ 175m	Indonesia Infrastructure Initiative		N/A
Tangerang (CDIA, 2013)	Solid waste management	US\$ 50,000	June to October 2013	US\$ 9.1m	local resources		Operational in 2016 (CDIA 2017a; Iskandar 2016)
Semarang (CDIA 2014)	Urban renewal	US\$ 191,630	April to August 2014	US\$ 70m		PPP	N/A
Yogyakarta (CDIA 2010b)	Urban transport	US\$ 417,283	August 2010 to February 2011	US\$ 62.8m	–		Operational in 2016–17 funded by regional government budget (Solopos.com 2017)
Surakarta (CDIA 2010c)	Urban transport	US\$ 360,000	August 2010 to February 2011	US\$ 49m	Australian Aid – Indonesia Infrastructure Initiative (US\$ 36.7 m)		N/A
Surabaya (CDIA 2012)	Urban transport	US\$ 250,000	October 2012 to February 2013	US\$ 220m	the National Government, the World Bank and the private sector		Tender in 2016 is delayed (Syarrafah 2016)
Denpasar (CDIA 2015)	Urban transport	US\$ 254,000	March to July 2015	US\$ 40m	N/A		Cancelled due to lack of feasibility
Balikpapan (CDIA 2015)	Solid waste management	US\$ 185,000	June to October 2015	US\$ 53.6m	Local resources		Operational in 2017 funded by local government budget (CDIA 2017b)
Total		US\$ 2.4		US\$ 702.1m			

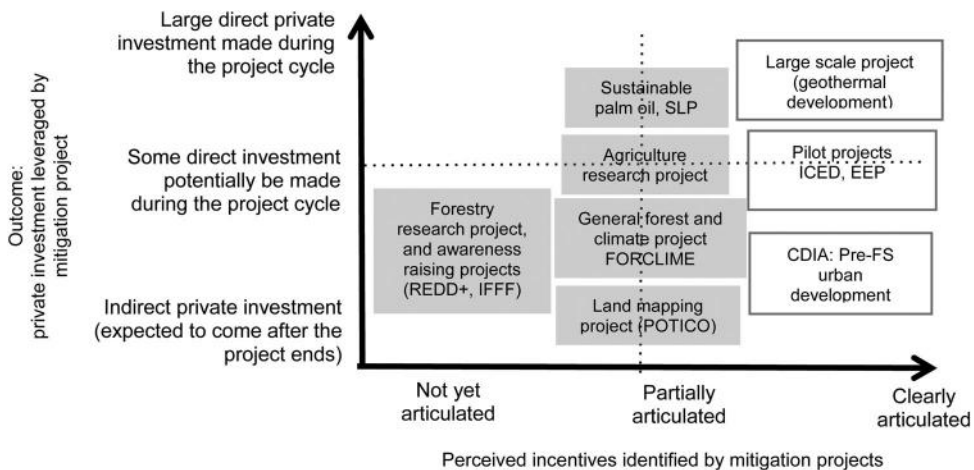


Figure 2. Status of mitigation finance-funded projects in responding to private sector perceived incentives.

Note: the position of each project in the above figure is unscaled and is an indicative position based on the literature and document reviews. AFOLU projects in shade; energy and other related sector projects in white.

studies show that the engagement and willingness of the private companies to be involved in mitigation projects especially in energy and AFOLU sectors are evident. Evidence shows that there is a limited effort to engage private companies in construction sector, which has a significant contribution to Indonesia's development especially in green infrastructure development. Although there has been some investment made by the private companies in AFOLU sector, scaling up the projects in this sector still requires further development to be able to leverage a significant amount of investment.

The eleven mitigation projects reviewed in this paper are at different stages in terms of identifying and articulating the private sector's perceived incentives or stimuli for investing in mitigation projects (Figure 2). Mitigation finance has significantly played a catalytic role in leveraging private investments in Indonesia's energy sector, but Mitigation finance has played a catalytic role to a limited extent in leveraging private investments in Indonesia's AFOLU sector due to a number of factors: unclear perceived of private sector actors and unfulfilled enabling environment which affect the ability to develop economically business models and plans.

