



CASE STUDY

The Republic of Indonesia

Trends and Institutional Frameworks for Green Investments in Indonesia

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Introduction

Although Indonesia has been one of the largest recipients of climate related development assistance since 1998 (Halimanjaya, 2013), the National Action Plan on GHG Reduction (RAN-GRK) was only introduced in 2011 in response to the government's commitment to reducing emissions by 29% compared to the business as usual scenario (BAU) or 41% with international support in 2030.

To this end, approximately, IDR 8,377bn (USD 951mn) of climate finance from public sources was disbursed in Indonesia in 2011. However, this fell below the Indonesian government estimates of the level of annual finance required by 2020 to meet emission reduction targets (Falconer, Glenday, Rosenberg and Wilkinson, 2014). To fulfil this gap, the Financial Services Authority (OJK) of the Indonesian Government developed a Roadmap for Sustainable Finance in 2014. This roadmap sets forth the end goal of sustainable finance in Indonesia to be achieved in the medium term (2015-2019) and long term (2015-2024) by the financial services industry under the supervision of OJK and determines and prepares the benchmark for improvements in sustainable finance.

Table 1: Green Financial Scheme by Financial Institution

Agency/Institution	Product/Scheme	Description	Impact
BNI (State Bank of Indonesia)	BNI Go-Green (started in 2010)	Green CSR, green banking	<ul style="list-style-type: none"> Implemented environmental projects in different areas, Improved employees green behaviour,
OJK	Roadmap for Sustainable Finance (issued 2014)	Determines and prepares the benchmark for improvements in sustainable finance	<ul style="list-style-type: none"> Built capacity of banking sector in sustainable finance aspects (short-term impact, ongoing) Encouraged sustainable economic growth (projected long-term impact)
OJK	Regulation on Sustainable Finance (issued 2017)	Specific and binding regulation for all forms of financial institutions in order to implement financial system based on sustainable principles	<ul style="list-style-type: none"> Provision of adequate source of finance for sustainable development (projected impact)



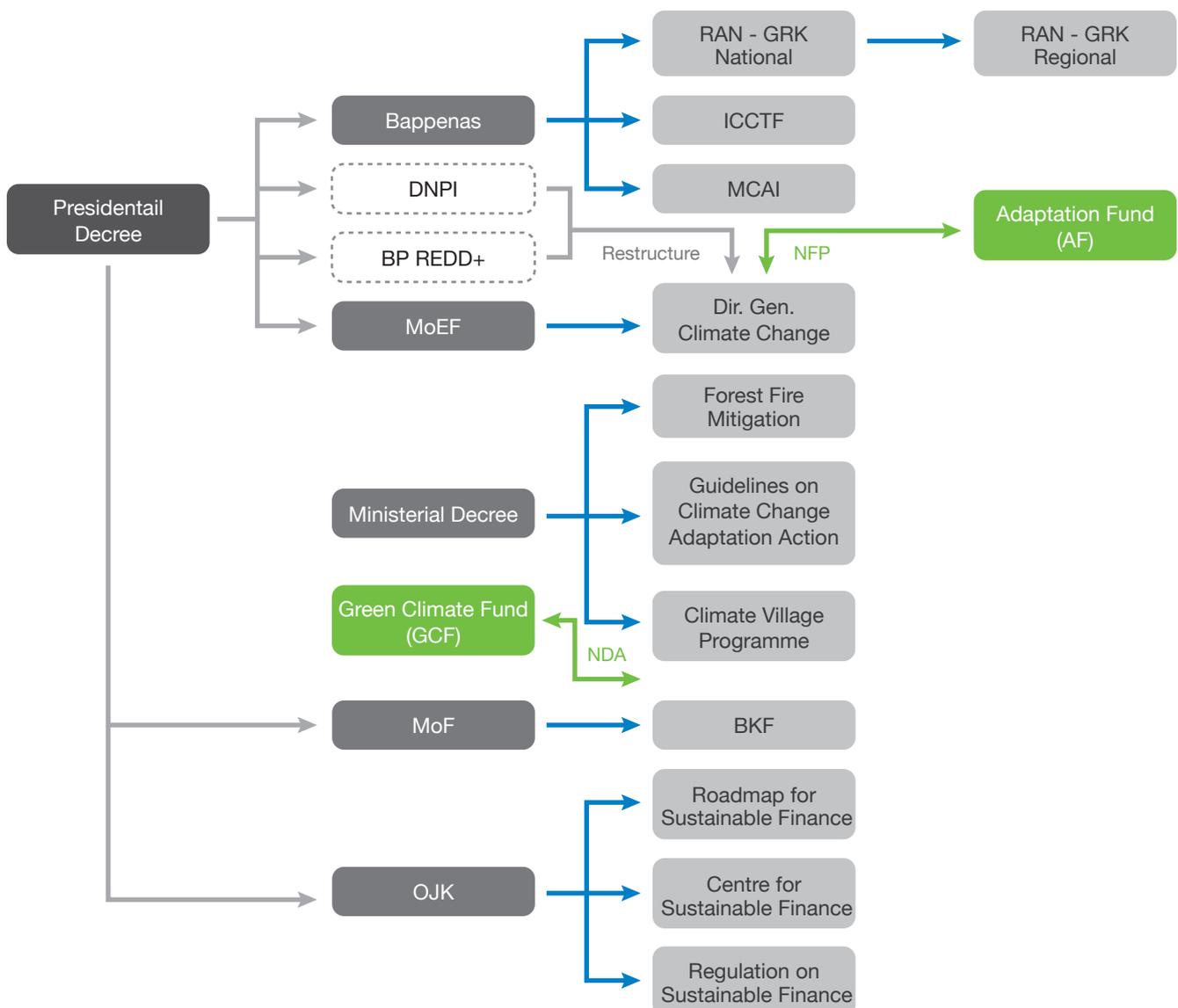
OJK has been conducting training for practitioners in the financial sector to enhance their understanding of sustainable finance, focusing on (i) the adoption of Environmental and Social Risk Management, (ii) the development of bank SOPs that support the implementation of sustainable finance, (iii) sustainability reports ([http://www.ojk.go.id/sustainable-finance/id/publikasi/materi-training/Pages/Training-of-Trainers-\(ToT\)-Keuangan-Berkelanjutan-pada-Sektor-Perbankan-Bulan-Mei-2017.aspx](http://www.ojk.go.id/sustainable-finance/id/publikasi/materi-training/Pages/Training-of-Trainers-(ToT)-Keuangan-Berkelanjutan-pada-Sektor-Perbankan-Bulan-Mei-2017.aspx)).

Further, as part of the implementation of the Roadmap and to provide support to the government in meeting the SDGs, OJK has established the first Centre of Sustainable Finance in Bali in collaboration with the Udayana University. Soon after the launching ceremony of the Centre, the OJK Regulation on Sustainable Finance – a product that governs the implementation of sustainable finance – was enacted.

Legal and Institutional Framework

The adoption of the Bali Road Map during the 2007 Bali Climate Conference, followed by the announcement of Indonesia's NDC at the 2009 G-20 Summit in Pittsburgh have laid the groundwork for the development of policies and regulations for low-carbon climate resilient development.

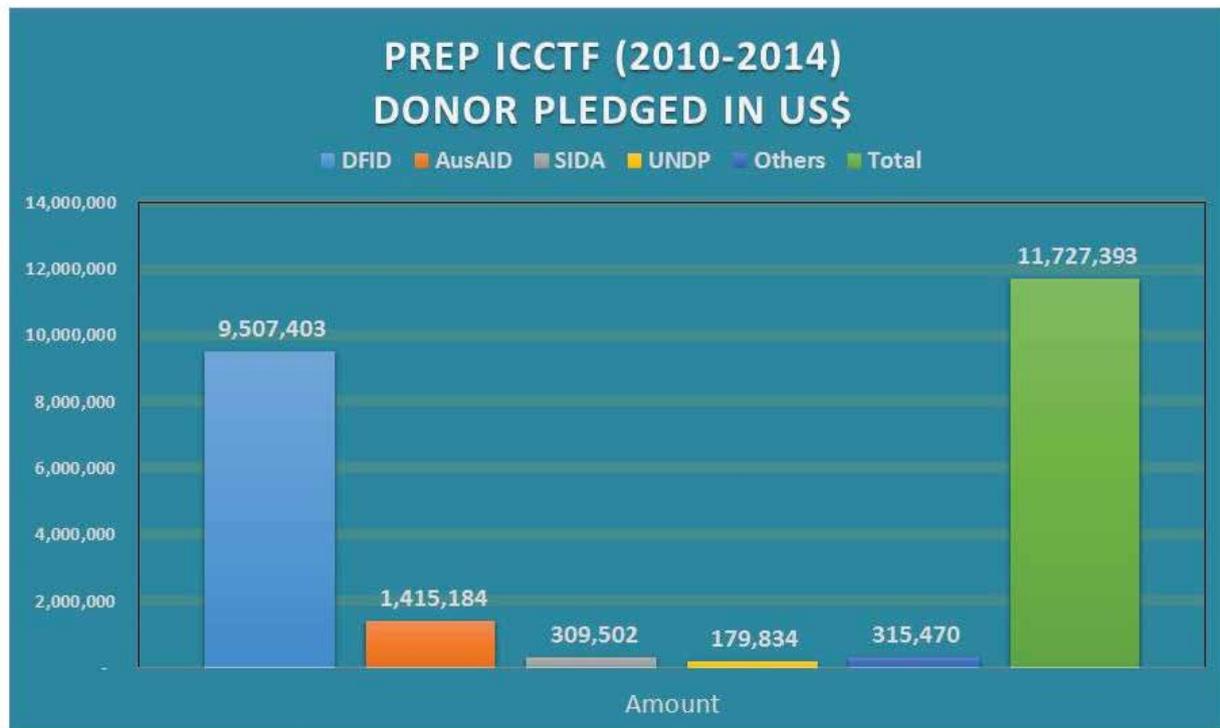
The Bali Road Map led to the development of Indonesia Climate Change Sectoral Roadmap (ICCSR) in 2007 mainstreaming Climate Change into the National Development Planning and the National Action Plan on Climate Change (RAN-API) in the same year. ICCSR and RAN-API were then followed by the establishment of the National Council on Climate Change in 2008 and the Task Force REDD+ (BP REDD) in 2013, both of which were restructured under Ministry of Environment and Forests (MoEF) and handed over to the Directorate General of Climate Change (Ditjen PPI) of the MoEF in 2015. The diagram below illustrates the development of policy and regulation as result of mainstreaming climate change into the National Development Plan:





Until 2014, Indonesia had received USD 382.86 million for climate change mitigation from a total of USD 4.4bn international public finance (Halimanjaya, 2014), the largest recipient amongst countries in Asia and the Pacific. Part of that amount has been derived through the ICCTF as described in the following graphic:

Graphic 1: Donor pledge to ICCTF until 2014



Source: ICCTF (<http://icctf.or.id/donor-pledge-2010-2014/>)

The table below describes the projection of funds implemented and planned by ICCTF from 2015 to 2018 with a total of IDR 203.3bn , approximately USD 15.2m :

Table 2: Grants pledged to ICCTF after 2014

Year	Sources Grant (IDR)			Sources APBN (IDR)	Total
	USAID	UKCCU	DANIDA		
2015			700 million	15.3 billion	16 billion
2016	18.5 billion	22.2 billion	2.3 billion	15.3 billion	58.3 billion
2017	34.3 billion	29.6 billion		20 billion	83.9 billion
2018	17.4 billion	4.7 billion		23 billion	45.1 billion
					203.3 billion

Emissions reductions between 2010 and 2015 have been recorded by different sectors as result of the implementation of climate finance in Indonesia. The projection of the achievements so far are outlined in the following table:

**Table 3: National Emission Recapitulation by RAD-GRK, 2010 - 2015**

		2010		2011		2012		2013		2014		2015	
Entity (regional)		Number of Activities	Emission Reduction (ton CO ₂ e)	Number of Activities	Emission Reduction (ton CO ₂ e)	Number of Activities	Emission Reduction (ton CO ₂ e)	Number of Activities	Emission Reduction (ton CO ₂ e)	Number of Activities	Emission Reduction (ton CO ₂ e)	Number of Activities	Emission Reduction (ton CO ₂ e)
RAD - GRK Forestry	PEP	185	3.576.053	201	6.862.326	209	6.209.212	222	6.346.948	271	3.630.054	171	2.287.053
	PETA**						60.866.187		23.000.176				
RAD - GRK Agriculture		89	4.844.395	112	4.909.495	106	5.782.576	116	6.670.520	132	7.033.393	133	1.313.840
RAD - GRK Energy		136	13.659	338	40.113	528	70.336	805	116.725	980	232.375	56	3.547
RAD - GRK Transportation		48	247.339	52	102.612	63	282.126	54	542.243	56	660.237	27	53.647
RAD - GRK Waste treatment		161	89.552	244	193.263	336	377.422	345	479.307	355	644.772	255	43.524
Total		619	8.770.998	947	12.107.809	1.242	12.721.672	1.542	14.155.743	1.794	12.200.831	642	3.710.638

In seeking to mobilise private climate finance in Indonesia, the OJK is currently the only agency that has formulated a governing regulation for financial institutions to implement sustainable finance.

Existing Climate Finance Gaps

Key challenges in green investment include high interest rates, limited financial access and limited participation from financial institutes in climate change financing.

Foreign exchange risk is an additional deterrent to the private sector's investment in climate change mitigation since most projects entail long-term investment horizons of up to 30 years. Because payments in most energy project contracts are denominated in US dollars and exchange rates are volatile, this increases the risk to the investor (Tänzler and Maulida, 2013).

Structural issues, such as preferential rights enjoyed by large, state-owned banks and market segmentation result in the lack of competition in the banking sector and hence impede the innovation of financial products for climate investments (ASrIA-AIGCC, 2015). For example, the banking sector in Indonesia holds approximately 80% of total assets of all financial institutions and about 70% of total banking assets are concentrated across the ten largest banks (UNEP-Inquiry, 2015). As a result, the ratio of domestic credit to the private sector to GDP in Indonesia is only 38%, among the lowest in the AP region (UNEP-Inquiry, 2015). In addition, in a highly segmented banking sector, commercial banks lack economic incentives to pursue climate investment opportunities that are less familiar than providing finance to large and/or state-owned enterprises.

Financial Framework of the Project's Implementation

Trends in green lending in Indonesia have demonstrated an upward trajectory in recent years and as demonstrated by a BI survey, 24 conventional banks and 5 Islamic banks drew on the green financial portfolio in 2013. However, this amounts to only 1.37% of the total financing provided by these 29 banks. Green financing occurs primarily through investments in mini hydro (26.1%), geothermal (25.7%), high efficient machineries (19.6%), organic cultivation (19.5%), and eco-label products (4.5%) (Siregar, 2014). These investments have increased by 59% in a three-year period from IDR 6.4 to 10.2tn in 2013 (equivalent to an increase from USD 580m to 927.3m). Islamic banks have been more open to providing green financing since sustainable and environmentally friendly initiatives are in line with its ethical principles. However, the share of green financing by Islamic banks remained relatively small at about 2.53% of the bank's total lending in 2013 (Halimanjaya, Maulidia, 2014). Green investment policies also indicate that a majority of private investment flows into mitigation activities, primarily in the energy sector. To date there has been limited private sector interest in financing adaptation initiatives, even though there is a growing potential for local and community development banks to play a role in the adaptation space. Table 4 outlines the provision of funding for the private sector by or through commercial banks since 2012:



Table 4: Private sector funding for climate finance

Initiative to mobilize Private sector funding for climate finance			
Organization	Year	Activity	Target beneficiaries
BRI	2012	Credit with the tenor of 6 Years	IDR 127 billion to PT Geo Dipa Energy Persero. The credit is for the revitalization program and optimization of geothermal power plant facilities on the upstream and downstream side for P Dieng unit in Central Java. IDR 1.3 trillion credit for PLN Pikitring project outside Java - Bali, PLN Pikitring Java - Bali Project and Areva Substation Transmission project (substansi) Project on PLN Pikitring outside Java - Bali.
Mandiri - AFD	2012 - 2015	Long term credit	42,3 million USD for 8 producing areas of cassava starch to develop biogas power plant and support 100 billion USD for CDM Rp 1.41 trillion credit for PLN Pikitring project outside Java - Bali, PLN Pikitring Java - Bali project, and Areva Substation Transmission Project (Substansi) project on PLN Pikitring outside Java - Bali.
BCA	2012	Credit	Rp 800 billion credit for PLN Pikitring project outside Java - Bali, PLN Pikitring Java - Bali project, and Area Substation Transmission Project (Substansi) project on PLN Pikitring outside Java - Bali. Green energy in Sumatera, credit Rp 575 billion to PT Growth Asia to support Biomass Power plant

Initiative to mobilize Private sector funding for climate finance			
Organization	Year	Activity	Target beneficiaries
BNI	2012	Credit	IDR 1,35 trillion credit for PLN Pikitring project outside Java - Bali, PLN Pikitring Java - Bali project, and Areva Substation Transmission Project (Substansi) project on PLN Pikitring outside Java - Bali.
PT SMI (owned state company) AFD		Loan	100 million USD for renewable energy
The Energy & Environment Partnership Program (EEP) Finland - Indonesia	2012 - 2014	Grant	Grant as much as €70.000- 200.000 million from EEP to provides co-financing and incentivizes the private sector through capacity-building for biomass development in two provinces, Riau and Central Kalimantan
The Cities Development Initiative for Asia (CDIA) Urban Development Indonesia	On going	Grant	Grant as much as \$2.4m for the project. 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

Project loans, of which the sole source of repayment is the project's cash flows, are not available in most developing countries. Since project finance is a non-recourse type of finance, i.e. the bank has no recourse¹ to the parent company of the project developer, it is a popular type of finance in developed countries because it is less risky to the parent company and can secure high financing leverage. However, project finance has not been popular in developing countries. For example, corporate guarantees, pledged non-listed shares, and assigned receivables—even from high quality off-take agreements—are not classified as allowable collateral in Indonesia. As a result, Indonesian banking regulations for the enforcement of security interests in transactions and macro prudential risk management measures reduce banks' appetites to provide project finance.

¹ No recourse beyond the project developer's assets or the ownership share of the company.



Lessons Learned/Estimated and/or Achieved Impact

Three major government institutions, MoEF, Ministry of Finance (MoF) and Bappenas have led initial efforts to channel progressively increasing amounts from multi-donor climate funds and the state budget, and as such inter-institution coordination has been critical. The implementation of the funds also involves various actors, including other local and/or national government institutions and NGOs, further necessitating strict monitoring and evaluation of the disbursement process to ensure that initiated projects meet their targets.

Despite increasing trends in the provision for climate finance and Indonesia's position as the leading recipient of global climate funds, the level of funding available remains inadequate for the fulfilment of the NDC in 2030. Innovative schemes and financial instruments are thus needed to bridge the funding gap and in order to do so, it is critical to engage the private sector in climate change initiatives. However, the lack of an enabling environment, limitations in policy and regulation and unattractive loan conditions continue to restrict participation from the private sector.

What is needed is a governing body that can formulate guidelines and apply binding regulations to facilitate private sector investment in low carbon enterprises. Regulations were developed by the central bank, Bank Indonesia (BI) in 2012, but due to challenges in ensuring enforcement, banks continued to provide less environmentally friendly businesses with access to credit. The central bank's role in supervision and governance was subsequently assumed by the OJK in 2013 and a Roadmap for Sustainable Finance was introduced in 2014, followed by a binding regulation on sustainable finance in 2017.

With this regulation, OJK aimed to increase the provision of adequate source of finance for sustainable development, encouraging banks to provide more green capital and other financial institutions to invest more in green business initiatives.

While OJK's efforts have successfully met private sector expectations in terms of creating an enabling policy environment, coordination between ministries and government agencies remains a sensitive issue that called for emphasis at the 1st National Workshop in Jakarta in 2017.

References

- Halimanjaya, A. (2013). Climate finance across developing countries: What are the major determinants? DEV Working Paper 45, University of East Anglia. Available from <https://www.uea.ac.uk/international-development/people/profile/a-halimanjaya>.
- Falconer, A., Glenday, S., Rosenberg, A. and Wilkinson, J. (2014). The landscape of Public Climate Finance in Indonesia. An Indonesian Ministry of Finance & CPI Report. Available from <https://climatepolicyinitiative.org/publication/landscape-of-public-climate-finance-in-indonesia-3/>.
- Tänzler, D., Maulida M. (2013). Status of Climate Finance in Indonesia. Country Assessment Report. Available from <https://www.adelphi.de/en/publication/status-climate-finance-indonesia>.
- ASrIA-AIGCC (2015). Exploring Financial Policy and Regulatory Barriers to Private Climate Finance in South East Asia. Available from <http://www.greengrowthknowledge.org/resource/exploring-financial-policy-and-regulatory-barriers-private-climate-finance-south-east-asia>.
- ASrIA, IFC (2015). Towards a Sustainable Financial System in Indonesia. The UNEP Inquiry Into the Design of a Sustainable Financial System. Available from <http://www.greengrowthknowledge.org/resource/towards-sustainable-financial-system-indonesia>.
- Siregar, M. (2014). Policy and Development of Sustainable Finance in Indonesia "Outlook of Clean Energy Financing in Indonesia". A powerpoint presentation available from <http://www.iced.or.id/id/resource/policy-and-development-of-sustainable-finance-in-indonesia-outlook-of-clean-energy-financing-in-indonesia/>.
- Halimanjaya, A., Mulidia, M. (2014). The coordination of climate finance in Indonesia. Available from <https://www.giz.de/expertise/downloads/giz2014-en-climate-finance-coordination-indonesia.pdf>.



CASE STUDY

Islamic Republic of Pakistan

Crop loan insurance as financing tool to address climate change issue in rural areas

Developed by the Sustainable Development Policy Institute (SDPI), Islamabad, Pakistan

Introduction

Zarai Taraqiati Bank Limited (Agriculture Development Bank Limited) is the premiere agriculture sector Development Finance Institute of Pakistan. ZTBL having the largest network of 460 branches and 32 zonal offices all over Pakistan, is catering to the credit needs of farmers for the production, development purposes and modernization of agriculture through field force of Mobile Credit Officers who deliver credit with technology at the doorstep of the farmers.

ZTBL is viewing the climate change risks through the lens of food security. Risk of reduced crop production poses immense threats for food security of the masses in Pakistan. The research divisions at ZTBL vigilantly carry out desk review based or secondary data based research to identify and initiate the sustainable agricultural practices through the Bank’s lending operations. Its climate change related schemes and initiatives are tabulated below:

Schemes/Initiatives	Achievements
Shamsi Tawanai Scheme (Solar Powered Water Pumping Systems).	Rs. 1.750 million during 2016.
Tawanai Bachat Schemes (Bio-Gas Units to provide alternate energy source).	Since it’s a new initiative, farmers have to be aware regarding benefits of biogas. With increased awareness, there will be increased demand for financing bio-gas units.
Farm Forestry/Plantation of Trees and Nurseries.	Under this initiative the Bank has successfully planted 230,000 trees in spring and fall seasons. The Bank is further planting trees alongside Lahore-Islamabad motorway “M2”.
Promotion of Soya Bean Cultivation.	A project of cultivating soya bean in 100 acres at Thatta, Sindh has been completed. Soya bean cultivation is being promoted to achieve natural fixation of the organic matter.

Source: ZTBL Annual Report 2016 and ZTBL Presentation at Regional Meeting



Apart from the above schemes/initiative, ZTBL is also ready to finance the following climate change related activities:

- Working Capital for Sulphuric Acid Generator for treatment of Saline Water.
- Drip & Sprinkler Irrigation.
- Desilting, alignment and lining of water courses.
- Promotion of open shed dairy farming.
- Promotion of DDSR (direct dry seeding of rice)
- Crop loan insurance scheme.
- Livestock borrowers' insurance scheme.

Legal and Institutional Framework

Country Level

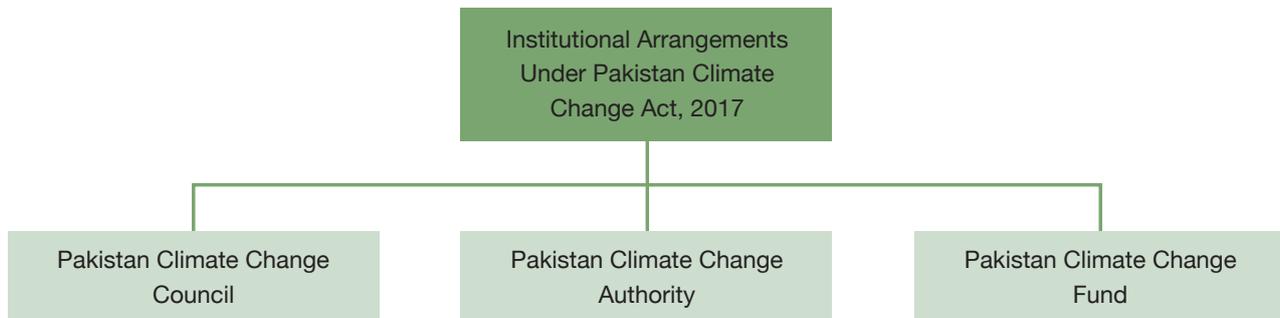
Pakistan Climate Change Act, 2017 lays the legal and institutional bedrock for climate action in Pakistan. The institutional framework laid down in the PCCA 2017, envisages formation of Pakistan Climate Change Council and Pakistan Climate Change Authority.

Prime Minister of Pakistan or his/her nominee has to serve as the Chairperson of that Council. Other members of Council include Federal Ministers of Divisions allocated with subjects of climate change, Chief Ministers of Provinces, Provincial Ministers entrusted with the climate change subject, Chairman NDMA, Chairman Pakistan Climate Change Authority, Federal Secretary of Ministry of Climate Change and 30 other members out of which 20 would be non-officials comprising representatives from Chambers of Commerce, NGOs, scientists and other relevant.

Pakistan Climate Change Authority is headed by Chairman and has specific members for Adaptation, Mitigation, Climate Finance and Coordination. Additionally, one member from each province has also to be made part of the Authority. Amongst many duties, most important duty of Authority is to manage the Pakistan Climate Change Fund. Fund also draws its legal genesis from the PCCA 2017.

Other significant functions of the Authority include:

- Formulation of comprehensive adaptation and mitigation policies, plans, programmes, projects and measures.
- Establishment of institutional and policy mechanisms for implementation of Federal and Provincial adaptation and mitigation policies.
- Preparation of proposals for suitable projects to be submitted to Green Climate Fund, Global Environment Facility, Clean Development Mechanism and Adaptation Fund.
- Preparation of NAP, NAMA, INDC and National Communication to be submitted to UNFCCC.



ZTBL Level

ZTBL is a specialized development finance institution which is governed by State Bank of Pakistan, the central bank. In SBP, Agriculture Credit and Microfinance Department handles the regulatory matters related to ZTBL. SBP also has the Agriculture Credit Advisory Committee (ACAC) which is the national level consultative committee for setting annual targets for agricultural loans and its monitoring.

ZTBL is registered under the Companies Ordinance 1984 and works as a public limited company. It is headed by President/CEO and has an independent Board of Directors.

Existing Climate Finance Gaps

Although there is dedicated credit line for agriculture sector in Pakistan and ZTBL is carrying out its lending operations by using that credit line, it is not enjoying any financial inflows from the international climate finance agents like Green Climate Fund, Global Environment Facility, Adaptation Fund and Clean Development Mechanism.

Agriculture sector of Pakistan is the second most carbon emitting sector in Pakistan as per the GHG Inventory reported in Pakistan's INDC document.

Inventory of GHG Emissions in MT CO₂ Equivalent

	1994	2008	2012	2015	Growth Rate 1994-2015	Growth Rate 2012-2015
Energy	85.8	168.47	171.44	185.97	116.7483	8.475268
Agriculture	71.63	125.97	162.86	174.56	143.6968	7.184084
Industrial Process	13.29	18.54	19.59	21.85	64.40933	11.5365
Land use and forestry	6.52	9.29	9.67	10.39	59.35583	7.445708
Waste	4.45	7.24	10.55	12.29	176.1798	16.49289
Total	181.7	329.51	374.1	405.07	122.9334	8.278535

Source: Pakistan INDC

Such high amount of emissions presents great mitigation potential of agriculture sector. International climate finance, coupled with knowledge and technology transfer, can help achieve that potential.

Agriculture sector is also facing challenges because of climate hazards like droughts, unexpected rains, pest attacks and hailstorms. Therefore, adaptation needs of agriculture sector are also very high. Agri-credit lends a cushion to the adaptation needs of farmers but the volume of agri-credit is not meeting the entire demand for agricultural loans. In 2015-16, the demand for agri-credit was Rs 1,060 billion. However, only Rs. 598.3 billion was disbursed in the form of loans. Majority of these loans are lent to finance working capital needs of farmers. They don't necessarily cater to the financial needs for sustainable and climate resilient initiatives.



Agri-Credit Demand vs Supply

Year	Demand	Supply	Requests Met
2012-13	750	336	45%
2013-14	790	391	49%
2014-15	946	516	54%
2015-16	1060	598	57%

Source: State Bank of Pakistan (2017)

Financial Framework of the Project's Implementation

ZTBL fulfils the financial needs of farmers through loans. The loans are issued against tangible securities as collateral. Those securities include Agri Pass Book, Gold, Silver, Papers of agricultural or urban property.

Lessons Learned/Estimated and/or Achieved Impact

ZTBL has experienced that farmers are still lacking the capacity to outsmart the climate hazards. ZTBL has a special Farmer Training Department. It works in the field for most of the year. It links up the successful/progressive farmers with average ones. Successful ones share their agronomic practices with others. As farmers learn by listening to the views of someone who is from their own community, this networking exercise proves much effective in knowledge dissemination. These initiatives also complement the efforts of Agriculture Extension Department.

During the year 2015-16, field days were conducted at different farmers training centers and in each event about 200 farmers participated and got trained in several aspects of agriculture including use of alternate energy resources.

Applications of firms dealing with solar energy, biogas, drip and sprinkler irrigation and tunnel farming have been scrutinized. Up till now 55 such firms have been enlisted to provide their products/services to the interested farmers/borrowers of the bank. Demonstration of solar energy tube wells, biogas units and use of hybrid seeds was arranged.

Crop loan insurance is such a tool that specifically address the climate change issue. Premium is charged @ 1.3% (inclusive of all taxes and levies) of loan sanctioned for Rabi and Kharif crops separately. Bank pays the premium for subsistence farmers and will get reimbursement from the Government on half yearly basis. Crop Loan Insurance Scheme covers various perils like Excessive rain, Flood, Drought, Hailstorm, Frost, Locust attack and Insect attack.

Currently ZTBL is planning to diversify insurance coverage. For example, The Bank of Punjab gives life insurance to the one who gets his tractor insured. The reason is that he is the bread earning hand of the family. To avoid the catastrophic breakdown of family, the bank also gives life insurance. In future ZTBL may also provide life insurance along with crop insurance.

References

State Bank of Pakistan. (2017). Agriculture Credit Advisory Committee (ACAC) Review of FY 2015-16 and July-December 2016. Available from <http://www.sbp.org.pk/events/ACAC-presentation.pdf>



CASE STUDY **Philippines**

Climate Change Mitigation through the Carbon Finance Support Facility (CFSF) in the Philippines

Prepared by the Small Enterprises Research and Development Foundation (SERDEF) and Association of Development Financing Institutions in Asia-Pacific (ADFIAP), Manilla, Philippines

Introduction

The Carbon Finance Support Facility (CFSF), as the flagship program for climate change-mitigation projects of Land Bank of the Philippines (LANDBANK), is its institutionalized response to the worldwide challenge of reducing impacts of global warming and climate change, through implementation of methane recovery initiatives and programs eligible under the Clean Development Mechanism (CDM).

The CFSF is one of the various programs under the Climate SMART (Synergistic Mitigation, Adaptation, Resiliency, and Transformation) Financing Program, which is LANDBANK's umbrella program for supporting climate change-related projects and activities. Projects under the Climate SMART may be classified into any of these action categories, namely: Mitigation, Adaptation, and Resiliency.

The projects under the CFSF fall into the Mitigation category of the Climate SMART. Such Mitigation projects are geared toward contributing to overall reduction in greenhouse gas (GHG) emissions. For this Case Study, the focus is mainly on the CFSF Program.

The CDM emerged as one of the "flexibility mechanisms" of the Kyoto Protocol convention of 1997, which allows for industrialized nations to purchase carbon credits from developing countries with projects that reduce GHG emissions, in order to achieve the emission targets of participating industrialized nations.

It is through the CFSF that LANDBANK is able to implement a voluntary coordinated action by introducing and supporting projects with CDM-eligibility potentials, which could lead to GHG emission reductions, and at the same time, provide incentives through generation of additional revenue in the form of carbon credits.

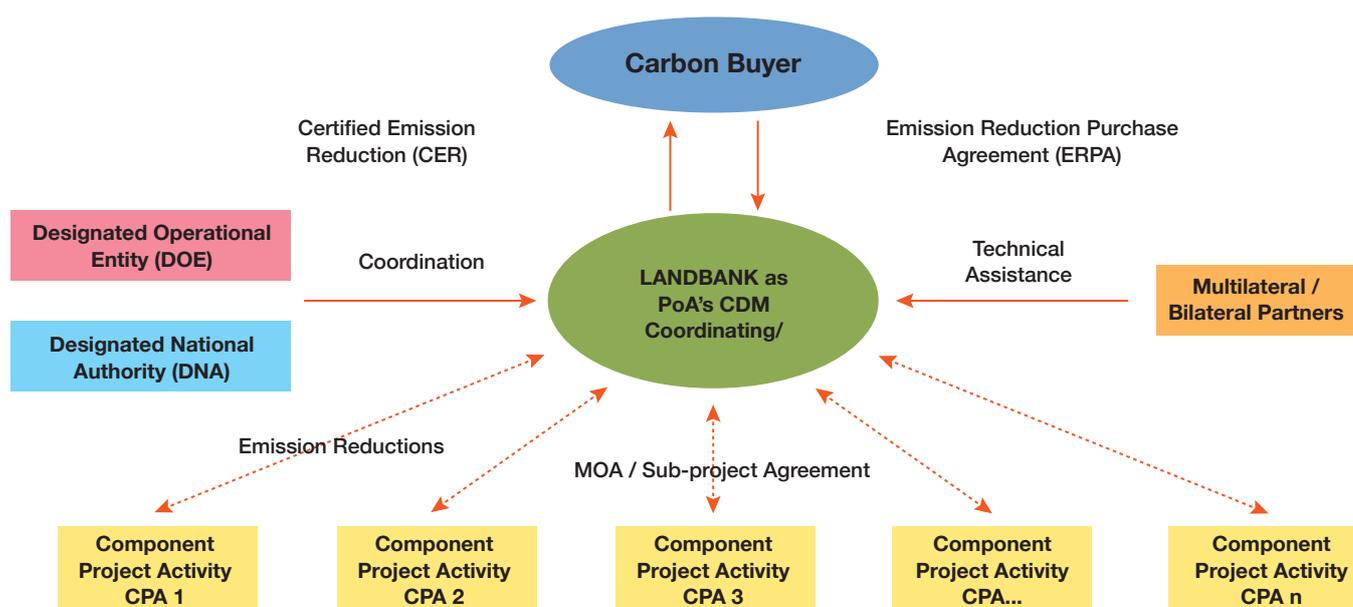
LANDBANK, through the Environmental Program and Management Department (EPMD) serves as the Coordinating and Managing Entity (CME) for the following CDM Program of Activities (PoA) which have been developed and registered with the United Nations Framework Convention on Climate Change (UNFCCC), with assistance from the World Bank (WB):



- CDM PoA 6707 – Landfill gas recovery and combustion with renewable energy generation from sanitary landfill sites;
- CDM PoA 5979 – Methane recovery and combustion with renewable energy generation from anaerobic animal manure management systems; and
- CDM PoA 8674 – Philippines' Mini-Hydro under LANDBANK CFSF.s

Below is a diagram on how LBP's CFSF is structured:

Inventory of GHG Emissions in MT CO₂ Equivalent



For the landfill CDM PoA, 1,750,000 total carbon credit units (or tons CO₂-equivalent units recovered) are targeted to be achieved by projects implemented under CFSF; for the piggery CDM PoA, the target is 2,000,000 total carbon credit units.

As of this writing, inclusion of applicable projects into the CDM PoA for Mini-Hydro is on hold, pending securing of interested foreign entity-participant buyers for equivalent carbon credit units generated from such projects. However, it must be noted that LANDBANK has accepted, and continues to accept and consider, loan applications for hydropower projects under its renewable energy portfolio of accounts.

Legal and Institutional Framework

The development of LANDBANK's Climate SMART Financing Program was in cognizance of the enactment of various climate-related national laws, such as the Disaster Risk Reduction and Management Act (RA 10121), Renewable Energy Act of 2008 (RA 9513), Biofuels Act of 2006 (RA 9367), and the Climate Change Act of 2009 (RA 9729).

On the other hand, the CFSF was institutionalized through Management Committee Resolution No. 21 series of 2006, as also guided by LANDBANK's vision of protecting the environment. This was further enabled by LANDBANK Executive Order No. 002 Series of 2013, which establishes the guidelines for the implementation of the PoA's under the CFSF. The said implementation guidelines cover details on the processing, administration, and management of CDM-eligible projects, as well as the crediting and distribution of proceeds from carbon credits generated.



The implementation of CFSF is also aligned with LANBANK Credit Policy issuance (CPI) No. 002 series of 2009, or the Environmental Policy Relative to Credit Delivery, which is implemented in support of the Bank's corporate environmental policy of actively promoting environmental protection and sustainable development. This is accomplished through the Environmental Due Diligence (EDD) system wherein all projects directly financed by LANDBANK, as well as collaterals offered as security, are subjected to environmental assessment and compliance monitoring. Detailed EDD is applied to projects covered by the Philippine EIS system to identify, mitigate and monitor the adverse impacts of the LBP-financed project to the environment.

With the EDD system as an encompassing framework, the implementation of CFSF is in line with the relevant Philippine national and local laws and regulations, along with the World Bank Safeguards Policies. The application of Philippine environmental laws are deemed not to present any conflict with World Bank safeguards issuances: The safeguards requirements build upon these national guidelines and requirements in order to streamline, to the extent possible, the documents required for each project under the CFSF without compromising in any manner the relevant legal requirements under the system of laws under the Philippine government, or the Safeguard requirements of the World Bank.

Existing Climate Finance Gaps

Some of the climate finance gaps observed and learned from the implementation of various piggery and landfill projects under the CFSF relate to conditions inherent in these two sectors, such as:

- **For landfill:** Lack of landfill areas with enough scale (in terms of waste acceptance rate and gas production volume) to support the economics of scale of biogas plant construction and operation. This restricts the number of potential landfill areas identified and selected for development.
- **For piggeries:** The need for more bio-digester technology providers to offer proponents more flexibility in terms of price and technology options. Currently, there are a small number of identified technology providers in the country.

It is a given that high investment costs are involved in the implementation of these gas-to-energy projects under the CFSF. Recognizing and addressing the above identified gaps would seek to moderate the impacts of perceived risks, especially in the part of proponents, in the face of such high investment costs.

On the financing aspect, given that environmental protection and sustainable development are the main driver values of LANDBANK for supporting projects under the CFSF, climate finance gaps herewith stated are more related to technical proficiency in the credit proposal preparation and evaluation for such projects; to wit:

- The need for training and developing account officers for enhanced capability in design evaluation and cost determination (in context of credit proposals);
- The need for training for enhanced technical proficiency for conducting due diligence and monitoring activities (in context of projects already in operational mode).

Financial Framework of the Project's Implementation

Implementation of the CFSF is covered by the Carbon Partnership Facility (CPF), one of the major carbon finance instruments set up by the World Bank, with the declared objective of developing emission reductions (hereby qualified as carbon credit units) and supporting their purchase through the provision of carbon finance to long-term investments. The CPF, in particular, is about collaborations with governments and market participants on investment programs that are consistent with the low-carbon economic growth and sustainable development priorities of developing countries.



The CPF is composed of two trust funds, namely:

- Carbon Asset Development Fund (CADF) – for the preparation and implementation of emission-reduction programs; and
- Carbon Fund (CF) – for the purchase of carbon credits from the pool of emission-reduction programs.¹

LANDBANK's CFSF is covered by the following emission reduction purchase agreements (ERPA):

- Carbon Partnership Facility Clean Development Mechanism Certified Emission Reductions Purchase Agreement (for Landfill projects), signed and dated December 15, 2015; and
- Carbon Partnership Facility Clean Development Mechanism Certified Emission Reductions Purchase Agreement (for Piggery projects), signed and dated May 25, 2015.

The aforementioned ERPAs cover for the purchase of 2,000,000 certified emission reductions (CERs) from piggery projects and 1,750,000 CERs for landfill projects until 2020.

The financing of landfill and piggery projects under the CFSF is funded using the internal funds of the Bank.

Estimated or Achieved Impacts, to-date

As of August 2017, the CDM PoA for Landfill projects has the following projects implemented and registered:

- Quezon City Controlled Disposal Facility Biogas Emission Reduction Project (CDM Reference Number 1258) of Pangea Green Energy Philippines, Inc. (PGEP); and
- Landfill Gas Recovery and Combustion with Renewable Energy Generation from Sanitary Landfill Sites of Montalban Methane Power Corporation (MMPC).

As of this writing, an expansion project under the existing biogas power plant project of PGEP is being prepared for registration under the applicable CDM PoA.

The table below shows the estimated amount of CERs expected to be realized from the CDM PoA for Landfill projects.

Results Indicators	Output for the Period	Estimated CERs to be Delivered (Metric tCO ₂ e)	Description
Sanitary Landfills (SLF) Registered	2	2,073,922	Cumulative number of SLF that have been included in the PoA.
SLF undergoing Registration	1	331,591	Number of SLF that have been assessed by the designated operational entity (DOE) for inclusion.
TOTAL	3	2,405,513	137% of 2020 ERPA Commitment

¹ As presented in <https://cpf.wbcarbonfinance.org/content/what-cpf>.



On the other hand, the CDM PoA for Piggery projects has the following first three (3) projects registered/implemented, as of August 2017:

- Biotech Farms;
- Marcela Farms, and
- Mega Pork, Inc.

As of this writing, a total of 45 piggery projects and one (1) sanitary landfill project, at various stages of CDM-documentations, are being facilitated for inclusion/registration under the CDM PoAs.

The table below shows the estimated amount of CERs expected to be realized from the CDM PoA for Piggery projects:

Results Indicators	Output for the Period	Estimated CERs to be Delivered 2018-2020 (Metric tCO ₂ e)	Description
Pig Farms Registered	3	70,973	Cumulative number of pig farms that have been included in the PoA (since the start of the PoA)
Pig Farms Undergoing Inclusion	34	910,360	Pig farms scheduled for Inclusion-Validation by October 2017
Pig Farms Scheduled for Inclusion	11	143,000	
TOTAL	48	1,124,337	64% of 2020 ERPA Commitment



CASE STUDY

The Democratic Socialist Republic of Sri Lanka

Climate Finance: Mechanisms, Frameworks and Challenges in Sri Lanka

Prepared by the Centre for Environment and Development (CED), Nugegoda, Sri Lanka

Introduction

The Government of Sri Lanka (GoSL), with the assistance of the International Development Association (IDA) of the World Bank and the Global Environment Facility (GEF) initiated two programmes, the “Energy Services Delivery Project” (ESD) (1997-2002) and the follow-on “Renewable Energy for Rural Economic Development Project” (RERED) (2002-2011), to promote private sector investments in on-grid and off-grid power generation using environmentally sustainable renewable energy technologies (RET). Both projects aimed to develop on-grid RET based generation capacity and to provide RET based off-grid energy services to households and communities that lacked access to the national grid. The projects were supported by credit lines from IDA, grants from GEF and at a later stage (2003), subsidies from GoSL.

The projects undertook several initiatives to popularise and promote RETs as viable alternatives. They focused on the installation of:

1. Grid-connected projects

ESD and RERED assisted grid-connected power generation subprojects by providing long credit through Participating Credit Institutions (PCIs). PCIs conducted their own subproject appraisals, which included technical, financial and promoter evaluation – 80% of the PCI project loan was refinanced at the prevailing average commercial bank deposit rate. The rate to the beneficiary was market driven and not specified. The ESD Project funded small hydro projects, while the RERED Project also funded wind and sustainable bio-mass projects.

2. Off-grid community-based projects

Off-grid community based projects assisted were mainly micro-hydro projects implemented and owned by village Electricity Consumer Societies (ECS). The ECS calculated and collected flat monthly subscription fees from members for electricity use. Construction was financed through a combination of a loan from a PCI (or non-PCI financial institution), grant support from ESD/RERED and equity from household and other sources (e.g. provincial councils, state agencies and NGOs). The ECS negotiated loans with the lender and agreed on terms. Lending institutions evaluated household income and cohesiveness, and ECS managerial and technical capability when extending loans. The ECS was assisted in the process by a Registered Project Developer, who prepared the feasibility study and provided technical assistance for design and construction. Each successfully completed sub-project received a co-financing grant based on installed capacity. Project Developers received a ‘Project Preparation Grant’ for their efforts. The ESD/RERED Administrative Unit (AU) sent technical consultants to verify design and installations of sub-project as per ESD/RERED technical specifications.



3. Solar Home Systems (SHS)

SHS were marketed by registered SHS vendors. The vendors technician visited the households of interested customers and evaluated their electricity needs. If the customer required a credit facility, the vendor performed a preliminary credit assessment and directed the customer to a microfinance institution (MFI). When the loan was approved, the vendor collected a typical 15% downpayment from the customer and installed the SHS. The MFI thereafter collected the instalments from the customer as agreed, either monthly or seasonally.

ESD/RERED provided a co-finance grant based on SHS capacity to the vendor which could be used to reduce the cost to the end-user or for marketing/working capital purposes. In order to reduce dependency on grants, the co-financing grants were progressively reduced in terms of amounts and system size over the life of the projects.

Following a successful SHS subsidy initiative from a provincial council, GoSL started providing a subsidy to SHS buyers in the form of upfront discounts on SHS selling prices. The vendors claimed this subsidy from the GoSL through the AU.

The performance of ESD and RERED at completion was as follows:

TABLE 1

	Project Duration	Objectives	Technology promoted	Targets	Achievements
ESD	1997-2002	<ul style="list-style-type: none"> Assisting the private sector, NGOs and cooperatives in their delivery of grid-connected and off-grid RETs to provide electrification to rural households Strengthening the enabling environment for implementing demand-side management Reducing carbon emissions 	As of June 2002		
			Grid connected small hydro	21 MW	31 MW, 15 subprojects
			SHSs	15,000 households	20,953 households
			Community-based projects (hydro)	252 kW, 20 schemes	350 kW, 35 schemes, 1,732 households
RERED	2002-2011 (Initially was set to conclude in 2008)	<ul style="list-style-type: none"> Providing off-grid electricity services to stimulate the rural economy, empower the poor and improve their standard of living Establishing grid-connected projects to encourage competition in the electricity sector, provide additional capacity, and achieve greater efficiency and transparency 	As of December 2011		
			Grid connected small hydro, wind, bio-mass and solar	135 MW (85 MW)	184 MW, 70 subprojects (68 hydro and 2 wind)
			SHSs	160,000 households (revised target -113,500 households)	110,575 households
			Community-based (hydro, wind, bio-mass and solar)		6,220 households; 1,770 kW; 175 schemes (includes two community-based biomass projects)



Existing Climate Finance Gaps

The first independent power project Sri Lanka was a 0.96 MW small hydro plant commissioned in 1996. This project was financed by DFCC Bank, a DFI. The gaps in finance that existed at the time for such grid connected projects were due to a lack of domestic sources of long capital from development banks, lack of project financing capability from commercial banks and hesitancy by commercial banks to finance RETs new to Sri Lanka. The legal and regulatory framework (state agency approvals, feed in tariffs, power purchase agreements etc) was also evolving at the time.

For off-grid initiative such as SHS and village micro-hydro, the field was new and an entire sector had to be built practically from scratch – encouraging solar vendors, training technicians, ensuring technical and service standards, creating customer awareness and acceptance, and arranging financing for vendors and more importantly consumer financing for poor rural customers. Lending to villages on a communal basis for micro-projects was also a new concept for many financial institutions.

Considering these challenges, ESD and RERED went a long way in mainstreaming RE financing in Sri Lanka. Long after the projects ended, the RE sector is still vibrant.

While the domestic capital market has developed over the years, adequate domestic sources of long term capital are still inadequate to fund the growing infrastructure requirements of a lower middle income economy.

Financial Framework of the Project's Implementation

The Ministry of Finance and Planning (MoFP) oversaw the projects while the Project Management Department of DFCC Bank, functioned as the project Administrative Unit (AU). The AU administered the IDA credit program to re-finance sub-loans made by Participating Credit Institutions (PCIs) to Investment Projects (sub-projects), developed and implemented by the private sector companies, village communities or NGOs. It also administered the Global Environment Facility (GEF) grant program to co-finance the development of off-grid investment projects to provide support to develop new renewable energy applications and technical assistance for a selection of activities. On request of the AU, the Treasury Operations Department (ToD) of the MoFP disbursed the re-finance credit funds to the PCIs (development banks, commercial banks, leasing companies, finance companies and micro-finance institutions) from a Central Bank of Sri Lanka (CBSL) account. The PCIs took the credit risk of the beneficiaries and the government took the credit risk of the PCIs. PCIs had to conform to stipulated eligibility criteria. GEF grants funds were also disbursed on the request of the AU by the ToD from another CBSL account.

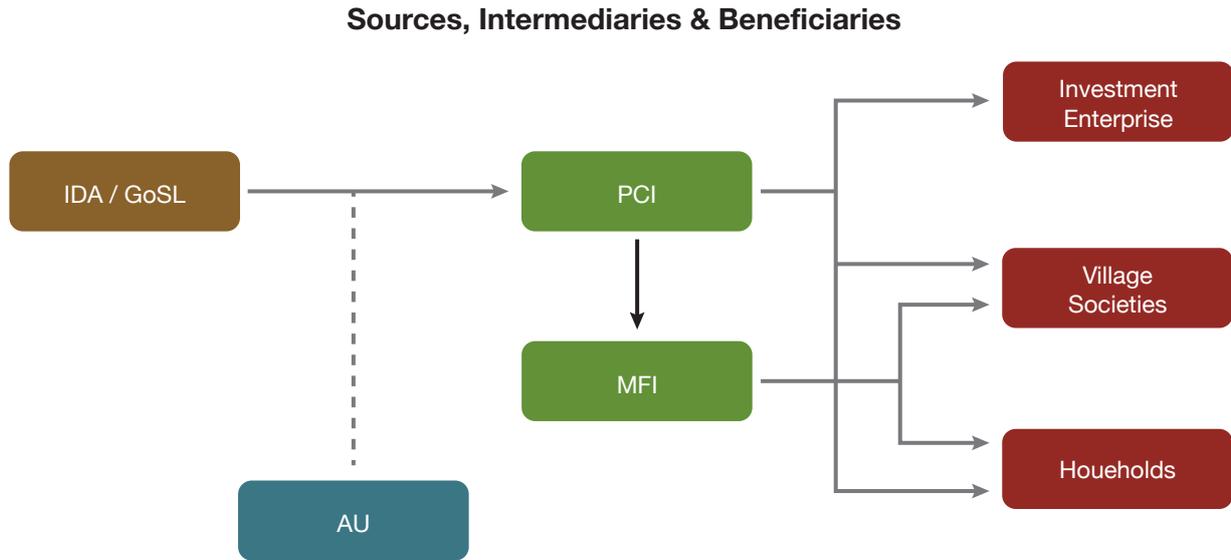
TABLE 2

Funding Agencies	GoSL
	IDA
	GEF
Implementation and Administration	MOF&P
	AU (DFCC Bank)
	ToD/CBSL
Financial Intermediaries	Participating Banks
	Participating MFIs, Leasing Companies and Finance Companies
	Non-PCI Financial Institutions (used own resources or obtained loans from PCIs)
Partners	Project Developers, SHS Vendors, Equipment Suppliers, Consultants, Industry Associations
Beneficiaries	Investment Enterprises, Households, Households borrowing collectively as Village Electricity Consumer Societies



Figure 1 below illustrates a simplified flow of funds for the project.