When the private sector's perceived incentives are well integrated into a project's design and its grant-making and financing criteria, the potential for the project to directly leverage private investment in mitigation projects rises. Clearly-articulated private-sector perceived incentives by the project will lead to a clearer business model with greater bankability, i.e. more economically viable. Some research and pre-feasibility study projects such as the IFFF and REDD+ research projects funded by mitigation finance have been used as vehicles to explore areas where the stimulus or perceived incentives of the private sector are still unclear and need further development. For research projects, identifying private investment in mitigation projects being leveraged after the projects end requires a sustainable effort tracking and monitoring. The projects require further effort to integrate research recommendations into mitigation-financing criteria which may be implemented beyond the project's life cycle.

Some projects that support the implementation of pilot cases and hybrids between research and demonstration projects have the opportunity to integrate the identified incentives into mitigation finance criteria during the project implementation to directly leverage private investment during the project's life cycle. They also have been able to leverage some private investment during the project's life cycle; however, it needs to reach market scale. A business model for testing during the pilot phase must be further refined to create a bankable project that can be fully funded by the private sector and the financial industry in general.

5. Conclusion

A few large-scale business groups and state-owned enterprises in key mitigation sectors have tremendous potential to lead Indonesia's reduction of its GHG emissions. However, complex political and social relationships, lack of technical capacity and weak institutional governance may hinder the fulfilment of this potential. In this context, mitigation finance has supported an initial effort to distangle policy, administrative and technical capacity barriers, with less focus on the high-level politics of Indonesia's private sector and SOEs.

Mitigation finance has been used in Indonesia to leverage its investment via several strategies depending on the extent of the identified perceived incentives of the private sector. Awareness-raising is conducted when the perceived incentive or stimulus is not sufficiently clear to develop an attractive business plan; pilot and demonstration activities are implemented when the perceived incentives are partially identified and can be translated into a testable business model; and project financing with clear evaluation criteria is deployed when a project has fully identified the private-sector incentives and articulated them in a form close to a bankable project proposal. Full identification of the perceived incentives of the private sector makes it possible for a project to leverage private investment effectively.

While a large proportion of mitigation finance has supported projects that take into account the perceived incentives of the private sector, overall, mitigation finance has focused on a project or programmatic view more than on the political interaction of the private sector with high level policymakers, where mitigation finance has strong potential for making a significant impact on leveraging private investment in the mitigation of Indonesia's GHG emissions. Understanding the private-sector and its dynamic environment is key to mitigation finance leveraging private finance in Indonesia.

Further study, including a political economy of the private sector in each key mitigation sector in Indonesia and reviews of policy interventions which aim to leverage private investments in each mitigation sector, would support mitigation finance's leveraging of private investment in the country. A closer look at the main actors and their main financing sources would improve understanding of where mitigation finance can play a catalytic role in making the financing provision available to and attractive from the view of private-sector actors.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributor

Aidy Halimanjaya, Ph.D. is an associate researcher of the SDGs Centre of Padjadjaran University and the School of International Development of the University of East Anglia. She is actively communicate her research recommendations to government line ministries, donor agencies and civil society organisations through her consultancy works.

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Annex 1. Projects' objectives.