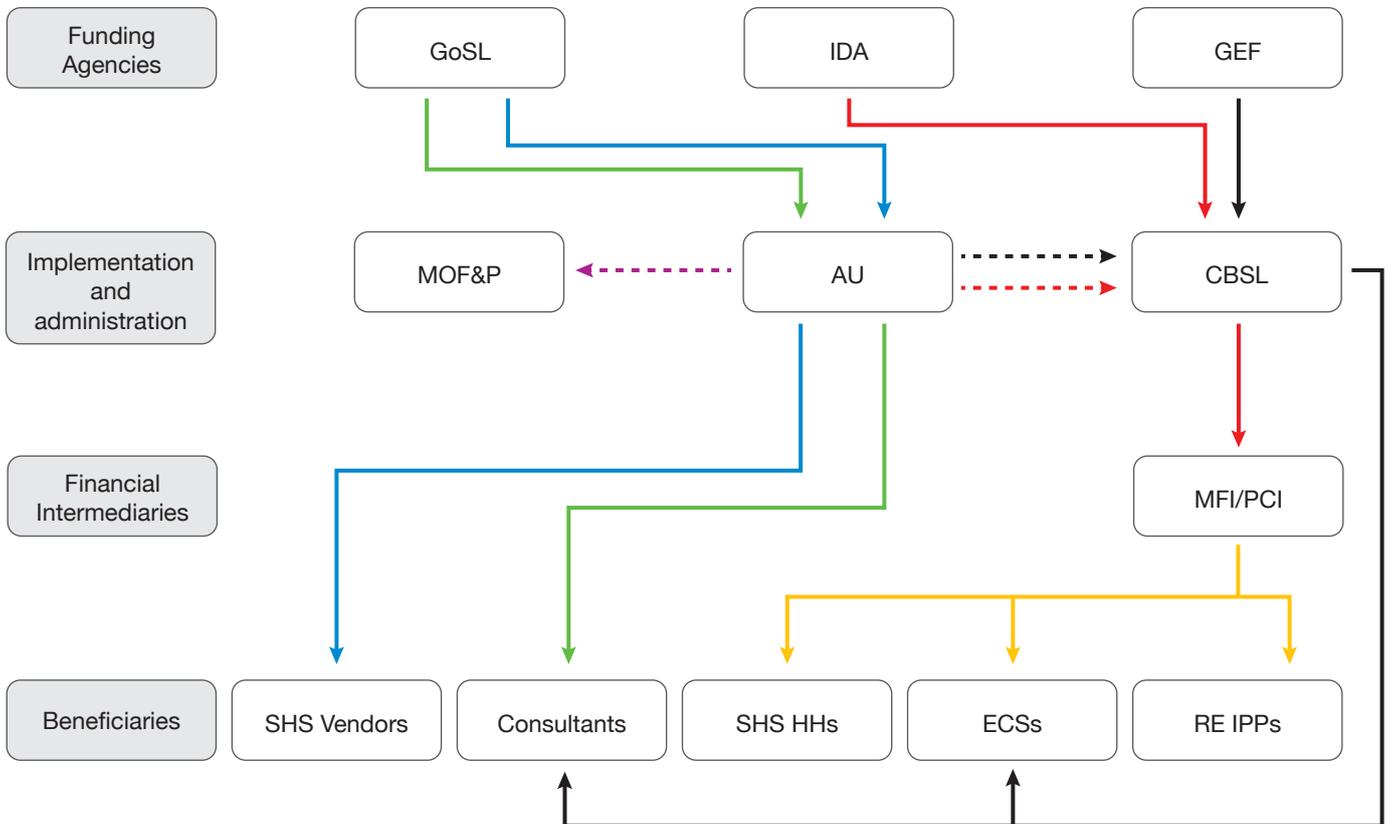
FIGURE 1



Note, an MFI could be a PCI if it could satisfy the eligibility criteria. Otherwise, it had to use its own resources or obtain a re-finance loan from a PCI. In this case, the PCI took the credit risk of the MFI.

A more detailed depiction of the funds flow and the reporting flow is depicted below in Figure 2.

FIGURE 2



- Loan Facilities
- Counterpart Funding
- - - Reporting
- SHS Subsidy
- GEF Grant
- IDA Credit
- - - - - Withdrawal Applications (Grant)
- - - - - Withdrawal Applications (Credit)



Legal and Regulatory Framework

Two principal actors in the Sri Lanka electricity sector were the Ministry of Power and Energy - which oversaw the import, generation, distribution and consumption of energy resources and implemented policies regarding the energy sector – and the Ceylon Electricity Board (CEB), accountable for electricity generation, transmission, purchases from independent power producers (IPPS) and distribution to consumers. The legal status of off-grid community-based power generation was a matter of concern at the inception of ESD in 1997, since the **Electricity Act** prevailing at the time did not allow the distribution and sale of electricity by any other entity besides the CEB. The Electricity Act was subsequently replaced, and also two new agencies came into being – the Public Utilities Commission of Sri Lanka (PUCSL) as the regulator (2003) and the Sri Lanka Sustainable Energy Authority (SLSEA) (2007) with a mandate to develop the RE sector.

Grid Connected Projects

ESD and RERED influenced a new legal framework enabling the rapid development of power generation through RETs in Sri Lanka. In particular, ESD played a key role in establishing a **Standardised Power Purchase Agreement (SPPA)** and the non-negotiable **Small Power Purchase Tariff (SPPT)**, which greatly enabled independent grid-connected power generation in the country and allowed local entrepreneurs to enter the market and invest in numerous projects. Under the SPPA, IPPs entered into a 15-year agreement with the CEB, with clearly specified conditions of power delivery and purchase. This framework, which reduced financial uncertainties for subprojects, together with the support of ESD/RERED, served as a catalyst in attracting more investors and financiers to the industry.

Later, SPPAs were for 20 year periods and SPPTs became technology specific. Investments in technologies newer to Sri Lanka such as wind, bio-mass and solar were incentivised with higher purchase tariffs.

Community Based Projects

Under the then Electricity Act, Electricity Consumer Societies (ECSs) operating community owned off-grid village (micro)hydro projects (VHPs) were allowed to generate power, but only for use by ECS members for self-generation rather than commercial production and sale of power. ECS members paid a flat monthly subscription fee rather than a tariff, which was used to pay loan instalments and interest, to meet routine operation and maintenance (O&M) expenses, and to create a small pool of funds for major break downs and emergencies. ECSs were also responsible for ensuring there was no overloading of the system and that members were using only the agreed amount of electricity, disconnecting defaulters and providing new connections. To ensure legality of VHP subprojects, ECS had to register with the provincial authorities and they had to obtain permissions from relevant state agencies before beginning construction.

SHS

At the initial stage of ESD, financing SHSs posed a challenge for the then existing PCIs (large development banks and commercial banks), as they were not equipped to economically provide very small consumer loans to households in remote geographically disbursed locations. Therefore, SHS vendors provided consumer credit (e.g. financial appraisal of potential customers, provision of credit facilities and collection of loan instalments) after obtaining working capital loans from PCIs. However, this consumer credit delivery mechanism was unsuitable since SHS vendors were not competent in credit evaluation and collection and also their borrowing capacity was limited.

The involvement of MFIs by ESD had an immense impact on SHS sales since they had the required rural outreach. The success of such rural microcredit was principally dependent on the MFIs rural presence, local connections and its understanding of local needs. MFIs initially accessed term loans from PCIs and provided SHS loans to consumers. However this model introduced another layer in the credit delivery process and pushed up interest rates. To solve this issue, a new set of eligibility criteria for MFIs was introduced such that they could become PCIs and thus access the credit line directly.

Success Factors

A key method ESD/RERED used to achieve its objectives was a multi-stakeholder partnership approach and an innovative financial mechanism. It created a national financial services subsector for RE funding, by opening the project credit facility to multiple participating credit institutions (PCIs), which as a result encouraged many commercial banks to fund RE projects thereby increasing competition among lenders. Seven banks and four non-bank financial institutions provided credit facilities for RE projects. Commercial banks were a large deposit



base they could tap to lend long term as opposed to the development banks who were more dependent on higher cost borrowings.

The project helped latent Sri Lankan entrepreneurs to develop and expand new business models for the provision of a variety of energy services. In particular, the AU created and maintained an enabling environment of capacity building, technical assistance and financial products for each renewable energy industry category. The AU aided the mobilisation of industry associations, professional services accreditation and quality assurance standards. Quarterly stakeholder meetings, served as a platform for the various stakeholders to come together. Furthermore, by training local youth in various aspects of the renewable energy industry, the project created a skilled workforce that could be readily tapped by the various companies and entrepreneurs.

The financing mechanism and stakeholder approach used in this project created a substantive change in investments in low-carbon climate resilient development, expanding and promoting the use of renewable energy technologies above all in rural and poor areas. It created an advantageous environment for businesses, NGOs, Community Based Organisations (CBOs) cooperatives, commercial and development banks, leasing companies and microfinance institutions to provide renewable energy services on a business as usual basis.

Issues Faced

In the second half of the 2000s, GoSL embarked on a rapid rural electrification programme, such that by the end of RERED in 2011, around 97% of Sri Lanka's 20 million population had access to the grid. The SHS market virtually ceased leading to the vendors curtailing operations or closing down and SHS loan defaults increased. Micro-hydro became stranded assets when all or some of the households accessed the grid.

A 2008 policy initiative of GoSL provided encouragement to grid-tied solar systems in urban areas (i.e. Net Metering). This initiative was supported by RERED technical assistance, and currently there are over 200 vendors installing grid-tied systems for both household and commercial applications. As of 2016, a cumulative capacity of 52MW across 7,570 customers was connected to the grid on net-metering basis¹. In a new initiative, GOSL is targeting 1 million roof-top solar connections by 2025.

As a pilot project, RERED together with USAID provided technical assistance to two micro-hydro projects to sell electricity to the grid, thus becoming Independent Power Producers (IPP) receiving the same feed-in tariff as larger small hydro IPPs.

Lessons Learned/Estimated and/or Achieved Impact

The project indirectly contributed to the achievement of Sri Lanka's Millennium Development Goals (MDGs). The expansion of electric power in rural areas enhanced incomes and standards of living in different ways such as keeping houses and workplaces cleaner and healthier since they were no longer blackened by smoke from kerosene lamps and keeping businesses open for longer hours to increase revenues. Electricity also had a social impact such as on education, health and gender equality. It gave the opportunity to expand technology, education and communication facilities to rural communities, and provided more time to children to study and to women a sense of security due to longer electric lighting.

Furthermore, it also helped generate employment at community and household levels through installations and O&M of grid-connected MHPs, VHPs and SHS. For example the construction of a single MHP employs 8-11 members of the surrounding community for 18 months, therefore the completion of 68 MHPs under RERED have generated between 244,800 and 336,600 person-days of employment.

Unfortunately, even though the projects provided a project preparation (PPC) grant of up to USD 1000 to set up income generating activities within subprojects, households in villages demonstrated little interest in establishing formal economic activities. Limited production capacity and limited size of markets in the immediate vicinity, difficulty in transporting produce from remote locations to markets and the more remunerative income at the time from agricultural pursuits like tea growing are the likely causes. However, some cottage industries that served the community rather than external markets thrived.

¹ <https://www.adb.org/sites/default/files/linked-documents/50373-002-ssa.pdf>



In terms of greenhouse gas emissions, RERED project is estimated to have saved 2.15² million tons of carbon emissions during 2002-2011. The 70 grid-connected RE projects with a capacity of 184MW continue to generate power, thereby avoiding carbon emissions.

Regarding the impact of the project in the legal sector, GoSL started to give non-conventional renewable energy (NCRE) a larger role in the electricity sector as a technique to reduce dependence on imported oil. In 2008, it introduced 'net metering' for electricity generated from renewable sources so that electricity consumers are able to feed it into the national grid in exchange for credit to their electricity bill in units generated. This opened a new avenue for users of RE generators to expand their operations. Furthermore, the establishment of SEA in 2007 gave the opportunity to RE stakeholders to discuss their views and to lobby for their interest in a state-recognised forum. SEA also evolved the SPPA into a more transparent, longer term agreement with technology-specific tariffs, to facilitate the entry of new technologies in the market. Also, the amendment of the Electricity Act in 2009 has vested wide-ranging powers in the PUCSL.

The rapid expansion of the national grid, while being beneficial to consumers on a macro viewpoint (as the quality of electricity and the unlimited quantity available) caused problems to solar vendors, lenders, equipment supplier who had to rapidly change their business models. While some SHS vendors went out of business (and left customers in the lurch) others transitioned to providing grid-tied systems in urban areas. A leasing company that got in to rural finance for the first time through SHS consumer financing is now operates very successful micro-finance operation in Sri Lanka and overseas. Some village hydro developers are working as consultant in Africa.

From a policy making point of view, there are lessons to be learnt in terms of dealing with transition from off-grid to on-grid and dealing with stranded assets.

In the meantime, the grid-connected RE generation sector has developed greatly. As the untapped hydro power potential in Sri Lanka was getting exhausted developers pursued other RE technologies such as wind, solar and bio-mass. Some are developing small hydro projects in East Africa, notably in Uganda.

References

United Nations Development Programme (2012). Renewable Energy Sector Development: A decade aïo Promoting Renewable Energy Technologies in Sri Lanka. Towards an "Energy Plus" approach for the poor: A review of good practices and lessons learned from Asia and the Pacific. Case study 11, pp. 1-20. Available from: http://www.undp.org/content/dam/rbap/docs/Research%20&%20Publications/environment_energy/energy-plus/EE-2012-Case11-RERED.pdf

The World Bank (2011), Sri Lanka Lights up: Renewable Energy for Rural Economic Development. Available from: <http://www.worldbank.org/en/news/feature/2012/05/16/SriLanka-renewable-energy-rural-economic-development>

Sri Lanka Renewable Energy Program Available from : <http://siteresources.worldbank.org/EXTRENERGYTK/Resources/5138246-1238175210723/Sri0Lanka0RE0Pr ogram0mini0hydro0.pdf>

ADB: Rooftop Solar Power Generation Project <https://www.adb.org/sites/default/files/linked-documents/50373-002-ssa.pdf>

² World Bank: Implementation Completion and Result Report (ICR00002296) on the RERED Project (June 2012)



FACT SHEET The Republic of Indonesia

Prepared by Kemitraan bagi Pembaruan Tata Pemerintahan (Kemitraan), Jakarta, Indonesia

The Republic of Indonesia is located in Southeast Asia, between the Indian and the Pacific oceans, and its capital is Jakarta. It shares a border with Malaysia in the northern part of Borneo and with Papua Guinea in the centre of New Guinea. Indonesia is the world's largest island country with approximately 17,500 islands, of which more than 7,000 are uninhabited. It has a total population of 264,108,982, reviewed in 2017¹, and a combined surface area of 1,910,931 sq km. The major Indonesian islands are characterized by densely forested volcanic mountains in the interiors that slope downward to coastal plains covered by thick alluvial swamps that in turn dissolve into shallow seas and coral reefs. Beneath this surface, the unique and complex physical structure of Indonesia encompasses the junction of three major sections of the Earth's crust and involves a complicated series of shelves, volcanic mountain chains and deep-sea trenches². Indonesia's climate is almost entirely tropical; it experiences tropical rainforest (highest precipitation), tropical monsoon and tropical savanna (lowest precipitation)³ conditions. As represented in Figure 1, Indonesia's CO₂ emissions increased from 0.244 metric tons per capita in 1960 to 1.902 in 2013 and its GDP, as shown in Figure 2, reached USD 932.259bn in 2016⁴.

Figure 1: CO₂ emissions (metric tons per capita) and Figure 2: GDP (current US\$)

Figure 1

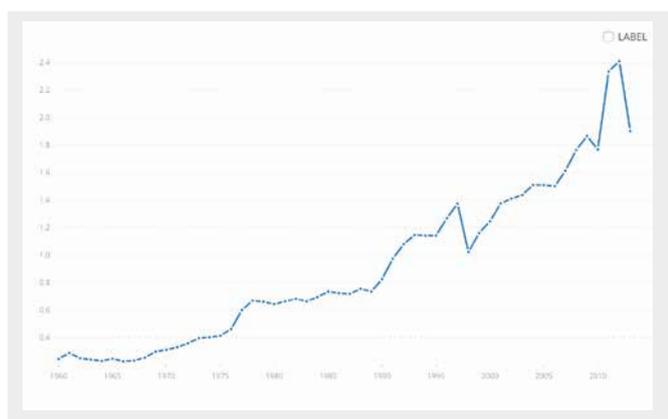
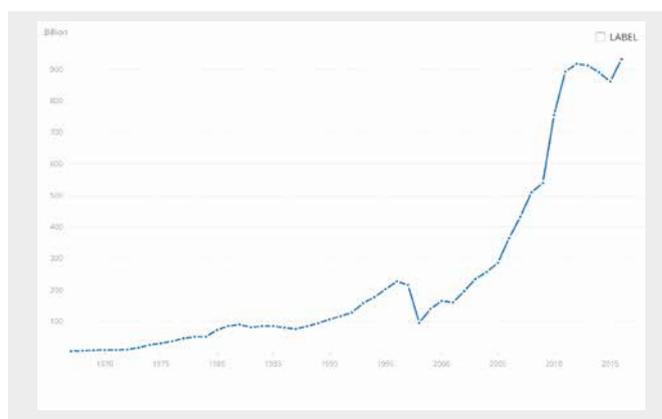


Figure 2



¹ Total population found in Worldometers (see also <http://www.worldometers.info/world-population/indonesia-population/>)

² Geographic details found in Encyclopedia Britannica (See also <https://www.britannica.com/place/Indonesia>)

³ Climate information found in Climate Data Org (See also <https://en.climate-data.org/country/101/>)

⁴ CO₂ emissions and GDP data of Indonesia gathered from World Bank (See also: <https://data.worldbank.org/country/indonesia>)



1. Nationally-Determined Contributions (NDCs)

A. NDC Targets

Indonesia has voluntarily committed to unconditionally reduce 26% of its greenhouse gases against the business as usual scenario by the year 2020. This commitment is a prerequisite for embarking on a more ambitious commitment to further reductions by 2030 using an emissions reduction plan that is evidence-based and inclusive. Moreover, Indonesia has committed to unconditionally reduce 29% of its greenhouse gas emissions against the business as usual scenario by the year of 2030. The achievement scheme of its NDC target is divided into 5 sectorial target as follows:

SECTOR : ENERGY			
	BAU	Mitigation Scenario 1 (CM 1)	Mitigation Scenario (CM 2)
1. Efficiency in final energy consumption.	In-efficiency in final energy consumption.	75%	100%
2. Implementation of clean coal technology in power plant.	0%		
3. Renewable energy in electricity production.	Coal power plant	19,6% (Committed 7,4 GW based on RUPTL)	Electricity production of 132,74 TWh
4. Implementation of biofuel in transportation sector (Mandatory B30).	0%	90%	100%
5. Additional gas distribution lines.	0%	100%	100%
6. Additional compressed-natural gas fuel station (SPBG).	0%	100%	100%

SECTOR : AFOLU

A. Deforestation rate

- Deforestation rate under BAU scenario for 2013-2020 is in line with the FREL for REDD+, which is about 0.920 Mha/year, and consist of planned and unplanned deforestation. The rate for planned deforestation was calculated under existing development scenario.
- For both CM1 and CM2 scenarios, it is assumed that the rate of unplanned deforestation is low and the total of planned and unplanned deforestation would not exceed 0.450 Mha.
- Rate of deforestation for BAU 2021-2030 assumed to be 0.820 Mha/year, with scenario of CM1 and CM2 comes into 0.325 Mha, respectively.

	BAU	CM1	CM2	Note
Total (000 ha)	2013-'20: 920 2020-'30: 820 2030-'50: result from model	2013-'20: 450 2020-'30: 325 2030-'50: result from model	2013-'20: 450 2020-'30: 325 2030-'50: result from model	It is assumed that unplanned deforestation would not occur post 2030. Meaning the rate of deforestation completely comes from planned deforestation (model).
1. Unplanned Deforestation	2013-'20: 500 2020-'30: 409 2030-'50: 0	2013-'20: 175 2020-'30: 92 2030-'50: 0	2013-'20: 175 2021-'30: 66 2030-'50: 0	
2. Planned Deforestation (from the model)	2011-'50: result from model	2011-'50: result from model	2011-'50: result from model	



B. Assumption for wood production:

1. Some literatures recorded that the rate of wood extraction from sustainable natural forest ranges from 20 to 35 m³/ha. This work take an assumption of 50 m³/ha for wood extraction in 2010 (the difference between literature and assumption taken is from illegal logging. Illegal logging was assumed zero in 2050, and rate of wood extraction would reach 30m³ (rate of sustainable extraction).
2. Target for wood production from natural forest under CM1 and CM2 scenarios follow National Forestry Planning (*Rencana Kehutanan Tingkat Nasional/RKTN*) (MoF, 2011), while the BAU is higher, using data from the Association for Indonesian Forest Concessionaire (APHI).
3. The rate for establishing forest estate (plantation) under BAU follows the historical data, with the percentage of feasible areas for planting is about 63% (Assumption from APHI, 2007)
4. It is assumed that all forests cleared would leave zero waste, and all woods from these areas would be useable.
5. Utilization of wood from oil palm and rubber trees at the end of its cycle is at medium rate or about a half of total.

C. Assumption for growth rate:

1. Growth rate of plants in ton C/ha/year for natural forest was calculated based on the growth in m³/ha/year with conversion factor of :
 - a. Biomass Expansion Factor (BEF): 1.4 (Ruhayat, 1990)
 - b. Wood density for natural forest: 0.7 t/m³
2. The rate of Industrial Plantation (HTI) in ton C/ha/year was calculated based on data of measurable wood production volume in m³/ha, with BAU, CM1 and CM 2 in 2010 about 120 and has been increased respectively to 140, 160 and 200 m³/ha in 2050 with the role of technology intervention. The escalation is in every 10 year and correction factors:
 - a. BEF: 1.4 (IPCC Default)
 - b. Wood density for HTI: 0.4 t/m³
3. 6 years rotation.

D. CM2 calculation used a very ambitious targets (38%), and some adjustment to the above assumption (CM1) are as follows:

1. Peat restoration achieves 90% survival rate and the area of peat restoration reaches 2 Mha by 2030
2. Land rehabilitation achieves 90% survival rate and almost all unproductive lands have to be rehabilitated (about 12 Mha in total), so that up to 2030 the rate of plantation would be 800 thousand ha/year (the baseline under historical data is about 270 thousand ha).

SECTOR: AGRICULTURE			
	BAU	CM1	CM2
1. The use of low-emission crops.	No mitigation actions.	In total, the use of land for low emission crops is up to 926,000 hectares in 2030*.	In total, the use of land for low emission crops is up to 908,000 hectares in 2030*.
2. Implementation of water-efficient concept in water management.	No mitigation actions.	Implementation of water efficiency is up to 820,000 hectares in 2030*.	Implementation of water efficiency is up to 820,000 hectares in 2030*.
3. Manure management for biogas.	No mitigation actions.	Up to 0.06% of the total cattle in 2030**.	Up to 0.06% of the total cattle in 2030**.
4. Feed supplement for cattle.	No mitigation actions.	Up to 2.5% of the cattle population in 2030**.	Up to 2.5% of the cattle population in 2030**.



S E C T O R : W A S T E

SUB-SECTOR: SOLID WASTE

	BAU	CM1	CM2
1. Enhancement of LFG recovery from 2010 to 2030.	No mitigation actions.	LFG recovery reduces CH ₄ from 0.65% to 10%.	LFG recovery reduces CH ₄ from 0.65% to 10%.
2. Enhancement of the percentage of waste utilization by composting and 3R (paper).	No mitigation actions.	22% in 2020, 30% in 2030*.	22% in 2020, 30% in 2030*.
3. Enhancement of the percent-age of PLTSa/RDF (<i>Refuse Derived Fuel</i>) implementation, compare to total waste.	No mitigation actions.	<ul style="list-style-type: none"> - Up to 3% in 2020 and increase up to 5% in 2030**. - PLTSa implementation in 7 cities. 	<ul style="list-style-type: none"> - Up to 3% in 2020 and increase up to 5% in 2030**. - PLTSa implementation in 12 cities (additional)***.

Note: PLTSa = Pembangkit Listrik Tenaga Sampah

S E C T O R : I P P U

	BAU	CM1	CM2
Industrial processing and product use in major large scale industries.	No mitigation actions.	Cement industry implements "clinker to cement ratio" (blended cement) from 80% in 2010 to 75% in 2030.	Cement industry implements "clinker to cement ratio" (blended cement) from 80% in 2010 to 75% in 2030.
		Enhancing efficiency by feedstock utilization and CO ₂ recovery in Primary Reformer in petrochemical industry (in particular ammonia production). Other actions: <ul style="list-style-type: none"> - Steel industry implements: CO₂ recovery, improvement process in smelter and scrap utilization. - Remains of claim PFCs from CDM-activities (aluminum smelter). 	Enhancing efficiency by feedstock utilization and CO ₂ recovery in Primary Reformer in petrochemical industry (in particular ammonia production). Other actions: <ul style="list-style-type: none"> - Steel industry implements: CO₂ recovery, improvement process in smelter and scrap utilization. - Remains of claim PFCs from CDM-activities (aluminum smelter).
		Note: A quantitative target to be defined by the Min. of Industry.	Note: A quantitative target to be defined by the Min. of Industry.

The table below summarizes the conditional and unconditional targets for reduction set out in Indonesia's NDC for 2030:

Sector	GHG Emission Level 2010 (MTon CO ₂ e)	GHG BaU Emission Level 2030 (MTon CO ₂ e)	GHG Emission Reduction			
			MTon CO ₂ e		% of Total BaU	
			Unconditional	Conditional	Unconditional	Conditional
Energy	453.2	1,669	314	398	11%	14%
Waste	99	296	11	26	0.38%	1%
IPPU	36	69.6	2.75	3.25	0.10%	0.11%
Agriculture	110.5	119.66	9	4	0.32%	0.13%
Forestry	647	714	497	650	17.2%	23%
Total	1,334	2,869	834	1,081	29%	38%



B. NDC Funding Requirements and Gaps

Indonesia has the potential to increase its contribution to reflect a 41% reduction of emissions by 2030, subject to international support for finance, technology transfer and development, and capacity building.

Estimated financial requirements to achieve NDC by 2030 (Table B.01):

Table B.01

Sector	Estimated Percentage	Estimated Requirement NDC 29% (USD)	Estimated Requirement NDC 41% (USD)
Energy	19%	2.74bn	3.47bn
Forestry	41%	5.32bn	7.49bn
Agriculture	10%	1.29bn	1.83bn
Waste	7%	0.91M	1.23bn
Transport	9%	1.17bn	1.64bn
Others	14%	1.82bn	2.56bn
	Total	12.89bn	18.27bn

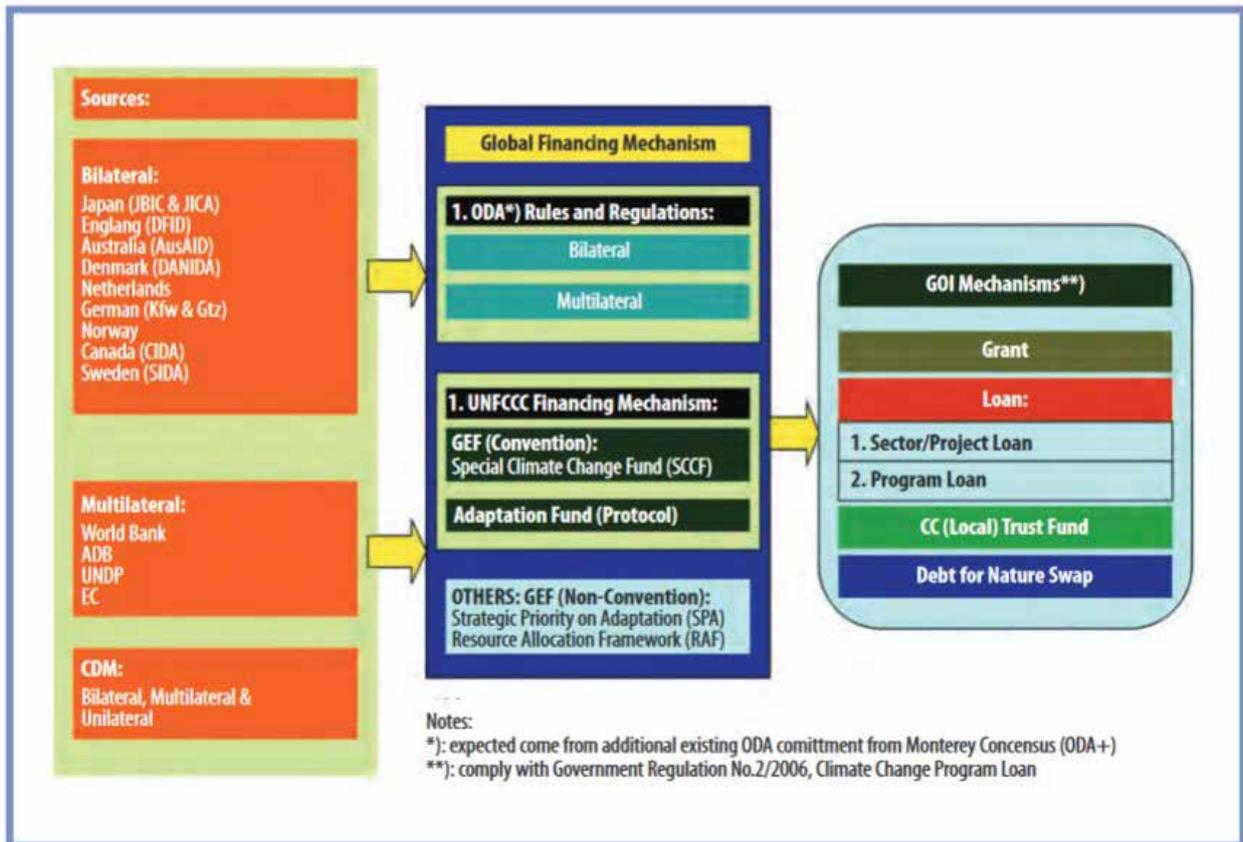
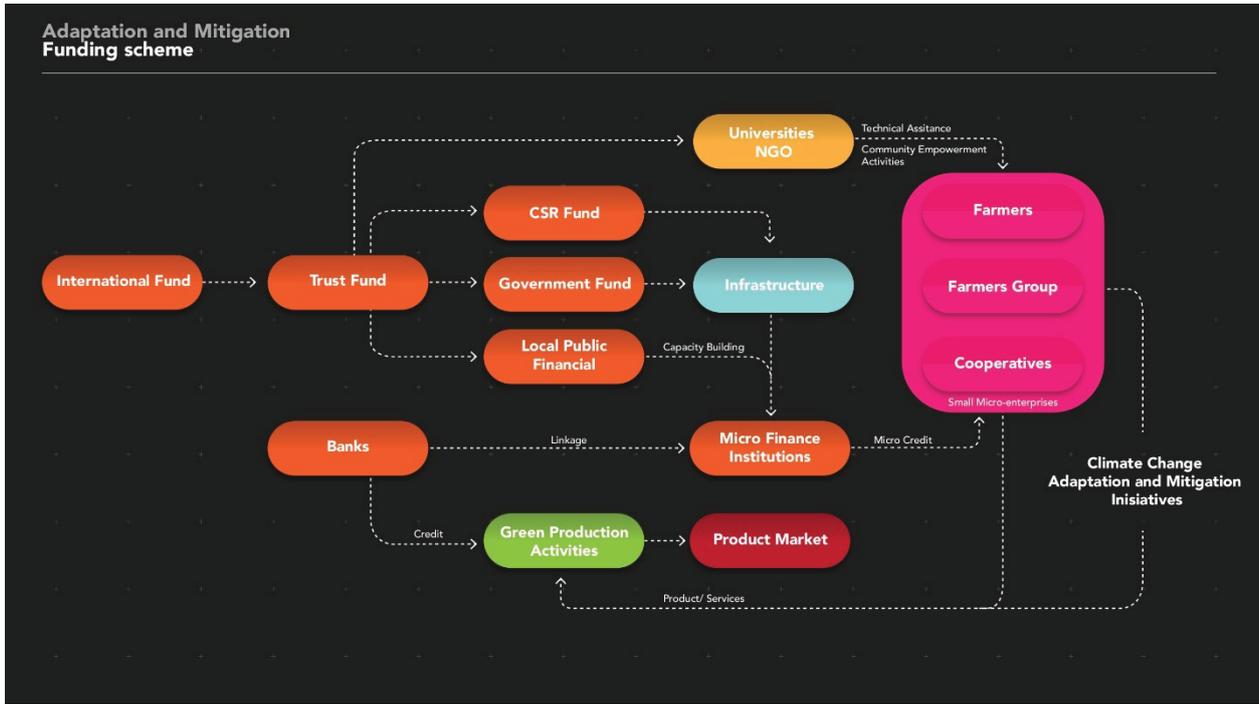
Disbursement in 2011 based on above composition (Table B.02):

USD 951 Million

- 66% (USD 627.66m) from state budget
- 34% (USD 323.34m) from international partners

Table B.02

Sector	Estimated Percentage	Disbursement 2011 (USD)	State Budget 2011 (USD)	Intl. Partners 2011 (USD)
Energy	19%	180.69M	119.26M	61.43M
Forestry	41%	389.91M	257.34M	132.57M
Agriculture	10%	95.10M	62.77M	32.33M
Waste	7%	66.57M	43.94M	22.63M
Transport	9%	85.59M	56.49M	29.10M
Others	14%	133.14M	87.87M	45.27M
	Total	951M	627.66M	323.34M



Climate Change Financing Scheme (Bappenas, 2009)

With reference to Table B.01, approximately USD 12.89bn to USD 18.27bn funding is required to fulfill Indonesia's NDC in 2030, with an annual average of USD 678.42m to USD 961.58m (calculated moderately for the time frame between 2011 and 2030). Table B.02 illustrates the total disbursement of funds in 2011 – USD 951m – which was around USD 10.5m lower than necessary for the 41% reduction scheme. Such gaps are expected to be met through the implementation of innovative climate finance mechanisms from financial institutions and the private sector.

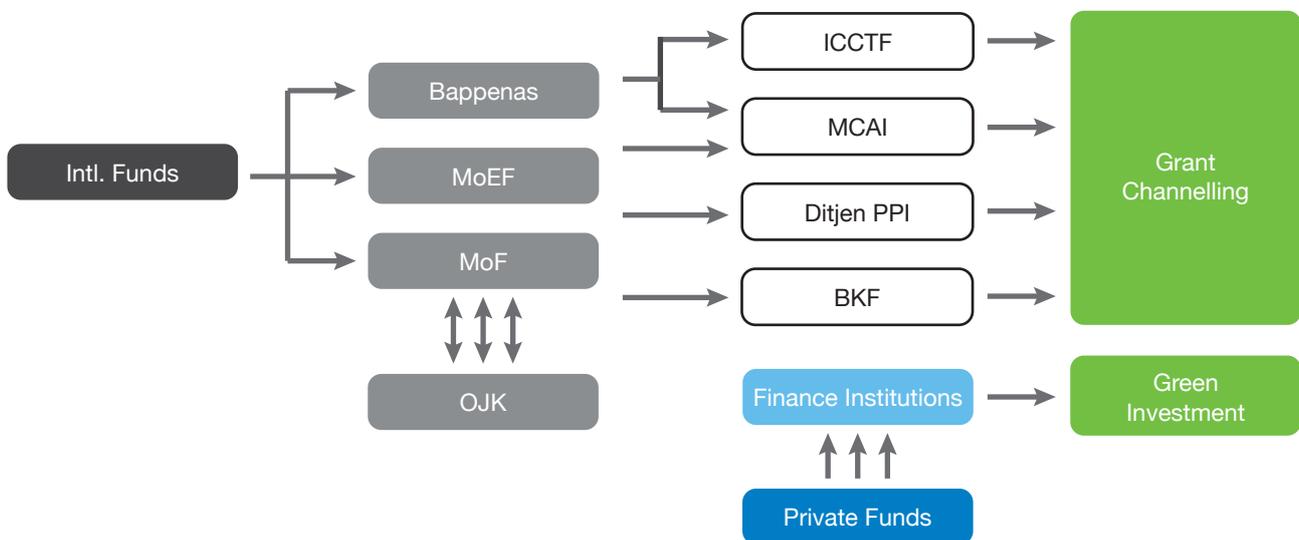


According to BKF (<http://www.fiskal.kemenkeu.go.id/pkppim/en/site/index/climate-finance-in-indonesia>), the UNFCCC, EU and the World Bank have estimated the total mitigation costs for developing countries to be between USD 150bn per year according to a low estimate) and USD 180bn per year based on a high estimate. Assuming a 5%-10% share for Indonesia, the country's mitigation action could in effect cost between USD 7.5bn and USD 9bn per year. Indonesia has already provided some estimates on country climate financing needs, including those presented in the Second National Communication to the UNFCCC, estimates in the Ministry of Finance's Green Paper and those submitted as part of the mid-term development plan (RPJMN).

2. Climate Finance Stakeholder Mapping

A. Mapping of National Institutions and Actors Involved in Climate Financing

The diagram below provides a mapping of national institutions and actors involved in climate financing and their relationships with a detailed explanation provided after.



There are currently four government agencies taking lead on national climate financing:

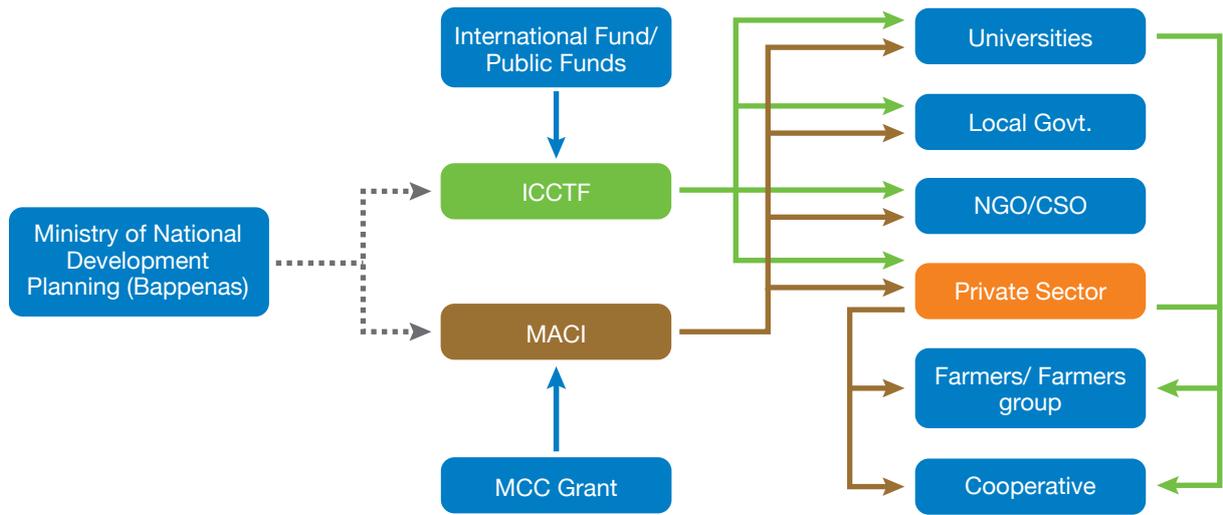
1. Ministry of National Development Planning (Bappenas)

At the United Nations Climate Change Conference in Bali in December 2007, governments from around the world – both developed and developing countries – agreed to step up their efforts to combat climate change and adopted the “Bali Road Map”, which consists of a number of forward-looking decisions that represent the various tracks that are essential to reaching a secure climate future.

Following the articulation of the Road Map, Bappenas developed multi-sectoral guidelines mainstreaming climate change into its development plan known as the “Yellow Book” in 2008, which laid the groundwork for the Indonesian Climate Change Trust Fund (ICCTF). Established in 2009 and active since 2010, ICCTF is a financial entity that pools climate funds from various international sources and promotes financial coherence.

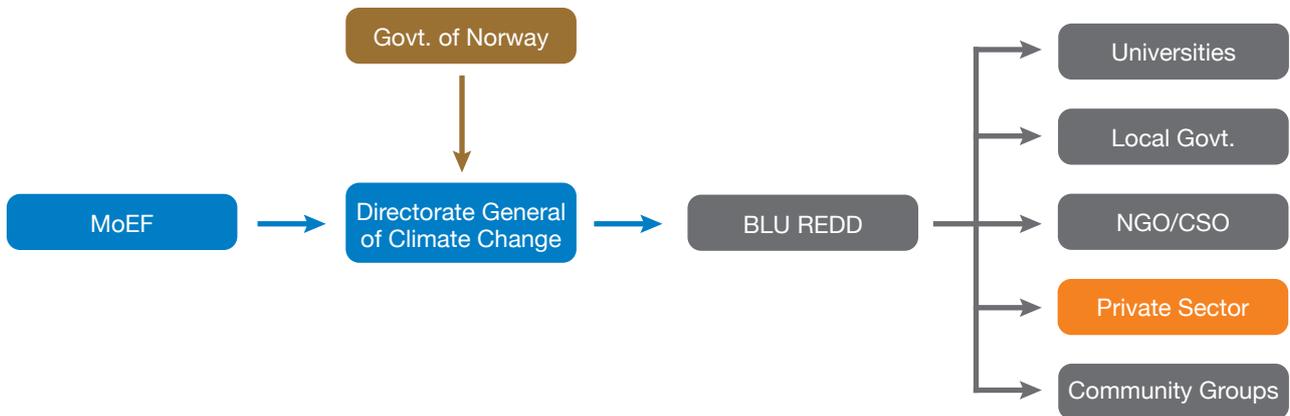
In April 2013, Bappenas established the Millennium Challenge Account (MCA) – Indonesia to manage the Compact Grant of the Government of USA. One of the projects funded through this grant is Green Prosperity that supports activities in climate change mitigation and adaptation.

The diagram below depicts the flow of climate funds through Bappenas:



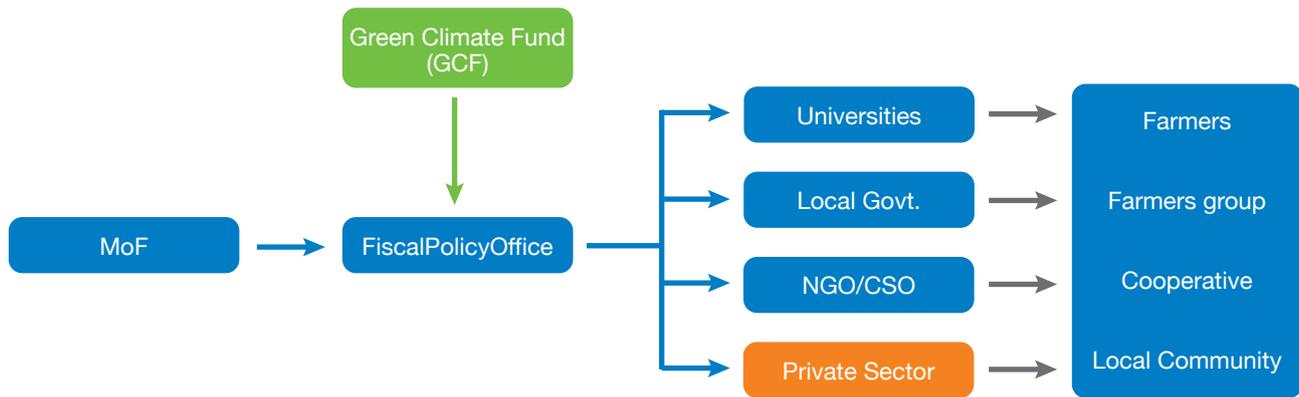
2. Ministry of Environment and Forestry (MoEF)

After the merger between the Ministry of Environment and the Ministry of Forestry in 2014, the Ministry of Environment and Forestry (MoEF) established the Directorate General for Climate Change (Ditjen PPI) that replaced REDD+ Governing Agency (BP REDD+) and the Indonesian Council of Climate Change (DNPI) in 2015. Ditjen PPI then became the National Focal Point for the Adaptation Fund (AF) and worked together with the National Implementing Entity (NIE) to channel climate funds (as illustrated below) provided by international donors.



3. Ministry of Finance (MoF)

Through its Fiskal Policy Agency (BKF) that houses the Centre of Climate Finance and Multi-lateral Policy, the MoF manages and governs the distribution and implementation of climate funds from international donors, especially after BKF became the National Designated Authority (NDA) for the Green Climate Fund. The figure below outlines the MoF's flow of climate funding.

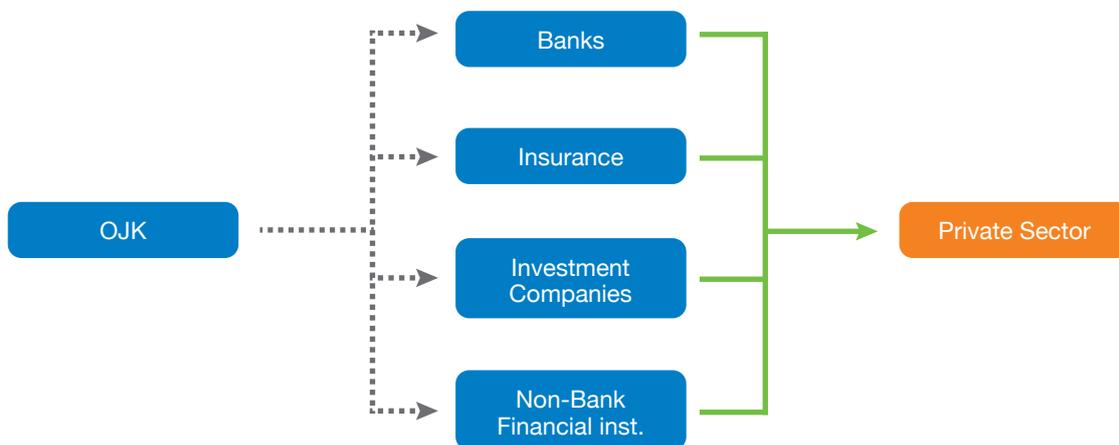


4. Financial Services Authority (OJK)

Established in 2011 based on Law No 21/2011, the OJK replaced the role of the Indonesian Agency for the Supervision of Capital Market and Financial Institution (Bapepam-LK) and the role of Bank Indonesia (Indonesian Central Bank) in regulating and managing the banking sector.

Through its Roadmap for Sustainable Finance released in 2014 for the period of 2015-2019, OJK determined guidelines for banks and other financial institutions in terms of supporting the government to achieve its NDC of emission reduction in 2030. Within this framework, OJK, in collaboration with WWF Indonesia, has also launched an 18-month pilot project on Sustainable Banking with 8 banks starting in January 2016.

In July 2017 together with the University of Udayana, Bali, OJK launched the Bali Centre of Sustainable Finance that will provide training on capacity building and serve as research centre for sustainable finance to its stakeholders. Following this event, OJK also issued the OJK Regulation on Sustainable Finance specifically for all financial sectors to implement financial systems applying the principles of sustainability. The provision of private sector funds for green investments is illustrated below.



B. Role of the Central Bank

The above visualization highlights the role of the Central Bank as the regulator of the national financial system. Since its inception OJK assumed the role of the Indonesian Central Bank, Bank Indonesia and serves as the main institution for regulatory and supervisory functions on:

Financial services in the banking and non-banking sector;

Financial services in the capital market sector; and

Financial services in the insurance sector, pension funds, financing institutions, and other financial services institutions.



In addition, OJK also ensures that all activities within the financial services sector are:

- Upholding transparently and accountably principles;
- Supporting a sustainable and stable financial system, and;
- Protecting the interests of consumers and the society.

To support these functions, OJK has become a member of the Sustainable Banking Network (SBN) and set up a national network of climate finance experts through the initiation of inter-ministerial working groups on climate finance engaging relevant stakeholders. OJK also conducts research to promote low carbon development and published several guidebooks to support sustainable Financial Services.

3. Enabling Policy Framework

The Ministry of Finance (MoF), through its Fiscal Policy Agency (BKF) and with participation from key ministries, has developed the first “Mitigation Fiscal Framework” (MFF).

In terms of supporting green growth, the government has provided fiscal and non-fiscal facilities. The government is offering a variety of incentives, which include a tax holiday of between five and 10 years for several pioneer industries such as biofuel and renewable resources as well as a recently issued regulation on incentives in the form of a tax allowance (Decree No. 18 of 2015) for 143 business sectors (from previously 129 sectors), around 10 of which are green industries.

During the Tropical Landscapes Summit in 2015, a joint event between the Investment Coordinating Board (BKPM) and the United Nations Office for REDD+ Coordination in Indonesia (UNORCID), the Chairman of BKPM, Franky Sibarani, indicated that Indonesia is targeting USD 100bn in investment in sustainable industries by 2019.

Non-fiscal incentives are also available, such as fast track processing and the removal of a minimum investment threshold as a prerequisite to qualify for such incentives. For non-fiscal incentives, policies such as one-stop services for licensing under the BKPM, ease of immigration permits for expatriates and the establishment of a special economic zone (SEZ) in 11 new locations have been introduced (the development of the SEZ is meant to attract more foreign investment and promote green growth through policy and regulation e.g. the ease of immigration permits for expatriates involved in industries within the SEZ will bring added skill and knowledge and enable technology transfers in green industries).

Incentive	Mechanism	Administrative Level	Date Introduced	Regulating Authority	Regulating Authority
Tax allowance	30% of the total investment for 5 consecutive years	Government Regulation (national level)	21 December 2015	President of the Republic of Indonesia	The regulation is under implementation and 11 Special Economic Zones are currently being established, which are expected to give impetus to green Investments
Tax holiday	Between 5 to 10 years for pioneer industries such as renewable energy and biofuel industry	Government Regulation/ Finance Minister Regulation (national level)	21 December 2015; 27 June 2016	President of the Republic of Indonesia; Ministry of Finance	



FACT SHEET Islamic Republic of Pakistan

Prepared by Sustainable Development Policy Institute (SDPI), Islamabad, Pakistan

Republic of Pakistan is a country situated in southern part of Asia, bordering with China and the Russian federation to the north, Afghanistan and Iran to the west and India to the east. According to the Pakistan Bureau of Statistics, the total population of Pakistan in 2017 has been estimated to be 207,774,520.¹ The surface area of Pakistan is equivalent to 796.1 km² and its capital is Islamabad. Pakistan is a diversified country in terms of culture, landscape, and climate. To the north of Pakistan is the highest mountain system of the world, having its harsh climate. To the west are the fertile plains of Indus valley. While to the western and southern part exist the streaming deserts. Within its borders situate the Arabian Sea, which moderates the climate of its southern parts. As represented in Figure 1, Pakistan's CO₂ emissions raised to 0.8 metric tons per capita in 2013, and regarding its GDP, as shown in Figure 2, Pakistan reached 283,659,980.70 US \$ in 2016.

Figure 1: CO₂ emissions (metric tons per capita) and Figure 2: GDP (current US\$)

Figure 1

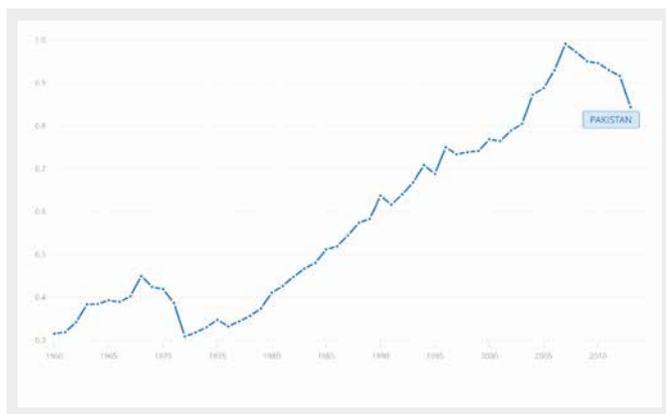
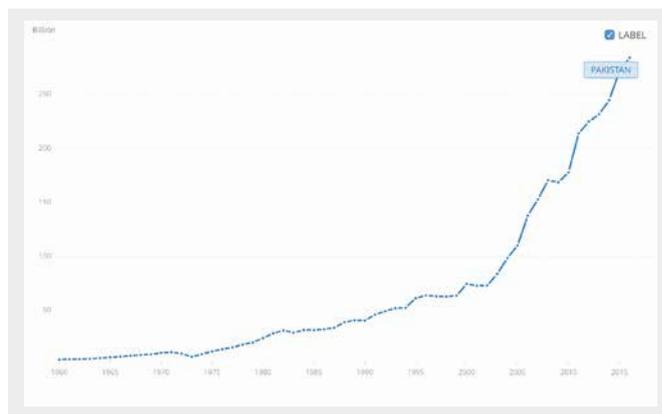


Figure 2



¹ Source is the Pakistan Bureau of Statistic based on the population census from 2017; see also <http://www.pbscensus.gov.pk/>

² Based on World bank data; see also http://databank.worldbank.org/data/Views/Reports/ReportWidgetCustom.aspx?Report_Name=CountryProfile&Id=b450fd57&tbar=y&idd=y&inf=n&zm=n&country=PAK

Figure 3: Pakistan Map³

Map No. 4181 Rev. 1 UNITED NATIONS
January 2004

Department of Peacekeeping Operations
Cartographic Section

³ <http://www.un.org/Depts/Cartographic/map/profile/pakistan.pdf>



1. Nationally-Determined Contributions (NDCs)

A. NDC Targets

Mitigation Target: 20% by 2030 per BAU Baseline. 41.01% of the reductions will come from the energy sector.

Adaptation objectives :

- Improving the irrigation system through actions such as lining of canals and irrigation channels
- Integrated watershed management
- Development and optimization of water resource allocation
- Strengthening risk management system for the agriculture sector
- Implementing a comprehensive Climate Smart Agriculture program
- Building climate-resilient infrastructure with focus on improved and safe operation of water-related infrastructure and better management of transport operations and energy transmission.