No.	Project name	Objective(s) as stated in the project website/document
<i>AFOLU sector</i>		
4.1.1	Enhancing smallholder benefits from reduced emissions from deforestation and forest degradation in Indonesia	Provides underpinning science for the development and monitoring of REDD+ policy and institutional arrangements at the national, provincial and local levels. Conduct multidisciplinary research including literature reviews, smallholder surveys, stakeholder analysis and economic model simulations. The main outputs will be the development of options for enhancing REDD+ policy and activities including private sector involvement and payment schemes to maximise benefits for smallholder farmers.
4.1.2	CGIAR Fund grant with the World Bank: Agricultural Sector Capacity	CGIAR research is dedicated to reducing rural poverty, increasing food security, improving human health and nutrition, and ensuring sustainable management of natural resources. It is carried out by 15 Centres, that are members of the CGIAR Consortium, in close collaboration with hundreds of partners, including national and regional research institutes, civil society organisations, academia, development organisations and the private sector.
4.1.3	Sustainable Palm Oil	This project will bring government institutions, private sector industry, and civil society groups together to develop and pilot implementation of a district-level sustainable oil palm programme in order to demonstrate that palm oil development can be done in a responsible manner at scale. The project will serve as a model for other districts and provinces seeking to implement sustainable oil palm programmes.
4.1.4	Grant to World Resources Institute (WRI) for creation of degraded land-mapping of Kalimantan and Papua Provinces (POTICO)	POTICO seeks to prevent deforestation in Indonesia and enable a supply of sustainably produced palm oil by diverting planned oil palm plantations away from natural forests and onto low-carbon degraded lands, and by enabling the sustainable management of the natural forest areas previously scheduled for conversion. The grant is used to apply the POTICO approach in the provinces of Kalimantan (East and South), thus creating a degraded land map for the whole of Indonesian Borneo, the frontier for oil palm expansion in Indonesia and the likely location of the bulk of its expansion in the next few years. The grant would also allow POTICO to conduct significant outreach, training, and communication with planners, policymakers, and the private sector, leveraging the systems, tools, relationships, and lessons that WRI and Sekala have already developed.
4.1.5	Forest and Climate Protection (FORCLIME)	Public and private stakeholders have improved the frameworks, methods and services required for sustainable forest management, conservation of biological diversity and the reduction of emissions from deforestation and forest degradation using conflict-sensitive instruments. In the longer term, GHG emissions from the forest sector are reduced and livelihoods are improved in poor rural communities.
4.1.6	Sustainable Landscapes Partnership (SLP)	Using the power of partnerships, the programme aims to provide a model for tackling global challenges – such as climate change, deforestation, competition for agricultural lands and declining access to clean water – while simultaneously improving economies. SLP's areas of focus include four regions in Indonesia's North Sumatra province – Mandailing Natal (Madina), Tapanuli Selatan (Tapsel), Tapanuli Utara, and Pakpak Bharat – as

(Continued)

Annex 1. Continued.

No.	Project name	Objective(s) as stated in the project website/document
4.1.7	The Interim Forest Finance Facility – Indonesia	well as West Papua Province in the eastern part of the country. In partnership with the Ministry of Forestry, local government, the private sector and local communities, we work to implement replicable business models that foster green development, particularly through economic alternatives to deforestation. SLP also advises on regulations for West Papua’s “conservation province” framework. Catalyses large-scale public/private-sector investments in REDD+ ahead of 2020, maintaining political support for REDD+ in rainforest nations. This will help to conserve forests and reform the agricultural drivers of deforestation, ultimately reducing the likelihood of dangerous climate change, improving food and energy security and contributing to increased prosperity in rainforest nations.
<i>Energy and related sector</i>		
4.2.1	Private Sector Geothermal Energy Program	Facilitates commercial lending of geothermal power projects undertaken by the private sector and state-owned enterprises borrowing without the benefit of a government guarantee.
4.2.2	Energy and Environment Partnership Program (EEP)	Increasing access to sustainable renewable energy and reduce the growth rate of greenhouse gases in Indonesia. The programme promotes wider use of renewable energy and cleaner technology as well as energy efficiency in rural communities, especially among poor and women. It especially targets biomass for energy and is centred in two provinces: Riau and Central Kalimantan. The EEP provides co-financing for biomass-for-energy projects implemented by community-based organisations, NGOs and the public and private sectors. It also provides support for capacity-building in the target areas.
4.2.3	Cities Development Initiative for Asia, Urban Development Indonesia	Contributes to the promotion of sustainable and equitable urban development, leading to improved environmental and living conditions for all in Asian cities through (1) providing technical assistance in structuring priority infrastructure projects to a stage where they can be financed; (2) helping cities structure their projects to attract market-based international private investment; (3) strengthening local institutional prerequisites for the development of capital investment infrastructure projects and urban services; and (4) promoting regional dialogue and cooperation on urban management in Asia to enhance cross-learning from good local practices. The projects in Indonesia are located in Banda Aceh, Palembang, Tangerang, Semarang, Yogyakarta, Surakarta, Surabaya, Denpasar and Balikpapan.
4.2.4	Indonesia Clean Energy Development (ICED)	ICED supports government, the private sector and civil society with increasing the contribution of clean energy efficiency resources (renewable energy, energy efficiency and energy conservation) in Indonesia.