B. NDC Funding Requirements and Gaps

Level of Reduction in GHG Emissions by 2030	Investment Required (US\$)
20%	40 billion
15%	15.6 billion
10%	5.5 billion

The mitigation target is subject to availability of international grants to meet the total abatement cost for the indicated 20 percent reduction amounting to about US\$ 40 billion at current prices. Pakistan's adaptation needs range between US\$ 7 to US\$ 14 billion/annum during this period

2. Climate Finance Stakeholder Mapping

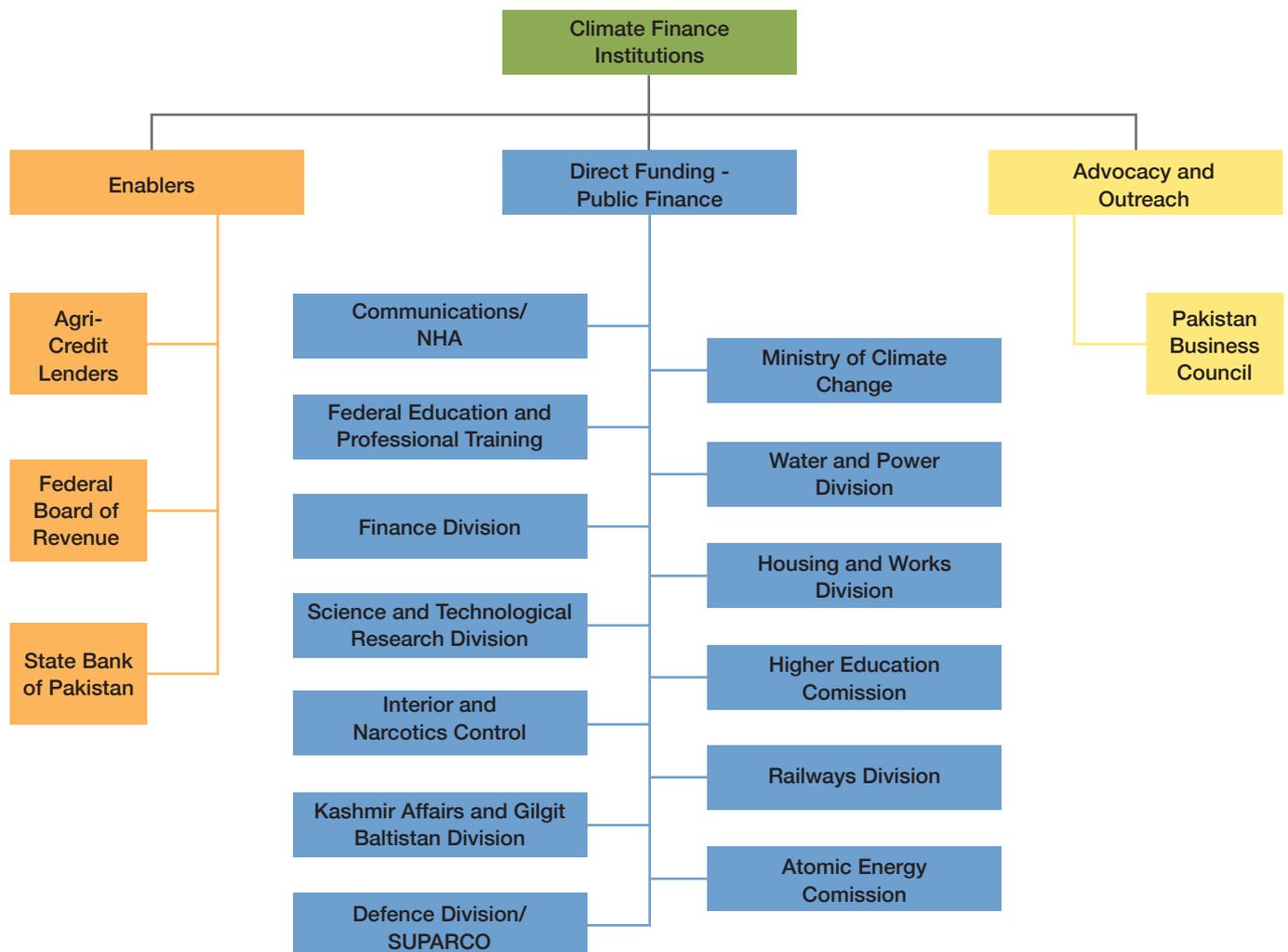
A. Mapping of National Institutions and Actors involved in Climate Financing

In Pakistan, different institutions and actors are involved in climate financing in different capacities. Public sector is involved as the direct financier of the low carbon climate resilient development. Public sector expenditure is divided into current and development expenditure. The projects initiated through development expenditure has direct bearing on low carbon development. The focal agency for doing so is the Ministry of Climate Change. For the fiscal year 2017-18, Government of Pakistan announced a development budget of Rs. 1,001 billion. In it, Rs. 815 million have been allocated for climate change schemes. As a proportion of overall development budget, it is very low. However, if one looks at the developmental expenditure allocated for food security, water and power, water conservation, they all contribute to climate change adaptation or mitigation.



In addition of direct financing by public sector, the role of enablers is also very important. State Bank of Pakistan is one such institution that has devised Green Banking Guidelines (GBGs) and also launched a Renewable Energy Refinance Scheme. Through GBGs, SBP seeks to provide enabling environment to the private sector for undertaking climate friendly investments. Federal Board of Revenue is also an enabler which has given rebates and exemptions in the Income Tax Ordinance as well as Sales Tax Act for expenditures on renewable energy undertakings.

Pakistan Business Council plays its role in climate financing on advocacy front. It encourages the private sector towards climate change related investments through awareness and outreach tools.



The above map shows institutions involved in climate change related initiatives. The institutions that are part of the Direct Funding group have been taken from the Climate Public Expenditure and Institutional Review (CPEIR) Report, 2015 published by UNDP Pakistan. It has listed the institutions according to the climate change related expenditures that may fall in the following themes:

- i. Adaptation or A/M (Examples: Water management, Risk management, Legislative framework, Capacity enhancement, etc.)
- ii. Mitigation or A/M (Examples: Clean energy technologies, Aviation and Railways, Research and development, Policies and regulations formulation, etc.)
- iii. Supporting Areas (Examples: Institutional mechanisms, Educations, Awareness raising, etc.)



B. Role of Central Bank

State Bank of Pakistan (SBP) is the national financial regulatory authority who regulate, supervise, examine and investigate the financial services sector (including banking). It draws its genesis from the State Bank of Pakistan Act 1956, responsible for regulating the monetary and credit system of Pakistan in a proactive manner and to foster its economic growth with finest national interest in view of securing Pakistan's monetary sustainability with better utilization of the country's resources. There are two main subordinates of SBP to enhance its functions; the first one is SBP- **Banking Services Corporations (SBP-BSC)** which is recognized under the SBP-BSC Act 2001 and responsible for different functions, i.e. it handles sales and purchase of saving instruments, monitoring of currency and credit management, foreign exchange operations, collect revenues and clear their payments on behalf of the government. It also manages the public debt. The second one is the **National Institute of Banking and Finance (NIBAF)** which is responsible for conducting training in different departments of SBP and it is also responsible for conducting training on international courses with the collaboration of government of Pakistan in commercial and central banking system. In 2016, according to pro-poor budgetary expenditure, SBP spent on calamities and disaster approximately 0.1% of GDP while the amount spent on total budgetary expenditure is about 3.8% of GDP in the year 2016 ("SBP Annual Reports," 2015-16)

SBP has taken the lead to promote green banking finance. In 2013, SBP proposed a **Green Banking Unit/Sustainable Banking Unit** in central bank. The major purpose of this unit was to promote environmental friendly practices in banks in their operational activities. There are four major functions of this unit i.e. lending to environment friendly projects, promote efficient utilization of energy resources, promote paper less banking, and introduce green branches. SBP plays a vital role in promoting climate investment as well as for sustainable development in the country. To increase the capacity building of their employees; SBP provides the facility of workshops and seminars. They have proposed Green Banking Guidelines for all banks in Pakistan and DFIs to invest in green projects/environmental friendly projects.

3. Enabling Policy Framework

- **State Bank of Pakistan Refinance Scheme for Renewable Energy 2009.** With a view to meet the growing electricity demand and to promote renewable energy projects in the country SBP decided to provide financing for establishment of new Power Projects Using Renewable Energy with a capacity of up-to 10 MW. Sponsors of power projects can avail financing facility through banks/DFIs for new imported and locally manufactured plant, machinery and equipment. Preference is given to projects being established in the less developed areas of the country.
- **The National Climate Change Policy of 2012** provides a framework for addressing the issues that Pakistan faces or will face in future due to the changing climate. This covers policy measures to address issues in various sectors such as water, agriculture, forestry, coastal areas, biodiversity and other vulnerable ecosystems
- **Pakistan Climate Change Fund** established in 2017 under the Climate Change Act of 2017.
- The **Framework for Implementation of Climate Change Policy (2014-2030)** was developed as a catalyst for mainstreaming climate change concerns into decision making that will create enabling conditions for integrated climate compatible development processes.
- **Zarai Taraqati Bank Limited**, as the flagship Development Finance Institution of Pakistan, helps build adaptive and mitigation capacities of agriculture sector. It reschedules & restructures Loans in Disaster/Climate Hit Areas and extends credit facilities to enable the farmers of Disaster/Climate Hit Area to sustain their agricultural activities/livelihoods. It also provides Crop Loan Insurance against disasters/calamities for five major crops (Wheat, Cotton, Sugarcane, Rice, Maize) and Live Stock Insurance up-to 10 animals.

It recently completed a project of cultivating soya bean in 100 acres Thatta, Sindh. As the cropping pattern has changed, the farmers have a room of one and half month to sow and harvest soya bean before sowing wheat. Soya bean crop has enormous potential of fixing organic matter in the soil.



FACT SHEET Philippines

Prepared by the Small Enterprises Research and Development Foundation (SERDEF) and Association of Development Financing Institutions in Asia-Pacific (ADFIAP), Manilla, Philippines

The Republic of Philippines is an island country in Southeast Asia, situated in the western Pacific Ocean. Geographically, it borders with South China Sea on the west, the Philippine Sea on the east and the Celebes Sea on the southwest. It shares maritime borders with Taiwan to the north, Vietnam to the west, Palau to the east and Malaysia and Indonesia to the south. Philippines's capital city is Manila and it consists of about 7,641 islands. It has a total population of 103,320,222¹ reviewed in 2016 and its surface area is equivalent to 301,780 sq km. Much of the country is mountainous and prone to earthquakes and eruptions from around 20 active volcanoes. It is often buffeted by typhoons and other storms². As represented in Figure 1, Philippines's CO₂ emissions raised from 0.317 (1960) to 1.055 (2014) metric tons per capita and regarding its GDP, as shown in Figure 2, Philippines reached 304.905 billion US \$ in 2016.

Figure 1: CO₂ emissions (metric tons per capita) and Figure 2: GDP (current US\$)³

Figure 1

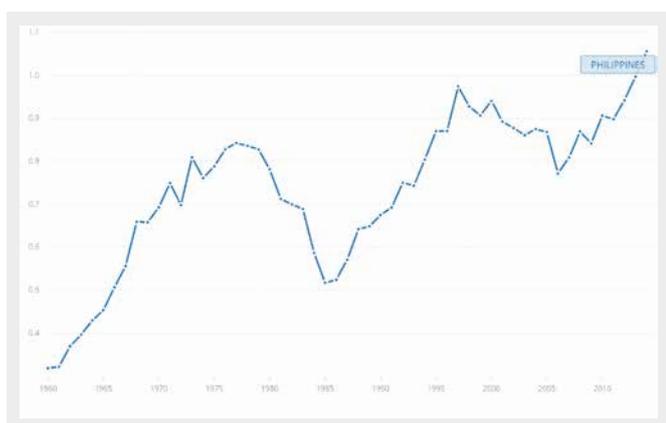
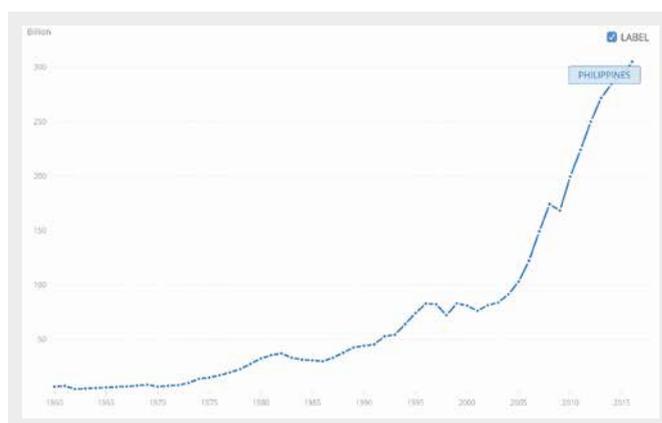


Figure 2



¹ Total population found in World Bank (See also: <https://data.worldbank.org/indicator/SP.POPTOTL?locations=PH>)

² Philippines country profile found in BBC (See also <http://www.bbc.com/news/world-asia-15521300>)

³ CO₂ emissions and GDP data of Indonesia gathered from World Bank (See also <https://data.worldbank.org/indicator/NY.GDPMKTPCD?locations=PH> and <https://data.worldbank.org/indicator/EN.ATM.CO2E.PC?locations=PH>)

Figure 3: Philippines Map⁴

⁴ Central Intelligence Agency Map (See also : <https://www.cia.gov/library/publications/the-world-factbook/geos/rp.html>)



1. Nationally-Determined Contributions (NDCs)

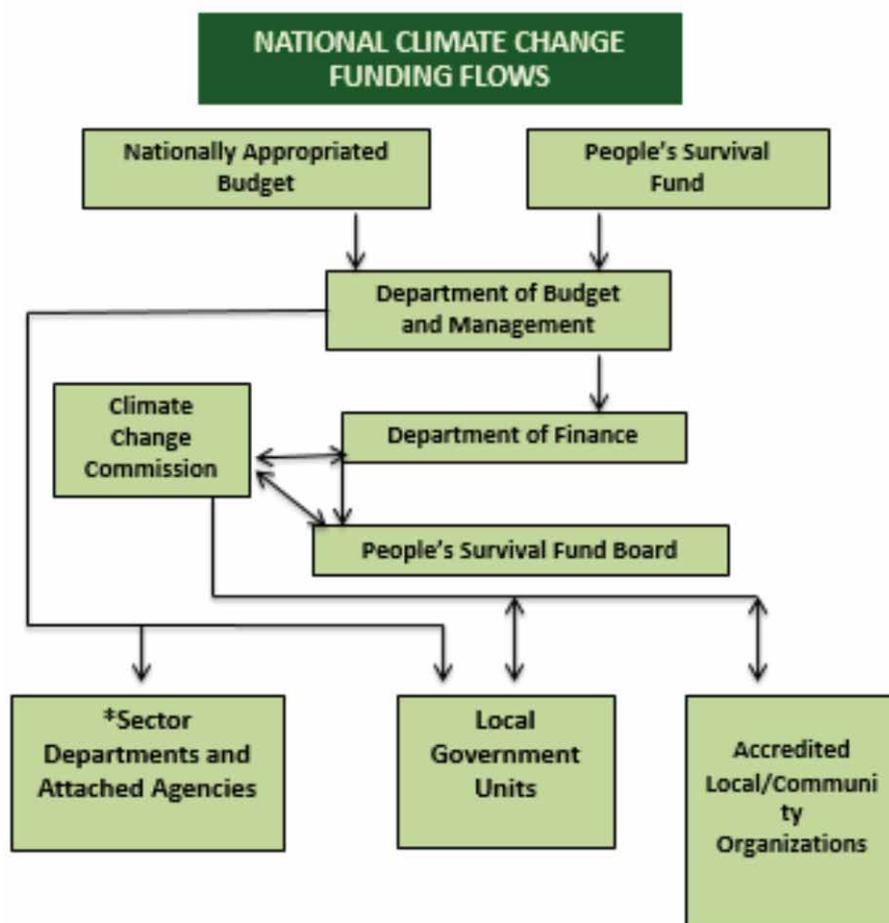
A. NDC Targets

Philippines' INDC sets out an emissions reduction target of 70% by 2030 based on the BAU scenario. This target is conditional on the extent of financial resources, including technology development and transfer and capacity building that will be made available to the Philippines as well as an enabling policy environment and partnerships. Reduction of CO₂ emissions will derive from energy, transport, waste, forestry and industry sectors, although a breakdown of sectoral targets in terms of mitigation and adaptation actions is yet to be established.

B. NDC Funding Requirements and Gaps

According to the 2016 People's Climate Budget of the Department of Budget and Management (DBM) and Climate Change Commission (CCC), 45 national government agencies (NGAs) identified climate change expenditures totalling PHP 176b in 2016, representing an increase of 25% from 2015. This corresponds to about 6% of the total National Government Budget or 30% of the allocations made to NGAs.⁵ 89% of the approved climate budget in 2016 was primarily designed to support adaptation and relative to the Philippines' climate change action roadmap, the budget focused on two main strategic priorities: water sufficiency (41%) and sustainable energy (38%).

Climate appropriations by the Philippine government have increased by 2.5 times in real terms and on the average 26% annually, outpacing the estimated 6% growth of the national budget. This increase indicates the government's willingness to increase climate action, but the level of funding based on projected needs continues to be inadequate. The total climate appropriations corresponding to about 0.3% of GDP falls below the Stern Review recommendation that countries expend at least 2% of GDP to implement climate action, resulting in a climate finance gap of 1.7%. The role of national financial institutions is essential in bridging this gap.



The diagram above shows the national climate change funding flow of the Philippines.

⁵ Climate Change Commission, Department of Budget and Management (2016), People's Climate Budget 2016, <http://climate.gov.ph/images/CCET/FY-16-PCBD.pdf>



2. Climate Finance Stakeholder Mapping

A. Mapping of National Institutions and Actors involved in Climate Financing

As shown in the diagram above, the Department of Budget and Management (DBM) undertakes the formulation of the annual national budget that ensures the appropriate prioritisation and allocation of funds to support climate change-related programmes and projects implemented by the relevant sector departments, attached agencies and local government units (LGUs).

In 2012, the Republic Act 10174 was approved, creating the People's Survival Fund (PSF) to supplement the annual budget appropriation. Sourced from the national budget, at least PHP 1b is intended for LGUs and accredited local/community organisations to implement climate change adaptation projects that will better equip vulnerable communities to deal with the impacts of climate change.

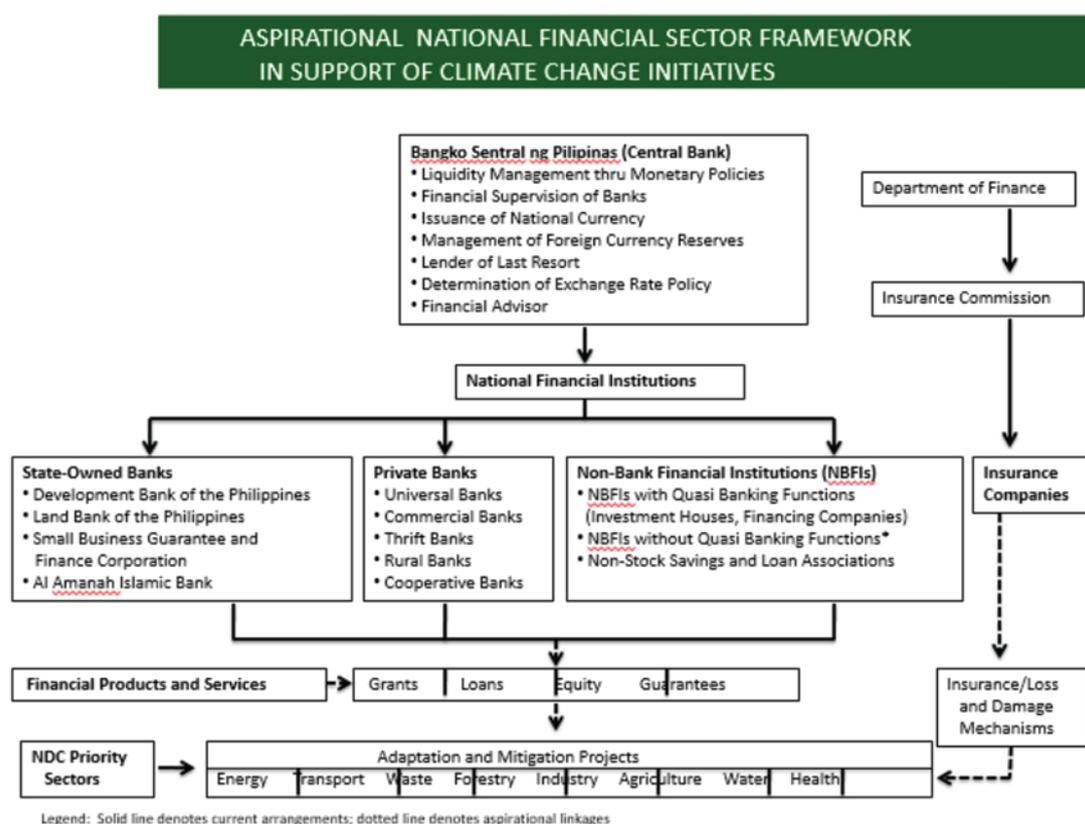
The PSF is administered by the Peoples' Survival Fund Board (PSFB) headed by the Secretary of the Department of Finance (DOF). The DOF coordinates with the CCC on matters concerning the monitoring and reporting measures involving climate finance including the utilisation of the PSF.

The CCC is also tasked with the evaluation and review of project proposals from LGUs and community organisations and recommends approval of project proposals to the PSFB.

The amount allocated to the PSF may be increased as the need arises, subject to review and evaluation of the accomplishments of the CCC by the Office of the President and the DBM.

A. Role of Central Bank

In the Philippines, the ideal scenario towards attaining the country's low carbon and climate resilient/climate smart/green development goals is illustrated below.





The Central Bank, known as the Bangko Sentral ng Pilipinas (BSP) could serve as the anchor and champion for mobilising domestic private sector climate finance. BSP's overall functions include liquidity management through monetary policies, financial supervision of banks, issuance of national currency, management of foreign currency reserves, lender of last resort, determination of exchange rate policy and financial advisor of government. BSP's oversight function, prudential regulation and supervision of banks is critical in promoting the development of new green products and services and the nurturing of sustainable financial market practices. By including climate and other environmental initiatives on its agenda, the BSP can signal their importance to the financial sector and encourage engagement and uptake.

While the private sector assumes some element of risk, it is generally averse to policy risk and country-specific barriers to investments in climate-friendly technologies and projects which affect the risk-return profiles of investments. Public funds are essential to unlock private climate finance by taking on the different types of risk that the private market will not bear.

State-owned banks' special knowledge and long-standing relationships with the local private sector places them in a privileged position to access local financial markets and understand local barriers to investments. They can play a more active and effective role if they are given a clear mandate within national frameworks for action to mitigate climate change if their technical capacities to channel international climate finance are strengthened.

National financial institutions are envisioned to offer a selection of financial products and services such as grants, loans, equity and guarantees to support adaptation and mitigation projects of the NDC priority sectors.

Insurance companies, which are supervised by the Insurance Commission under the Department of Finance (DOF), are also essential actors in the climate finance framework to ensure that loss and damage from climate change and extreme events are minimised, thus, providing National Financial Institutions with a high level of confidence in lending to adaptation and mitigation projects.

3. Enabling Policy Framework

The Philippines has over the years significantly re-visioned its climate policy framework from a number of stand-alone laws passed during 1997-2008 to the current comprehensive, nationally integrated climate policy architecture guided by the 2009 Climate Change Act (CCA).

The CCA calls for the systematic integration of climate change in various phases of policy formulation, development plans, poverty reduction strategies and other development tools used by all government agencies and departments. It also led to the establishment of the Philippines Climate Change Commission (CCC). The CCC was mandated to formulate a National Framework Strategy on Climate Change (NFSCC) which defines the overall parameters for developing a National Climate Change Action Plan (NCCAP).

The National Climate Change Action Plan 2011-2028 outlines the specific long-term programmes and strategies for climate change adaptation and mitigation. There are seven strategic priorities to address climate change impacts: food security, water sufficiency, environmental and ecological stability, human security, sustainable energy, climate-smart industries and services, and knowledge and capacity development.

To facilitate climate change adaptation of social impacts, the People's Survival Fund (PSF) was created in 2011. The PSF supports projects which mitigate the level of risk and vulnerability to climate change and ensure participation from affected communities, poverty reduction potential, cost effectiveness and sustainability, responsiveness to gender-differentiated vulnerabilities and availability of climate change activities.⁶

With regard to specific policies and strategies to promote the mobilization of public and private climate finance, the Climate Public Expenditure and Institutional Review has been established to assess gaps, accelerate implementation of the climate change agenda and support key agencies with major roles in climate change policymaking. Furthermore, the Program Budget Approach (PBA) led by the Cabinet Cluster on Climate Change Adaptation and Mitigation (CCAM) constitutes a significant component of overall climate change expenditure. In

⁶ Aquino, A; Abeleda, C & Ani, P. (2014) Climate Change Act of 2009: Philippines' Response to the World's Changing Condition, FFTC Agricultural Policy Platform, http://ap.fttc.agnet.org/ap_db.php?id=213&print=1



2013, the Joint Memorandum Circular issued by the Department of Budget and Management (DBM) and the Climate Change Commission (CCC) classified government expenditures for CC adaptation and mitigation in the budget process. It is valid and issued for all national government agencies, commissions, state universities, and colleges. In 2014, a second Joint Memorandum Circular was issued by DBM, CCC, and the Department of Interior and Local Government (DILG) as guidelines to tag CCAM expenditures in the local budget, also applicable to all government units (see Table 1).

TABLE 1: Renewable Energy Policy Instruments and Incentives in the Philippines, 2015

Philippines												
Regulatory Policies								Fiscal Incentives and Public Financing				
Renewable Energy Targets	Feed-in Tariff / Premium Payment	Electric Utility Quota Obligation / RPS	Net meeting / Net billing	Transport Obligation / Mandate	Heat Obligation / Mandate	Tradable RED	Tendering	Capital Subsidy, grant or rebate	Investment or production tax credits	Reduction in sales, energy, VAT or other taxes	Energy production payment	Public investment, loans or grants
•	R	•	•	•			•	•	•	•	•	•

• Existing national (could also include subnational)

◦ Existing sub-national (but no national)

N New (one or more policies of this type)

R Revised (one of more policies of this type)

N* New sub-national

R* Revised sub-national



FACT SHEET

The Democratic Socialist Republic of Sri Lanka

Prepared by Centre for Environment and Development (CED), Nugegoda, Sri Lanka.

The **Democratic Socialist Republic of Sri Lanka** is an island in the Indian Ocean, located to the south of Indian Subcontinent and to the northeast of the Maldives. Its surface area is equivalent to 65,525 Sq.km and the area excluding the inland water is 62,336 sq. km. Sri Lanka with its tear-dropped shape is dominated by the astonishingly varied features of topography, making it one of the most scenic places in the world. Sri Jayawardenepura Kotte is its administration capital and on the other hand, Colombo is its commercial capital. The total population of Sri Lanka reviewed in 2017 is 20,924,823¹. Lying in the equatorial and tropical zone, Sri Lanka is influenced by the monsoons, allowing four distinct seasons.

As represented in Figure 1, Sri Lanka's CO₂ emissions raised from 0.228 metric tons per capita (1960) to 0.788 metric tons per capita (2013) and regarding its GDP, as shown in Figure 2, it reached 81.322 Billion US \$ in 2016.

Figure 1: CO₂ emissions (metric tons per capita) and Figure 2: GDP (current US\$)

Figure 1

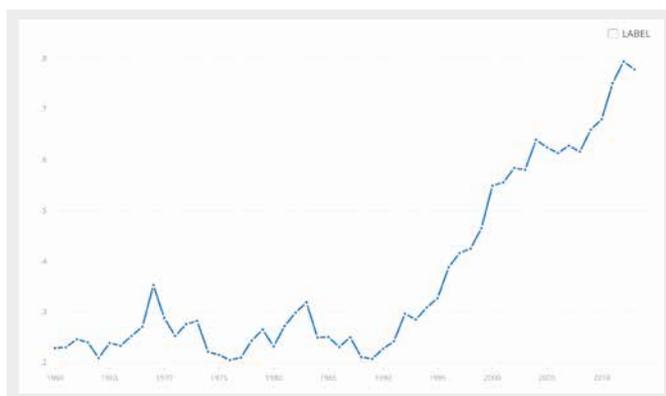
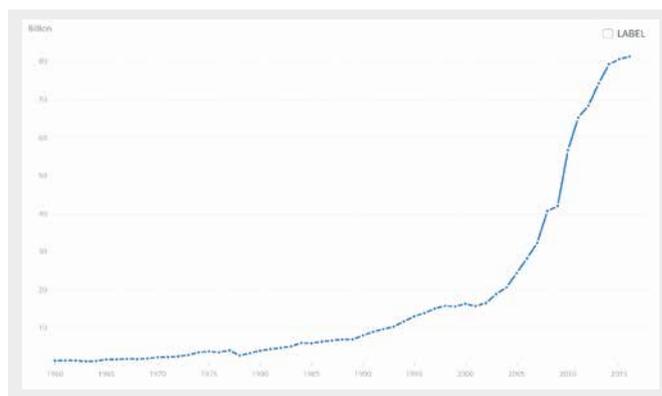


Figure 2



¹ Based on UN estimates; <http://www.worldometers.info/world-population/sri-lanka-population/>



Figure 3: Sri Lankan Map²



² <http://www.un.org/Depts/Cartographic/map/profile/srilanka.pdf>



While Sri Lanka proposed fair and ambitious mitigation approaches, it faces challenges to cover adaptation and loss and damage demands due to its significant climate and natural disasters impacts. Sectors such as health, food security (agriculture, livestock and fisheries), water and irrigation, coastal and marine, biodiversity, urban infrastructure and human settlement, and tourism and recreation are also identified to be crucial to be improved in order to develop Sri Lankan adaptation NDCs.

B. NDC Funding Requirements and Gaps

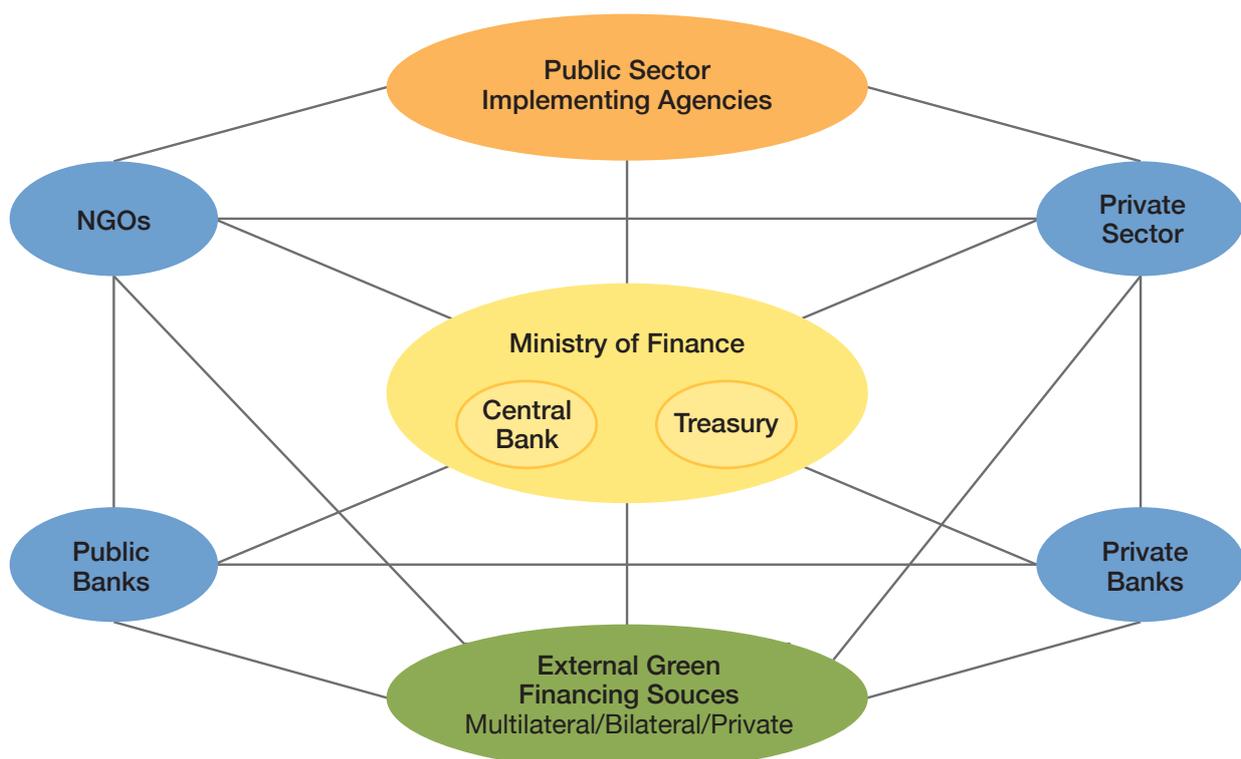
As the budget assessment for each NDC is still in progress, there is a lack of information on funding requirements and gaps. The total costs of implementing all sectors' NDCs have still not been estimated and the national capacity (unconditional) and external supports (conditional) are still to be identified in collaboration with all the agencies and affiliated institutions to each NDC. The readiness phase till 2020 is for allowing the country to prepare for the full-scale implementation of chosen NDCs. A host of groundwork and preparations need to be carried out to ensure successful implementation of NDCs to achieve the set GHG emission reduction targets by 2030. A Readiness Plan for the Implementation of the INDCs of Sri Lanka has been developed in consultation with relevant stakeholders, led by line ministries that covers the sectors identified in the NDCs of Sri Lanka. The sector specific line Ministries and other stakeholders have provided information and recommendations on the implementation of the NDCs, need of identifying policy gaps, institutional gaps, the need for improvements in human and technical capacity, as well as financial and technical support to implement the NDCs by 2020.

2. Climate Finance Stakeholder Mapping

A. Mapping of National Institutions and Actors involved in Climate Financing

In Sri Lanka, there is no clear definition or collective understanding on what constitutes climate financing. There is no central depository of information on projects addressing climate change and the financing details. Commercial banks have still not been integrated adequately into financing the NDC sector, but have already entered the renewable energy financing market. However, projects financing climate co-benefits involves a wider range of stakeholders from across government agencies, the private sector, NGOs, international agencies and practitioners at the local level.

Figure 4: Climate Financing Relationship Map





The main focus for climate financing continues to be on external funds coming from multilateral, bilateral and private financing. For example, the Green Climate Fund has approved a USD 38.1 million grant to GOSL through UNDP for “Strengthening the resilience of smallholder farmers in the Dry Zone to climate variability and extreme events through an integrated approach to water management”. With co-financing of USD 14.0 million by GOSL, the total financing for the project will be USD 52.1 million.

B. Role of Central Bank

The **Central Bank of Sri Lanka** as being identified as the “National Champion” in the process. The Central Bank’s 2017 Roadmap states that it will promote Green Financing through enhancing awareness to encourage enterprises to protect the environment, conserve resources and to achieve carbon neutrality. Banks will also be encouraged to provide financial facilities to green enterprises with the intention of protecting the environment. In line with the international appetite to promote green financing, the Central Bank has also joined the Sustainable Banking Network (SBN) of the International Finance Corporation (IFC), which is a knowledge and capacity building platform for financial regulators and banking associations of emerging markets on sustainable finance. As a member of the SBN, Central Bank would focus on sustainable banking practices to help banks to effectively manage environmental and social risks in the projects they finance and support businesses that are greener, climate friendly and socially inclusive.

Established in 1950 under the Monetary Law Act No.58 of 1949 (MLA), the Central Bank of Sri Lanka (CBSL) is the apex institution in the financial sector in Sri Lanka. With a view to encouraging and promoting the development of the productive resources of Sri Lanka, the CBSL is responsible for securing its core objectives of economic and price stability and financial system stability. The CBSL is also responsible for currency issue and management. In addition, the CBSL is the advisor on economic affairs as well as the banker to the Government of Sri Lanka (GOSL). On behalf of GOSL, the CBSL, as its agent, is responsible for four agency functions of (a) management of the Employees Provident Fund (b) management of the public debt of Sri Lanka (c) administration of the provisions of the Exchange Control Act, and (d) administration of foreign and government funded credit schemes for regional development.

The Central Bank of Sri Lanka undertakes the following four agency functions for the Government of Sri Lanka.

- i. Foreign Exchange Management
- ii. Public Debt Management
- iii. Regional Development
- iv. Management and Administration of the Employees' Provident Fund

Since inception, the Central Bank has been responsible for regulating the financial system of the country. Several key legislative enactments provide powers to the Central Bank to carry out its functions to achieve its primary objectives of economic and price stability and financial system stability. Under these powers, the Central Bank issues directions for the establishment and operations of all categories of financial institutions under its supervisory and regulatory purview. In addition, the Central Bank has been empowered to carry out certain agency functions under other legislative enactments.

- i. Legislative Enactments
- ii. Regulations, Directions, Rules, Guidelines, Circulars and Operating Instructions
- iii. Licensing, Registration, Appointment and Authorization Procedures



3. Enabling Policy Framework

Sri Lanka, a country highly vulnerable to adverse effects of climate change and very lower greenhouse gas, presents the NDCs to strengthen the global efforts of both mitigation and adaptation. In response to challenges posed by climate change, Sri Lanka has taken several positive steps by introducing national policies, strategies and actions in order to address climate change induced impacts, amongst which are the National Climate Change Policy of Sri Lanka, National Climate Change Adaptation Strategy for Sri Lanka in 2010, the Climate Change Vulnerability Profiles; Water, Health, Agriculture and Fisheries, Urban Development, Human Settlements and Economic Infrastructure in 2010, the Technology Needs Assessment and Technology Action Plans for Climate Change Adaptation and Mitigation in 2014, the National Action Plan for Haritha Lanka Programme in 2009 and Urban Transport Master Plan 2032 based on the National Transport Policy in 2009.

Further, National Adaptation Plan (NAP) for Climate Change Impacts in Sri Lanka has been developed, Nationally Appropriate Mitigation Action (NAMA) on Energy Generation and End Use Sectors is being implemented, and the NAMA on Transportation is being prepared. In addition to the aforementioned, the Long Term Electricity Generation Expansion Plan 2015-2032 and the National Solid Waste Management Strategy 2000, the Corporate Plan 2014-2018 by the Central Environmental Authority and various legal amendments made by government entities related to environment are being implemented. In addition, Forestry Sector Master Plan 1995-2020, National REDD+ Strategy are two important initiatives towards enhancing the forest cover in the country.

Following are some positive steps taken by Sri Lanka by introducing national policies, strategies and actions in order to address climate change induced impacts;

- National Climate Change Policy of Sri Lanka,
- National Climate Change Adaptation Strategy for Sri Lanka (NCCAS) in 2010,
- The Climate Change Vulnerability Profiles, Water, Health Agriculture and Fisheries, Urban Development, Human Settlements and Economic Infrastructure in 2010,
- The Technologies Needs Assessment and Technology Action Plan for Haritha Lanka Programme in 2009
- Urban Transport Master Plan 2032 based on the National Transport Policy in 2009.
- National Adaptation Plan (NAP) for Climate Change Impact in Sri Lanka developed
- Nationally Appropriate Mitigation Action (NAMA) on Energy Generation and End Use Sectors (implemented)
- NAMA on Transportation (prepared)
- The Long Term Electricity Generation Expansion Plan 2015-2032
- National Solid Waste Management Strategy 2000
- The Corporate Plan 2014-2018 (by the Central Environmental Authority and others)
- Forestry Sector Master Plan 1995-2020
- National REDD+ Strategy (to enhance the forest cover in the country)
- A separate dedicated institution titled the Climate Change Secretariat (CCS) was created in 2008.
- In order to implement NDCs, a National Climate Change Commission will be established.

Indonesia National Scoping Study

September 2017



Acknowledgements

This Scoping Study on Climate Finance was developed based on the finding of a stock-taking activity conducted in Indonesia by the Kemitraan – Partnership for Governance Reform, under the framework a three-year regional project of the United Nation Economic and Social Commission for Asia and the Pacific (UN ESCAP) on Innovative climate finance mechanisms for financial institutions in the Asia-Pacific region which focuses on the Philippines, Fiji, Indonesia, Pakistan and Sri Lanka as beneficiary countries. Kemitraan is an Indonesian the non-profit organization actively involved in environmental issues and advocacy for good governance in the country.

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Design and layout: Jeff Williams

List of Acronyms

AFD	French Agency for Development
BAPPENAS	Ministry of National Development Planning
BAU	Business as Usual
BKF	Badan Kebijakan Fiskal (Fiscal Policy Agency)
BKPM	Badan Koordinasi Penanaman Modal (Investment Coordination Agency)
BLU REDD	Badan Layanan Umum (Public Service Agency) for Reduction Emission from Deforestation and forest Degradation
CO	Carbon Monoxide
CSO	Civil Society Organisation
CSR	Corporate Social Responsibility
GCF	Global Climate Fund
GHG	Greenhouse Gas
GoI	Government of Indonesia
GoN	Government of Norway
ICCSR	Indonesian Climate Change Sectoral Roadmap
ICCTF	Indonesia Climate Change Trust Fund
IDR	Indonesian Rupiah
LJK	Lembaga Jasa Keuangan (Financial Services Institution)
LoI	Letter of Interest
MCAI	Millennium Challenge Account – Indonesia
MCC	Millennium Challenge Corporation
MFF	Mitigation Fiscal Framework
MoEF	Ministry of Environment and Forestry
MoF	Ministry of Finance
NAMA	Nationally Appropriate Mitigation Action
NAP-CC	National Action Plan on Climate Change
NDC	National Determined Contribution
NGO	Non-governmental Organisation
OJK	Indonesian Financial Services Authority
PKPPIM	Center for Climate Change and Multilateral Policy
POJK	Peraturan Otoritas Jasa Keuangan (Financial Services Authority Regulation)
RAN-API	Rencana Aksi Nasional Adaptasi Perubahan Iklim (National Action Plan on Climate Change Adaptation)
RAN-GRK	Rencana Aksi Nasional Penurunan Emisi Gas Rumah Kaca (National Action Plan on GHG Reduction)
RPJMN	Rencana Pembangunan Jangka Menengah Nasional (National Mid-term Development Plan)
SBN	Sustainable Banking Network
SDG	Sustainable Development Goals
SEZ	Special Economic Zone
TFA	Tropical Forest Action
UN	United Nations
UN ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollars
WWF	World Wide Fund for Nature

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1. Introduction

The Indonesian National Scoping Study on Climate Finance has been conducted in close consultation with ESCAP team and following guidance from the senior climate finance expert between April and June 2017.

This scoping study is a major component of a regional project developed by UN ESCAP on *Innovative climate finance mechanism for financial institutions in the Asia-Pacific region*, which early activities in Indonesia was implemented in partnership with Kemitraan. The main objective of the National Scoping Study is to identify areas for further capacity development support required for financial institutions in Indonesia in terms of developing an enabling policy environment that promotes private investments in low carbon and climate resilient development, and in climate change mitigation and adaptation initiatives.

Scope of activities in the development of the scoping study within the above-mentioned time frame consisted of:

1. Interviews
2. Identify priority strategic areas for intervention and institutional arrangements at the policy level
3. Identification of national champions

Interviews for the scoping study have been carried out involving over 30 respondents from banking and private sectors, as well as representatives of international initiatives related to climate finance and other stakeholders ranging from government institutions to national/international NGOs and research institutions. The main objectives of the scoping study include:

- Mapping of climate finance related initiatives by other UN agencies, multilateral development banks, bilateral donors etc.;
- Mapping of the role and actions taken by civil society and other stakeholders in the field of climate finance for the past 2/3 years;
- Exploring the landscape of climate finance in Indonesia based on the current institutional infrastructure and a future vision of desired outcomes;
- Mapping the existing incentives for low carbon development, also through taxation, incl. municipal and provincial government levels;
- Identify priority strategic areas for intervention, entry points and institutional arrangements at the policy level;
- Identify a national “champion” among those participating in the interviews to serve at national and regional level.

Based on the preliminary result of the scoping study, the 1st National Workshop was organised on 12 and 13 June 2017 in Jakarta as part of series of two workshops to be organised in Indonesia. The national champion will then host the 2nd National Workshop in Jakarta, the date of which will be scheduled in collaboration with UN ESCAP.

The objective of the interviews was to identify potential participants of the workshop, who were to share experience and lessons learnt from previously implemented initiatives and activities related to climate finance, either as implementing or as financing body, as well as to provide recommendations on possible best practices and on direction-changing interventions in on-going initiatives and/or activities.

The following document provides a list of interviewees and a summary of the findings from the scoping survey.

2. Summary of findings

2.1 Identification of the identified/proposed national champion

Based on the interviews and mapping of existing financial institutions during the scoping study, the Indonesian Financial Services Authority or OJK was identified as the most potential national champion, since OJK is the main institution in Indonesia performing regulatory and supervisory duties on:

1. Financial services activities in banking and non-banking sector;
2. Financial services activities in the capital market sector; and
3. Financial services activities in the insurance sector, pension funds, financing institutions, and other financial services institutions.

In addition, OJK is also established in order to ensure that all activities within the financial services sector can be:

1. Organised regularly, fairly, transparently and accountably;
2. Able to realize a sustainable and stable financial system, and;
3. Able to protect the interests of consumers and society.

A rapid assessment performed to determine the potential national champions has confirmed OJK to have met the criteria for national champion, such as having the technical capacity to lead in policy drafting and advocacy, the ability to set up a national network of climate finance experts (formation of inter-ministerial working group on climate finance) and to conduct regular meetings and capacity development activities, and most importantly the ability to create an enabling policy environment to promote private investments in climate change mitigation and/or adaptation projects.

Supporting OJK's ability and capacity are a number of policy products and activity related to climate finance, among others the Roadmap for Sustainable Finance 2015 – 2019 focusing on (a) increased provision of funding from Financial Service Institution (LJK) for green projects, (b) increased demand for green financial products and services and, (c) improved supervision and coordination of sustainable financial implementation.

OJK has also been conducting research to promote low carbon development, setting up a national network of climate finance experts through the initiation of inter-ministerial working group on climate finance, becoming member of Sustainable Banking Network (SBN), and with relevant stakeholders published several guidebooks that can be used as a reference for the Financial Services Industry in implementing sustainable finance. Some of these guidebooks include:

1. Energy Handbook for Financial Services Institutions;
2. Guidelines on Financing of Green Building Projects for Financial Services Institutions;
3. Guidelines for Understanding the Document of Clean Energy and Environmental Sector for Financial Services Institutions;
4. Guidelines on Financing of Energy Efficiency in Industry for Financial Services Institutions;
5. Integration of Social Environment and Governance for Banks, Getting Started in the Implementation.

In terms of promoting sustainable finance, OJK and WWF Indonesia have initiated an 18-months Pilot Project on Sustainable Banking involving eight commercial banks known as the First Movers, and during the compilation of this report, OJK has launched the Bali Centre for Sustainable Finance in collaboration with the Bali University of Udayana providing training and capacity building for related stakeholders, as well as serving as a research centre related to all aspects of sustainable finance.

2.2 Past and on-going external support provided to banks for low carbon, climate resilient development

In 2010 the French Agency for Development (AFD) supported the Indonesian state-owned Bank Mandiri with a long-term loan (7 to 10 years, incl. grace periods) to finance projects related to climate change and energy efficiency. AFD extended its commitment through a new agreement with Bank Mandiri with the same amount of loan and scope of supported projects. Through the first initiation in 2010, the project has achieved to contribute in the reduction of CO emission up to an annual amount of 534,000 tons.

Another initiative was launch by the Indonesian Financial Services Authority (OJK) in collaboration with the WWF Indonesia through a Pilot Project of Sustainable Banking, delivering capacity building and technical assistance related to sustainable finance. Eight state and private commercial banks participated in the 1.5 years project as the First Movers, which started in 1 January 2016 and ends in July 2017.

OJK's Head of Commissioner declared that this project will not only be limited to banking sectors, but will also involve other financial institutions, such as insurance, investment companies and other non-bank financial institutions.

2.3 Current and proposed institutional arrangements for mobilising domestic/national private sector climate finance.

Current Institutional Arrangements

Diagrams 1, 2 and 3 below describe the current existing scheme of climate finance accessible private sector. While MoE and MoEF are coordinating international fund for climate finance accessible by different parties, incl. private sector, the OJK is supervising and setting up regulation to support green growth through state owned and private commercial finance institutions to increase accessible capital to be accessed by private sectors committed to low carbon business activities. To support this, the OJK is currently finalising the OJK Regulation (POJK) to Sustainable Finance. In terms of capacity building for its stakeholders at provincial and district level, OJK has just launched the Bali Centre for Sustainable Finance on 12 July 2017.

Diagram 1: Funding scheme under the coordination of the Ministry of National Development Planning

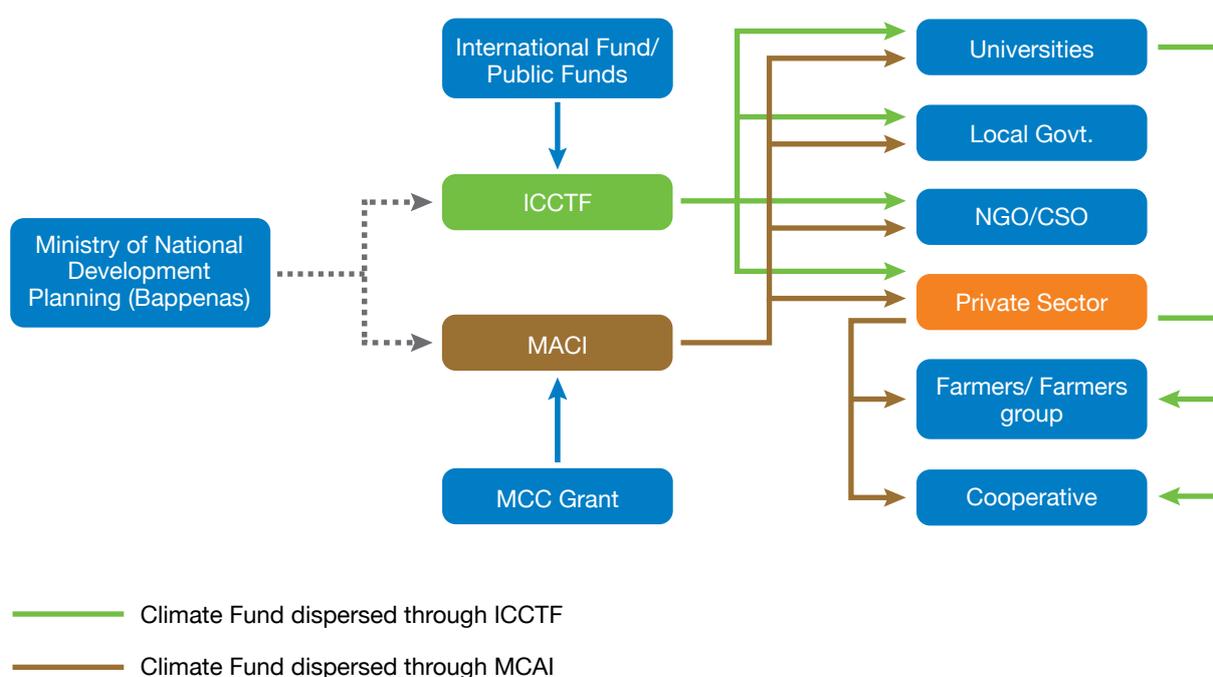


Diagram 2: Private fund distribution scheme for private sector under supervision of OJK

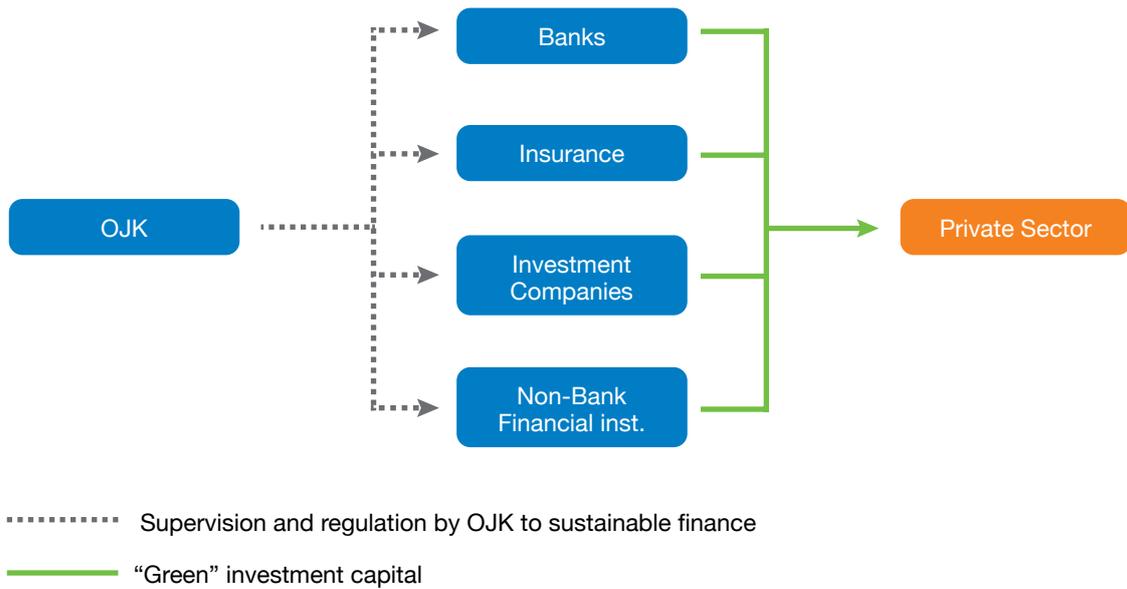


Diagram 3: Climate fund under the coordination of the Fiscal Policy Office of Ministry of Finance (MoF)

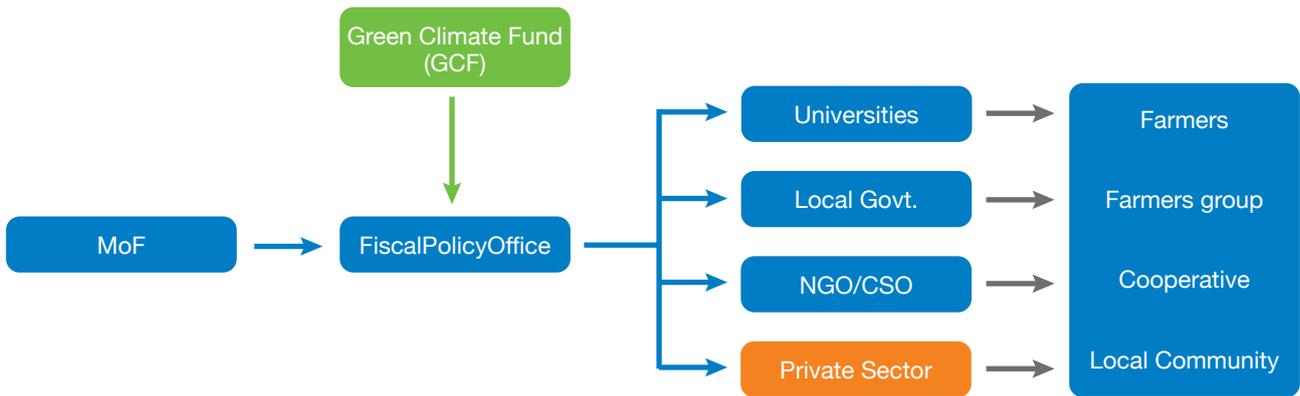
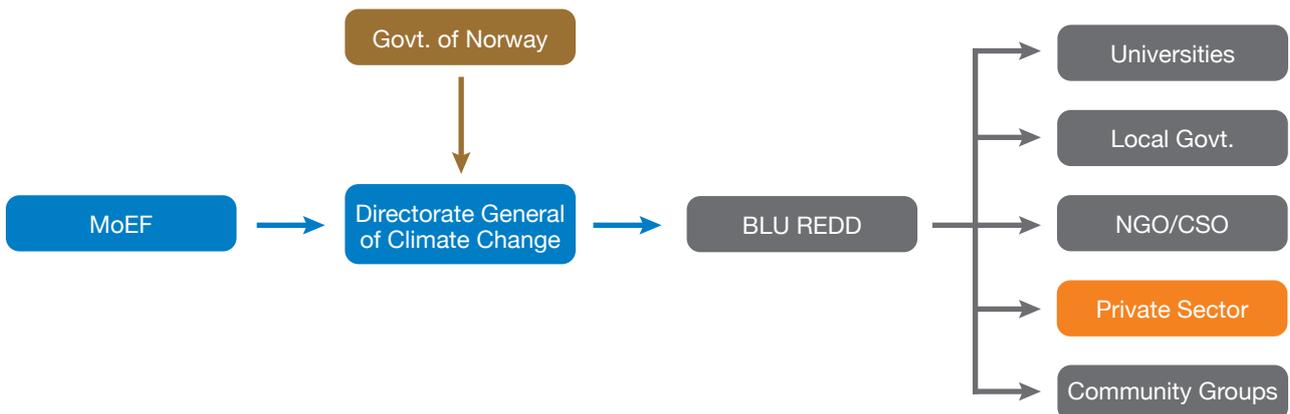


Diagram 4 provided below, reflects a new climate financing scheme which is being developed by the MoEF, which will establish a Public Service Agency (BLU) with the mandate to channel funds for climate change committed by the Government of Norway, which is a part of the Letter of Intent (LoI) signed in 2010 between the GoI and the Government of Norway.

Diagram 4: Climate financing scheme under the coordination of the Directorate General of Climate Change, Ministry of Environment and Forestry (MoEF; currently under development)



2.4 Existing Low carbon, climate resilient financial products/schemes

So far, the majority of funding commitments to low carbon development in Indonesia have come from international donors and public fund that has been pledged since 2006 and committed to 2018.

Indeed, between 2012 and 2015, a total of approx. USD 511.3 million has been committed to private sectors through credit and loan mechanism through private or state commercial banks and collaboration between banks and international donors. The majority of the funds is invested in the development of renewable energy, while only a small part goes to green infrastructure.

A year earlier in 2011, the Government of Indonesia (GoI) signed an agreement with the Government of USA allowing the Indonesian Government to develop its own programme involving community, local government and private sector under a programme called Green Prosperity. Funding provided for the (GoI) are designated among others for the development of community based management of natural resources and renewable energy with an amount of USD 308.35 million out of a total of USD 600 million for 5 implementation years.

The OJK has carried through a study on the implementation of Green Bond that was finalised during the first quarter of 2017. The study aimed to find the appropriate model and structure of Green Bond to be applied and adjusted with Indonesian condition. OJK plans to develop regulation of Green Bond based on this study.

Indonesia's National Determined Contribution (NDC)

Indonesia's NDC sets out a target of 26% emission reduction by 2020 and 29% emission reduction by 2030 based on a 2010 projected BAU scenario. Indonesia is willing to increase its conditional contribution up to 41%, subject to provision in the global agreement including through bilateral cooperation, covering technology development and transfer, capacity building, payment for performance mechanisms, technical cooperation, and access to financial resources.

The Assumptions used for projected BAU and emission reduction for all sector categories (Energy, Waste, IPPU, Agriculture, and Forestry) are as follows:

SECTOR : ENERGY			
	BAU	Mitigation Scenario 1 (CM 1)	Mitigation Scenario (CM 2)
1. Efficiency in final energy consumption.	In-efficiency in final energy consumption.	75%	100%
2. Implementation of clean coal technology in power plant.	0%		
3. Renewable energy in electricity production.	Coal power plant	19,6% (Committed 7,4 GW based on RUPTL)	Electricity production of 132,74 TWh
4. Implementation of biofuel in transportation sector (Mandatory B30).	0%	90%	100%
5. Additional gas distribution lines.	0%	100%	100%
6. Additional compressed-natural gas fuel station (SPBG).	0%	100%	100%

SECTOR : AFOLU

A. Deforestation rate

- Deforestation rate under BAU scenario for 2013-2020 is in line with the FREL for REDD+, which is about 0.920 Mha/year, and consist of planned and unplanned deforestation. The rate for planned deforestation was calculated under existing development scenario.
- For both CM1 and CM2 scenarios, it is assumed that the rate of unplanned deforestation is low and the total of planned and unplanned deforestation would not exceed 0.450 Mha.
- Rate of deforestation for BAU 2021-2030 assumed to be 0.820 Mha/year, with scenario of CM1 and CM2 comes into 0.325 Mha, respectively.

	BAU	CM1	CM2	Note
Total (000 ha)	2013-'20: 920 2020-'30: 820 2030-'50: result from model	2013-'20: 450 2020-'30: 325 2030-'50: result from model	2013-'20: 450 2020-'30: 325 2030-'50: result from model	It is assumed that unplanned deforestation would not occur post 2030. Meaning the rate of deforestation completely comes from planned deforestation (model).
1. Unplanned Deforestation	2013-'20: 500 2020-'30: 409 2030-'50: 0	2013-'20: 175 2020-'30: 92 2030-'50: 0	2013-'20: 175 2021-'30: 66 2030-'50: 0	
2. Planned Deforestation (from the model)	2011-'50: result from model	2011-'50: result from model	2011-'50: result from model	

B. Assumption for wood production:

1. Some literatures recorded that the rate of wood extraction from sustainable natural forest ranges from 20 to 35 m³/ha. This work take an assumption of 50 m³/ha for wood extraction in 2010 (the difference between literature and assumption taken is from illegal logging. Illegal logging was assumed zero in 2050, and rate of wood extraction would reach 30m³ (rate of sustainable extraction).
2. Target for wood production from natural forest under CM1 and CM2 scenarios follow National Forestry Planning (*Rencana Kehutanan Tingkat Nasional/RKTN*) (MoF, 2011), while the BAU is higher, using data from the Association for Indonesian Forest Concessionaire (APHI).
3. The rate for establishing forest estate (plantation) under BAU follows the historical data, with the percentage of feasible areas for planting is about 63% (Assumption from APHI, 2007)
4. It is assumed that all forests cleared would leave zero waste, and all woods from these areas would be useable.
5. Utilization of wood from oil palm and rubber trees at the end of its cycle is at medium rate or about a half of total.

C. Assumption for growth rate:

1. Growth rate of plants in ton C/ha/year for natural forest was calculated based on the growth in m³/ha/year with conversion factor of :
 - a. Biomass Expansion Factor (BEF): 1.4 (Ruhayat, 1990)
 - b. Wood density for natural forest: 0.7 t/m³
2. The rate of Industrial Plantation (HTI) in ton C/ha/year was calculated based on data of measurable wood production volume in m³/ha, with BAU, CM1 and CM 2 in 2010 about 120 and has been increased respectively to 140, 160 and 200 m³/ha in 2050 with the role of technology intervention. The escalation is in every 10 year and correction factors:
 - a. BEF: 1.4 (IPCC Default)
 - b. Wood density for HTI: 0.4 t/m³
3. 6 years rotation.

D. CM2 calculation used a very ambitious targets (38%), and some adjustment to the above assumption (CM1) are as follows:

1. Peat restoration achieves 90% survival rate and the area of peat restoration reaches 2 Mha by 2030
2. Land rehabilitation achieves 90% survival rate and almost all unproductive lands have to be rehabilitated (about 12 Mha in total), so that up to 2030 the rate of plantation would be 800 thousand ha/year (the baseline under historical data is about 270 thousand ha).

SECTOR: AGRICULTURE			
	BAU	CM1	CM2
1. The use of low-emission crops.	No mitigation actions.	In total, the use of land for low emission crops is up to 926,000 hectares in 2030*.	In total, the use of land for low emission crops is up to 908,000 hectares in 2030*.
2. Implementation of water-efficient concept in water management.	No mitigation actions.	Implementation of water efficiency is up to 820,000 hectares in 2030*.	Implementation of water efficiency is up to 820,000 hectares in 2030*.
3. Manure management for biogas.	No mitigation actions.	Up to 0.06% of the total cattle in 2030**.	Up to 0.06% of the total cattle in 2030**.
4. Feed supplement for cattle.	No mitigation actions.	Up to 2.5% of the cattle population in 2030**.	Up to 2.5% of the cattle population in 2030**.

SECTOR : WASTE

SUB-SECTOR: SOLID WASTE

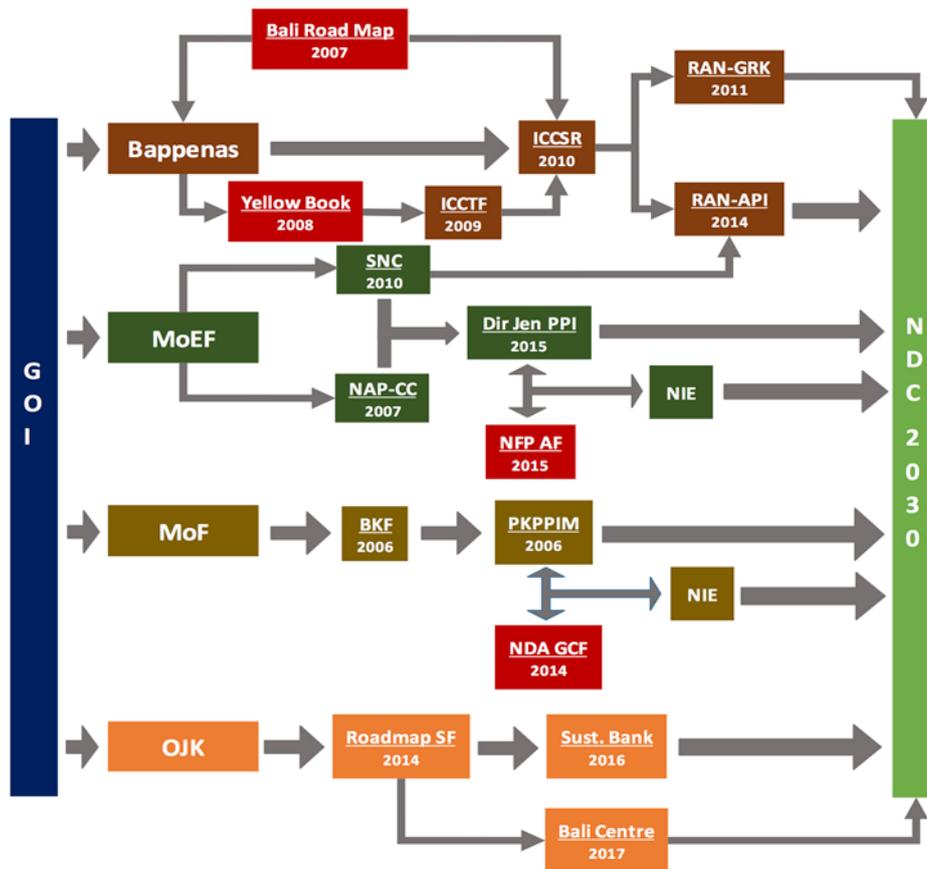
	BAU	CM1	CM2
1. Enhancement of LFG recovery from 2010 to 2030.	No mitigation actions.	LFG recovery reduces CH ₄ from 0.65% to 10%.	LFG recovery reduces CH ₄ from 0.65% to 10%.
2. Enhancement of the percentage of waste utilization by composting and 3R (paper).	No mitigation actions.	22% in 2020, 30% in 2030*.	22% in 2020, 30% in 2030*.
3. Enhancement of the percent-age of PLTSa/RDF (<i>Refuse Derived Fuel</i>) implementation, compare to total waste.	No mitigation actions.	<ul style="list-style-type: none"> - Up to 3% in 2020 and increase up to 5% in 2030**. - PLTSa implementation in 7 cities. 	<ul style="list-style-type: none"> - Up to 3% in 2020 and increase up to 5% in 2030**. - PLTSa implementation in 12 cities (additional)***.

Note: PLTSa = Pembangkit Listrik Tenaga Sampah

SECTOR : IPPU

	BAU	CM1	CM2
Industrial processing and product use in major large scale industries.	No mitigation actions.	<p>Cement industry implements "clinker to cement ratio" (blended cement) from 80% in 2010 to 75% in 2030.</p> <p>Enhancing efficiency by feedstock utilization and CO₂ recovery in Primary Reformer in petrochemical industry (in particular ammonia production).</p>	<p>Cement industry implements "clinker to cement ratio" (blended cement) from 80% in 2010 to 75% in 2030.</p> <p>Enhancing efficiency by feedstock utilization and CO₂ recovery in Primary Reformer in petrochemical industry (in particular ammonia production).</p>
		<p>Other actions:</p> <ul style="list-style-type: none"> - Steel industry implements: CO₂ recovery, improvement process in smelter and scrap utilization. - Remains of claim PFCs from CDM-activities (aluminum smelter). <p>Note: A quantitative target to be defined by the Min. of Industry.</p>	<p>Other actions:</p> <ul style="list-style-type: none"> - Steel industry implements: CO₂ recovery, improvement process in smelter and scrap utilization. - Remains of claim PFCs from CDM-activities (aluminum smelter). <p>Note: A quantitative target to be defined by the Min. of Industry.</p>

NDC Implementation linkages with other climate change policies/instruments



The “Bali Roadmap”

At the United Nations Climate Change Conference in Bali in December 2007, governments from around the world – both developed and developing countries – agreed to step up their efforts to combat climate change and adopted the “Bali Road Map”, which consists of several forward-looking decisions that represent the various tracks that are essential to reaching a secure climate future. The Bali Road Map includes the Bali Action Plan, which charts the course for a new negotiating process under the UNFCCC, with the aim of completing this by 2009.

The Bali Roadmap, that includes Bali Action Plan, became the reference for the development of ICSSR (Indonesian Climate Change Sectoral Roadmap).

Mainstreaming Climate Change into Development Planning “The Yellow Book” (2008)

The Yellow Book serves as a multi-sectoral guide to the GoI in integrating climate change into its overall National Development Plan by coordinating its regulatory efforts to implement both long and short-term efforts to tackle climate change. It laid the groundwork for the Indonesia Climate Change Trust Fund ICCTF and outlines a triple track strategy of pro-poor, pro-job, and pro-growth, with pro-environment principles.

Indonesian Climate Change Sectoral Roadmap (ICSSR)

Launched in March 2010 and developed by BAPPENAS and became an important reference to the establishment of RAN-GRK, the Indonesian Climate Change Sectoral Roadmap 21 (ICSSR) guides policy instruments and regulations, programmes and projects, funding schemes and capacity building for investments in clean energy, improved forestry and improved resilience. To this end, the ICSSR serves as a policy guide for mainstreaming and implementing national adaptation and mitigation responses to climate change into national mid-term development plans (RPJMN, 2010 – 2014 and until 2030). The ICCTF is one of the Roadmap’s primary financial mechanisms. Additional functions include:

- Laying the groundwork for the primary policy guide for the Presidential RAN-GRK goal of decreasing greenhouse gas emissions;
- Outlines nine priority sectors for adaptation and mitigation activities and three activity categories for actions, corresponding to timelines outlined in the RPJMN.

National Action Plan for Reducing Greenhouse Gas Emissions (2011)

Indonesia finalized its Presidential Regulation for the National Action Plan for Reducing Greenhouse Gas Emissions RAN-GRK (Rencana Aksi Nasional Penurunan Emisi Gas Rumah Kaca) in September 2011 (Presidential Regulation of the Republic of Indonesia Number 61 Year 2011), which serves as the foundation for relevant Ministries/Institutions, as well as the Regional Governments, to implement greenhouse gas (GHG) emission reduction activities. Since local and regional reduction measures will count towards emission reductions, the Local Action Plan for GHG Emissions (RAD-GRK) will be the primary implementation vehicle for the RAN-GRK. The RAN-GRK is expected to become an integrated, concrete, measurable and practical action plan for the period between 2010 and 2020 for seven identified mitigation sectors, and is constitutes the Indonesia's NAMA (Nationally Appropriate Mitigation Action).

RAN-API (National Action Plan on Adaptation to Climate Change)

RAN-API, which refers to the ICCSR and the Second National Communication of 2010, is an enhancement of the National Action Plan on Climate Change (NAP-CC) developed by the Ministry of Environment in 2007 (before being merged with the Ministry of Forestry) that aimed to build guidelines for various state institutions and/or agencies to implement a coordinated and integrated efforts in the mitigation of and adaptation to climate change. The plan strongly emphasises inter-ministerial/inter-agencies coordination that needs continuous evaluation and improvement by related stakeholders.

Directorate General of Climate Change (Dirjen PPI) of MoEF

Established in 2015 after the merger of Ministry of Forestry and Ministry of Environment (became the Ministry of Environment and Forestry – MoEF), the Directorate General of Climate Change (Dirjen PPI) was appointed as National Focal Point for Adaptation Fund, channelling fund for climate change adaptation activities that is accessible by NGOs and CSOs to be implemented with local government.

Center for Climate Change and Multilateral Policy (PKPPIM), Ministry of Finance (MoF)

Established in 2006 under the MoF's Fiscal Policy Agency (BKF), the PKPPIM support the Government of Indonesia in the achievement of its NDC through climate finance budgeting and coordination. Later on, the BKF became the National Designated Agency for the Global Climate Fund (GCF).

2.5 Existing incentives for low carbon, climate resilient development

In terms of supporting green growth, the government has provided fiscal and non-fiscal facilities. The government is offering a variety of incentives, which include a tax holiday of between five and 10 years for several pioneer industries such as biofuel and renewable resources as well as a recently issued regulation on incentives in the form of a tax allowance for 143 business sectors (up from 129 sectors) (Decree No. 18 of 2015).

Non-fiscal incentives are also available, such as fast track processing and the removal of a minimum investment threshold as a prerequisite to qualify for such incentives. For non-fiscal incentives, policies such as one-stop service for licensing under the BKPM, ease of immigration permits for expatriates and the establishment of a special economic zone (SEZ) in 11 new locations have been introduced (the development of SEZ is meant to attract more foreign investment and promoting green growth through policy and regulation, therefore the establishment of SEZ and ease of immigration permits for expatriate involved in business activities particularly within SEZ, bringing added skill and knowledge, also enabling technology transfer in green industry).

Incentive	Mechanism	Administrative Level	Date Introduced	Regulating Authority	Outcome/ Impacts
Tax allowance	30% of the total investment for 5 consecutive years	Government Regulation (national level)	21 December 2015	President of the Republic of Indonesia	The regulation is under implementation and 11 Special Economic Zones are currently being established, which are expected to give impetus to green Investments.
Tax holiday	Between 5 to 10 years for pioneer industries such as renewable energy and biofuel industry	Government Regulation/ Finance Minister Regulation (national level)	21 December 2015; 27 June 2016	President of the Republic of Indonesia; Ministry of Finance	

Indeed, whether the government has distributed the incentives for the “right” industry or the industry sectors in SEZ apply practices in compliance with green growth policy are still debatable. This also applied to tax-holiday distributed by the government. Critics and request for evaluation have been addressed, yet the follow up seemed to be lagging.

3. Additional findings

Supporting the National Determined Contribution, a Presidential Regulation on National Action Plan for the Reduction of GHG Emissions (RAN-GRK) was released in 2011, setting out 50 mitigation actions across 5 broad sectors between 2011 and 2020, targeting 767 million tonnes of Carbon Dioxide (mtCO₂) reduction in 2020.

Support for RAN-GRK comes among others from the Ministry of Finance (MoF), through its Fiscal Policy Agency (FPA) and with participation from key ministries, which has developed the first “Mitigation Fiscal Framework” (MFF) in 2012.

Although there has been provision of fiscal and non-fiscal facilities to support green growth, carbon tax is yet not on agenda and Indonesia does not have much policy that incentivizes SMEs. Currently, it is hard for Indonesian to comply with green requirements, therefore it is difficult for sustainability projects to compete with conventional projects.

In capital markets, climate projects have drawbacks: very small supply of green financial assets, no regulatory requirement and short-term investment horizons. However, when talking to firms – they are happy to invest into environmental and social practices, but regulations are needed to create an even playing field and avoid missing business opportunities.

The development of green loans also is facing various barriers, such as high concentration and little competition, high margins in traditional markets, higher standards for green finance, lack of long-term funding (majority of funding from customers’ deposits, which correspond to short-term investments) and bottlenecks in the distribution of loans. Green projects are also perceived as containing higher risks.

So far, banks are unable to address environmental risks due to lack of support. Certificates from the Ministry of Environment are obtained but not applied. There is a need for continual assessment in terms of disclosure and bank lending information, and environmental non-compliance.

Banks have short-term objectives for returns of revenues, thus they are not the most suitable institutions to issue long-term investment loans, required to support low-carbon climate resilient development. Therefore, there is a need to develop secondary capital markets. Central Bank and state-owned banks are the main regulators of the financial markets and have a critical role to play as impetus givers to the development of capital market in Indonesia. Capital market in Indonesia have the potential to create the basis for financing of sustainability and

sustainable development.

Companies that have received low carbon, climate resilient certification should be required to develop a sustainability report. They should be (continually) assessed in terms of their compliance with green business and operations criteria, such as: -access to capital, -regulation and loyalty, -stakeholder engagement, etc. Reporting will help to innovate, provide solutions and track impacts over time, and will ensure that all risks are taken into consideration in the sustainability strategy of the company. The additional economic benefits identified are: -reduction of production and operation costs due to resource efficiency, -improvement of company image and stock market ratings; -qualification for financial incentives from government authorities like OJK, - green index to attract green investors; and - increased impact of CSR compliance.

Currently, equity markets are tailored for short-term financing. Longer-term financing strategies area required to boost investments in low carbon climate resilient development. Sustainable finance for sustainable initiatives (1-2% of all banks' lending) is not significant enough to boost green economy development.

4. Overall Summary and Recommendations

4.1 Summary

There is strong will of the Gol to comply with green growth initiatives and to apply climate financing mechanisms. OJK has shown its commitment for the latter through the development of projects in green finance in collaboration with various agencies involving private banks (see Annex C and link to OJK Roadmap for Sustainable Finance, page 14) and in cooperation with other ministries, government agencies and environmental NGOs. Support also comes from the Gol through the issuance of facilitating policies as described above under Section 2.5.

In terms of funding for climate change related activities, approximately USD 382.8 million has been committed to Indonesia out of a total of USD 4.4 billion through international public finance between 2006 and 2017, the largest amount approved for climate change mitigation programmes. In addition, there is also a big opportunity to access private fund for climate finance, since 50% to 70% of private CSR fund is sourced for projects related to biodiversity.

Moreover, the total value of Indonesian stock market capitalisation in 2016 was approx. IDR 6,000 trillion (around USD 450 million). If only 1% could be invested in private low carbon initiative, this would make an additional USD 4.5 million for climate finance. Indeed, innovative enabling policy will be needed to allow such kind of investment.

Based on the interviews and the result of the 1st National Workshop, several improvements are needed to be able to appropriately apply financial mechanisms in terms of supporting green growth and low carbon development in Indonesia, especially by involving private and financial sectors. With regards to the total amount of implemented climate fund, 95% is sourced from public and donors, while only 5% from private sector. This needs to be changed.

According to OJK, the major barrier for banks to implement green investment lies in the lack of capacities and awareness on the overall impact of sustainable business practices on the welling of people and planet, and in terms of generating profit.

Coordination, enabling environment as well as lack of capacity and awareness have been amongst the issues raised during the interviews and were addressed during the discussions at the 1st National Workshop in Jakarta.

4.2 Recommendations

Cumulatively, recommendations proposed during the interviews and the workshop can be summarized as follows:

For the Government Agencies/Ministries:

- Cooperation with BAPPENAS and all relevant entities of the Government of Indonesia within the

context of inter-ministerial coordination needs to be improved, awareness of the private sector as well as of the financial and banking sector is highly required and needs to be raised and strongly promoted;

- Multi-level support should be provided to encourage green finance in Indonesia, including international dialogue;
- Green financing should be tailored to the national context and translated into national policy frameworks (sectorial policies: transport, forestry, production, etc.) applied at national, provincial, and district level. Meanwhile, there is a lack of capacity and knowledge on how to develop green lending that needs to be addressed appropriately;
- An oversight committee should be established as an authorised body to provide assurance. This will increase the confidence of a green investor when it reads the company's sustainability report.

For banks/other financial institution:

- A mechanism should be put in place by banks to also calculate environmental, social and ethical risks when assessing lenders for loans. This should also include GHG disclosure and energy management for the head office and branches. If risks are adequately assessed, and efficient strategies to mitigate risks are put in place, conventional projects can be transformed into ones that are green and socially equitable;
- Domestic financial institutions need to invest in green environmental assets, and include environmental and social risks in financial behavioural decisions. Knowledge on green investment standards will be needed.

For OJK:

- Collateral criteria for low-carbon investments or for what is classified as green finance needs to be developed;
- OJK should put in place mechanisms for assessing unsustainable investments as less-profitable and categorising these as high-risk investments. Improvement of risk management, reduction of profitability of environmentally negative lending, liability assessment, etc. could be part of a package of instruments or mechanisms to be introduced;
- There is a need to attach a risk to non-sustainable investments such as lending/extending credit to unsustainable palm oil producers. Thus, OJK should provide guidance and operational for FIs: What can be classified as green finance, and how to report this?
- OJK and other governmental agencies are urge to create the capacities for green investment facilities, including better regulations. These include regulatory drivers (through regulatory and market environment and banking associations), build market capacity (through consultants and training partners), individual financial institutions support, and building of social management systems. Regulatory bodies should develop an efficient framework for greening finance and financing the transition towards a sustainable economy.

In terms of capacity building for enhancing sustainable finance, OJK has initiated a collaboration with the University of Udayana, Bali for establishing the Center for Sustainable Finance which was launched in July 2017. The Centre is the first to be established in Indonesia in the period of 2015 – 2019 in response to the capacity development needs of banking staff to be able to identify, assess and stimulate sustainable finance projects as described within Roadmap for Sustainable Finance issued earlier by OJK.

Annex A

List of stakeholders interviewed (in chronological order)

Date	Organization	Names and Designation	Organization Type
5 April 2017	UNDP E-PASS Project	Gustaaf A. Lumiu Biodiversity Finance Expert	UN Agency
6 April 2017	Rainforest Alliance	Nurdiana Darus Director for Southeast Asia	International NGO
7 April 2017	WRI	Satrio Wicaksono Forest and Landscape Restoration Manager	International NGO
11 April 2017	Conservation International	Iman Santoso Senior Terrestrial Policy Advisor	International NGO
18 April 2017	GIZ Forclime	Wandojo Siswanto Strategic Area Manager, Forest Policy	International Development Agency
25 April 2017	Centre for Climate Risk and Opportunity Management in Southeast Asia Pasific (CCROM SEAP)	Rizaldi Boer Director	Research Institute
25 April 2017	Indonesian Economist Association (ISEI)	Firman Harahap Executive Secretary	Association
28 April 2017	WWF Indonesia	Rizkia Yudawinata Responsible Investment Policy	International NGO
2 May 2017	PPK BLU, Ministry of Environment and Forestry	Shelly Environmental Investment Finance	Government Agency
8 May 2017 5 June 2017	Indonesia Bussiness Council Sustainable Development (IBCSD)	Budi Santosa, Director Erwin Widodo, Regional Coordinator South East Asia	Business Organisation
9 May 2017	Indonesia Climate Change Trust Fund (ICCTF)	Joseph Viandrito Programme Director	Trust Fund
10 May 2017 29 May 2017	BRI	Sutardjo, Arief Guntoro, Heri Supriyadi	Government Bank
10 May 2017 6 June 2017	OJK	Muliaman Hadad Head of Commision Edi Setjawan Director of Sustainable Finance	Government Agency
16 May 2017	Secretariat of RAN GRK	Atjeng Kadaryana Head of the Secretariat	Government Agency
17 May 2017	PT SMI	Gan Gan Dirgantara Head of Division for Renewable Energy	State Company
18 May 2017	GIZ INFIS	Hauke Broecker Advisor	International Development Agency
2 June 2017 6 June 2017	Bank Muamalat	Iggy Achsien Independent Commissioner	Private Bank

6 June 2017	Swisscontact	Ross Kenton Jaax Head of Cocoa Programme	International Cooperation Agency
7 June 2017	Greenbury Associates	Aida Greenbury	Private Company
	WRI	Satrio Wicaksono Forest and Landscape Restoration Manager	International Cooperation Agency
8 June 2017	BSB Statistics Office	Buyung Airlangga Director	Government Agency
9 June 2017	Bank BCA	Yayi Mustika Pudyanti Asst. Vice President	Private Bank

Annex B

Assessment of possible national champions (list most suitable on the top)

Type	Organization	Level and Rationale
Government Institution	Financial Services Authority (OJK)	<p>OJK is an independent state institution with tasks, functions and authority to regulate, oversee, inspect and to investigate. OJK is selected based on its progressive initiative in regards to sustainable finance in order to promote green growth and sustainable development and to support Gol Intended National Determined Contribution to reduce emission through green financing schemes.</p> <p>Since its establishment in 2011 based on Law No. 21/2011, OJK has developed a Roadmap for Sustainable Finance for the period of 2015 – 2019, initiate a pilot project on Sustainable Banking together with WWF Indonesia, involving 8 commercial and state banks, and recently launched the Bali Center for Sustainable Finance in cooperation with the University of Udayana, Bali. OJK is also in the process of finalising a OJK Regulation on Sustainable Finance.</p>
NGO (Established by the government)	Indonesian Climate Change Trust Fund (ICCTF)	<p>The ICCTF was established by the Gol in response to the INDC target set during the UNFCCC COP 15 in Copenhagen.</p> <p>Although it only become a national trust fund in 2015, ICCTF has been able to distribute fund for climate change programs in accordance with 2015-2019 National Mid-term Program Plan. In 2015, ICCTF received funding and commitment supports from various development partners, including USAID, United Kingdom Climate Change Unit (UKCCU), and Royal Danish Embassy, as well as funding support from State Revenues and Expenditure Budget (APBN) as a commitment of the Government of Indonesia to combat climate change. ICCTF has also been increasing its engagement with other parties, including private sector.</p>

Annex C

List of external support provided to banks (and outcomes and impacts if any)

Organisation	Dates	Activity	Target beneficiaries and Impact
French Development Agency	17 June 2010 - 16 June 2017 / 2020	USD 100 million long-term loan (7 to 10 years) for climate change and energy efficiency	Green industries contributing to an annual carbon emission reduction of 534,000 tons (annually?)
	8 Nov 2013 – 7 Nov 2023	USD 100 million long-term loan (10 years) for renewable energy financing	Green industries. This support is aimed to finance approx. a dozen of renewable energy project, with the aim of reducing potential carbon emission of 534,000 tons annually
WWF and OJK	1 Jan 2016 – Jul 2017	Pilot Project for Sustainable Banking: First movers initiative	8 state and private commercial banks received training, assistance and technical support. These included: Bank Mandiri, BRI, BRI Syariah, BNI, BPD Jawa Barat, BCA, Artha Graha, Bank Muamalat

Annex D

List of existing financial products/schemes for low-carbon, climate resilient development (and outcomes and impacts if any)

Organisation	Type of product	Date Introduced	Outcome/Impacts
BRI	Credit for geothermal power plant facilities	2012	
Bank Mandiri	Credit for biomass power plant	2012 - 2015	
BCA	Credit for biomass power plant	2012	

Pakistan National Scoping Study

September 2017



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Networks formed during the process of scoping study can prove helpful in the future. The authors believe that these networks will be crucial in supporting the next phases of UNESCAP's long term regional project on Innovative Climate Financing Mechanisms.

List of Acronyms

AFD	Agence Francaise de Developpement (French Development Agency)
ATM	Automated Teller Machine
CC	Climate Change
CDM	Clean Development Mechanism
CF	Climate Finance
CO ₂	Carbon Dioxide
DFIs	Development Finance Institutions
ESRM	Environmental and Social Risk Management
GCF	Green Climate Fund
GHG	Green House Gas
GIZ	Gesellschaft für Internationale Zusammenarbeit (German Development Agency)
GoP	Government of Pakistan
IFC	International Finance Corporation
IT	Information Technology
LEAD	Leadership for Environment and Development
LED	Light Emitting Diode
NAMA	National Appropriate Mitigation Actions
NAP	National Adaptation Plan
PAK-INDC	Pakistan Intended Nationally Determined contribution
PBC	Pakistan Business Council
PCCA	Pakistan Climate Change Act
PKR	Pakistani Rupee
PSDP	Public Sector Development Programs
SBN	Sustainable Banking Network
SBP	State Bank of Pakistan
SDGs	Sustainable Development Goals
SDPI	Sustainable Development Policy Institute
UNDP	United Nations Development Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
USD	United States Dollar
WAPDA	Water and Power Development Authority
WWF	World Wide Fund
ZTBL	Zarai Taraqati Bank Limited

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1. Introduction

Despite making minimal contributions of only 0.8% to global greenhouse gas emissions, Pakistan is consistently ranked one of the top ten most vulnerable countries in the world to climate change. The Global Climate Risk Index 2017¹ estimates that Pakistan's economy incurred over USD 3823m in losses due to climate change from 1996 to 2015 and according to the National Disaster Management Report, a further USD 18bn was lost due to major floods that occurred between 2010 and 2014, with 30.12m people affected, 3.45m houses destroyed and 10.63 acres of crops damaged².

The Government of Pakistan (GoP) has a vital role to play in addressing climate change, specifically carbon mitigation and adaptation, and according to Pakistan's Intended Nationally Determined Contribution (PAK-INDC) it has a 20% emissions reduction target by 2030 under the business as usual scenario³. In order to achieve this target, the government has undertaken various projects such as the Green Pakistan Programme promoting tree plantation across the country and the construction of the 1,000 MW Quaid-e-Azam solar park in Punjab.

In response to the adverse effects of climatic shocks and stresses, the GoP allocated 5.8-7.6% of total expenditure in federal budget last year to climate change initiatives and results from the Pakistan Economic Survey 2016-17 suggest that Rs 815m⁴ was spent on Public Sector Development Programs (PSDP). To support power sector development, the government is currently proposing Rs 401b in investment, including Rs 317b under the Water and Power Development Authority (WAPDA) by 2018. The GoP has also introduced a new energy programme -- "Energy for All" -- with an initial investment of Rs 12.5 b⁵.

In 2017, the cabinet division of Pakistan passed the Pakistan Climate Change Act (PCCA) which established new legal and institutional foundations for climate action in Pakistan. The institutional framework articulated in the PCCA 2017 envisages the formation of a Pakistan Climate Change Council and Pakistan Climate Change Authority, which will be tasked with collectively steering climate action in Pakistan, developing a framework for climate change mitigation and adaptation and a strategy for climate change applying to all sectors of the economy. In addition, a "Pakistan Climate Change Fund" will be created to generate funds from various domestic and international sources.

Pakistan's central bank, the State Bank of Pakistan (SBP), is similarly engaged in climate action although its conventional role is restricted to monetary policy. In 2013, SBP created a Green Banking/Sustainable Banking Unit to enact environmentally friendly practices and perspectives in banking. Under this unit, it introduced Green Banking Guidelines to encourage Commercial and Development Finance Institutes (DFIs) to promote green businesses and encourage lending for green enterprise⁶. It also initiated the "SBP Refinancing Scheme for Renewable Energy" to meet the growing demand for electricity through alternative renewable energy resources and providing concessionary financing to climate related projects⁷. Private commercial banks have followed suit, with JS Bank successfully converting more than 100 of its branches to solar power and transitioning all computers, servers, ATMs and teller stations in these branches to solar energy.

In the private sector, the Pakistan Business Council has developed a "Centre of Excellence in Responsive Business" to increase the capacity of private businesses in sustainable development, conduct research on climate change and promote private sector investment in green businesses⁸.

¹ Kreft, S., Eckstein, D., Dorsch, L., & Fischer, L. (2016). Global Climate Risk Index 2017: Who Suffers Most From Extreme Weather Events? Weather-related Loss Events in 2015 and 1996 to 2015.

² Pakistan's Intended Nationally Determined Contribution (PAK-INDC), (2016) <http://www4.unfccc.int/Submissions/INDC/Published%20Documents/Pakistan/1/Pak-INDC.pdf>

³ Ibid.

⁴ GoP, (2017). Budget in Brief, 2017-18, Ministry of Finance, Government of Pakistan <http://www.finance.gov.pk/budget/Budget%20in%20Brief%202017-18.pdf>

⁵ GoP, (2017). Budget Speech, 2017-18, Ministry of Finance, Government of Pakistan http://www.finance.gov.pk/budget/budget_speech_english_2017_18.pdf

⁶ SBP, (2015). Annual Performance Review, 2014-15. State Bank of Pakistan. Karachi [http://www.sbp.org.pk/reports/annual/arFY15/Vol1/APR-FY15\(Complete\).pdf](http://www.sbp.org.pk/reports/annual/arFY15/Vol1/APR-FY15(Complete).pdf)

⁷ SBP, (2016). Revised SBP Financing Scheme for Renewable Energy. <http://www.sbp.org.pk/smfcd/circulars/2016/c3.htm>

⁸ <http://pbc.org.pk/research-initiatives/centre-of-excellence-in-responsible-business-cerb/>

1.1 Methodology

This scoping study was undertaken as part of the United Nations Economic and Social Commission for Asia and the Pacific's (UNESCAP) regional project on innovative climate finance mechanisms for financial institutions. The project seeks to identify the gaps in, develop and deliver targeted advisory and technical assistance to central and national development banks in four to five countries in the Asia-Pacific region in order to enhance the capacity of these institutions to put in place policies and guidelines that encourage investment towards climate mitigation and adaptation projects.

This scoping study describes the roles of different sectors such as government institutions, banks and the private sector in developing institutional arrangements to mobilise national and international climate finance. In seeking to identify relevant stakeholders for climate finance in Pakistan, the Sustainable Development Policy Institute (SDPI) conducted key informant interviews with from government, banks and financial institutions and private sector organisations. Together with UNESCAP, SDPI also conducted a two-day national level workshop with high level participants from line ministries and relevant industries to create a platform for discussion on climate change initiatives and sectorial roles in mitigation.

2. Summary of findings

2.1 Identification of the proposed national champion

As part of its analysis, SDPI conducted interviews and meetings with industry specialists to identify a national champion for climate finance in Pakistan. Its findings highlight the substantial efforts that have been expended by the Ministry of Climate Change and the Pakistan Business Council, however, it identifies SBP as the potential national champion based on the central bank's dominant position in this field.

In order to address the adverse impacts of climate change on Pakistan's economy, SBP has taken the lead in promoting green banking across the financial sector. In 2013, SBP proposed a 'Green Banking/Sustainable Banking' unit at the central bank to promote environmentally friendly practices in banking operations. This includes the introduction of Green Banking Guidelines under the Green Banking Unit to encourage commercial banks and other financial institutions to invest in green projects and products such as green marketing and green advisory services.

Paperless banking and green practices at ATMs are promoted and the SBP has partnered with bilateral and multilateral organisations to develop a policy framework and enhance the capacities of commercial banks and development financial institutions in Pakistan.

SBP launched a revisited "Refinancing Scheme for Renewable Energy" in June 2016 in order to meet the gap in energy demand and supply through renewable energy. This financing scheme is divided into two phases, Phase-I targeted at commercial banks and other DFIs and Phase-II for domestic, industrial and commercial consumers. The scheme seeks to promote the better utilisation of alternative energy sources such solar, hydro, wind and biogas to reduce greenhouse gas emissions at the national level. SBP has approved US \$67.7m in funds for 18 renewable energy projects with a cumulative generation capacity of 618 MW. It is currently planning to introduce a similar refinancing facility to finance energy efficiency. It is also in the process of approaching the government and international organisations to work together under the same platform to combat climate change issues in an effective manner⁹.

2.2 Past and on-going external support provided to banks for low carbon, climate resilient development

The International Finance Corporation (IFC) of the World Bank has rendered extensive support to the SBP in formulating the sustainable banking framework. Additionally, SBP became a part of IFC's Sustainable Banking Network – the outcomes of which are the development of the Green Banking Unit and Green Banking Guidelines. IFC also supported SBP in conducting Environmental and Social Risk Management (ESRM) surveys in all

⁹ Ibid., 6.

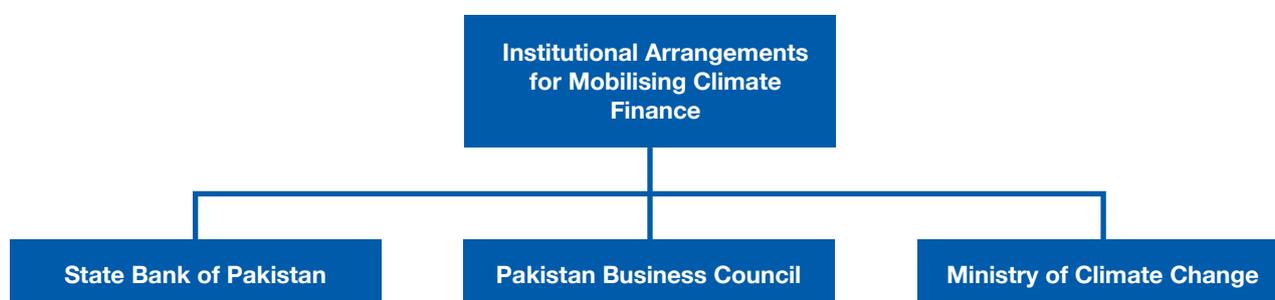
commercial banks and DFIs. Further, SBP has approached GIZ, World Bank and AFD to increase green banking initiatives in the financial ecosystem¹⁰.

2.3 Current and proposed institutional arrangements for mobilising domestic/national private sector climate finance.

The mobilisation of domestic climate finance is dependent upon contributions from various stakeholders from the public, private and banking sectors. The Ministry of Climate Change provides important inputs to climate change related projects or expenditures from the public sector. These expenditures have to be complemented by contributions from the private and banking sectors and the Pakistan Business Council can play a critical role in advocacy and awareness about climate responsive business practices.

The Green Banking Guideline could serve as quasi regulations whereby the commercial banks will incorporate the modalities of green banking in their routine operations. As financiers for various energy, infrastructure and housing projects they could ensure the compliance of Environment and Social Risk Management principles.

Figure 1: Current and proposed institutional arrangements for mobilising domestic/national private sector climate finance in Pakistan



2.4 Existing Low carbon, climate resilient financial products/schemes

As mentioned in the section 2.1 “Refinancing Scheme for Renewable Energy” launched by SBP is one key monetary designed to promote renewable energy resources like hydro, wind & biogas to cutoff CO2 emissions through concessionary lending. The funds sanctioned under this scheme amount to PKR 7,111 million. Further stats pertaining to that scheme are tabulated below:

Table 1: Funds Required and Sanctioned Under SBP Refinancing Scheme

Total Size (MW)	Technologies	Total Cost (Million Rs)	Required amount of Refinance (Million Rs)	Amount sanctioned (Million Rs)
6.18.1	Solar, Wind & Biomass	122,118.0	59448.0	7111.0

Source: State Bank of Pakistan

Similarly, the JS Bank has participated in a syndicated facility for a ‘Greenfield’ project based on bio-fuel consisting of bagasse and dung cakes, which were being setup under the provisions of the Policy for Development of Renewable Energy for Power Generation, 2006 and the Framework for Power Generation 2013. The company was ideally located around farm land and sugar mills and therefore had an adequate supply of bagasse and cow dung, sufficient to keep the plant operational for 120 days during the crushing season and 60 days in the off-season period. The project’s benefits are manifold. First, the project seeks to use waste from both dairy farms and sugar mills, promoting a cleaner environment. Second, output will be passed on to the consumer grid with little or no transmission losses, thereby reducing the electricity deficit in surrounding areas. Third, this cheaper fuel will be less detrimental than furnace oil based electricity production to the balance of payments.

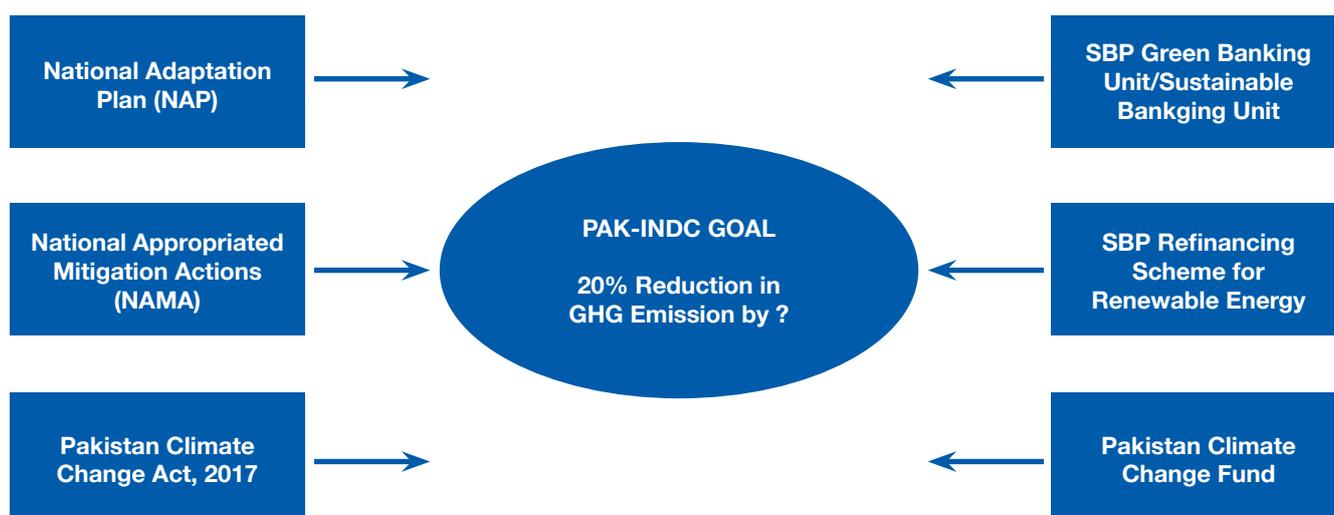
¹⁰ SBP, Annual Report-Statistical Supplement FY 15 <http://www.sbp.org.pk/reports/annual/arFY15/Stats/Eng/Chapter-5.pdf>

JS bank also supports companies like Nizam Energy, the leading solar energy company in Pakistan and it became the first commercial bank in the country to be certified by the World Wide Fund for Nature (WWF Pakistan) for their Green Office Initiative. The aim of this Initiative is to reduce greenhouse gas emissions and to decrease the ecological footprint at the workplace through various measures such as reducing electricity consumption and paper waste.

Table 2: Alignment of Pak-INDC with NAP, NAMA and Other Implementation Mechanisms

Major Goal 20% Reduction in GHG emissions by 2030	
Plan	Activities/Initiatives to Achieve Goal
National Adaptation Plan (NAP)	<p>To improve Water, agriculture and infrastructure: Improving the irrigation system through actions such as lining of canals and irrigation channels.</p> <p>Enhancing water resource management through:</p> <ul style="list-style-type: none"> • Integrated watershed management • Water conservation • Strengthening risk management system for the agriculture sector • Implementing a comprehensive Climate Smart Agriculture program <p>Disaster risk management capacity will be further enhanced through implementation of actions under 'National Disaster Management Plan' that includes strengthening of institutional and legal system for disaster management, preparation of disaster management plans, awareness raising and establishment of a national emergency response mechanism.</p>
National Appropriate Mitigation Actions (NAMA)	<p>Energy Sector: Increase in grid efficiency:</p> <ul style="list-style-type: none"> • Large scale and distributed grid connected solar wind and hydroelectricity • More efficient irrigation motors and pumps (electric) • Replace incandescent bulbs with LEDs, • Efficient space heaters, Improve roof insulation <p>Agriculture Sector: Improve Irrigation and Water Management</p> <ul style="list-style-type: none"> • Manage water in rice cultivation to control release of methane from agricultural soils and introduce low water dependent rice varieties • Implement agro forestry practices through plantation of multipurpose and fast growing tree species , Promote use of green manure • better manure storage and management • Use agricultural and animal wastes to produce biogas and organic fertilizer • Reduce nitrous oxide release from agricultural soils by efficient and targeted use of chemical fertilizers. • Identify and implement ideal cropping patterns to manage soil nitrogen and reduce needs for chemical fertilizers
Other Implementation Mechanism	<p>(a) establishment of organizational structure at the national and sub national levels; (b) use of Clean Development Mechanism (CDM) and other market mechanisms to support climate change activities; (c) capacity building; and (d) financing of climate change regime using national and international resources; (e) SBP's Green Banking Guidelines; (f) SBP's Refinancing Scheme for Renewable Energy; (g) Pakistan Climate Change Act 2017; (h) Pakistan Climate Change Fund</p>

Figure 2: Implementation Mechanism for Achievement of Pak-INDC



2.5 Existing incentives for low carbon, climate resilient development

According to Income Tax Ordinance 2001, Second Schedule Part I (Exemption from Taxable Income), Section 126 (l), “Profits and gains derived by a taxpayer, from an industrial undertaking set up by 31st day of December, 2016 and engaged in the manufacture of plant, machinery, equipment and items with dedicated use (no multiple uses) for generation of renewable energy from sources like solar and wind, for a period of five years beginning from first day of July, 2015.”

There is a zero tax rating on items under serial numbers 108 and 110 of Table 2 of Fifth Schedule of Sales Tax Act, 1990. These items mainly include components and parts of energy savers and equipment that is run on wind or solar power. Similarly, as per serial number 14, 14A, 15 and 15A of Table 3 of Fifth Schedule of STA 1990, added by Finance Act 2017, plant and machinery being used for the generation of renewable energy is exempted from the scope of Act.

3. Additional findings

Climate change is a vital issue that cannot be addressed by a single ministry or institute alone. In Pakistan, the Ministry of Climate Change is the prime agency responsible for accessing and routing climate finance, but individual provinces are also initiating efforts to attract funds, for example, Khyber Pakhtunkhwa is implementing a Green Growth Strategy through the Khyber Pakhtunkhwa Climate Change Policy and Similarly, the Earthquake Reconstruction and Rehabilitation Authority has completed a rain harvesting project in Azad Jammu and Kashmir where 40,000 rain water harvesting systems have been installed.

In tandem, the private and banking sectors are also beginning to contribute to climate change adaptation efforts. The Zarai Taraqiati Bank Limited (ZTBL), for example, has introduced crop loan insurance schemes that provide coverage against adverse climatic and non-climatic shocks and stresses including flooding, drought, hailstorms, frost and insect attacks. The insurance scheme charges premiums at 1.3% (inclusive of all taxes and levies) of loans sanctioned during Rabi and Kharif seasons, with the bank paying the premium for subsistence farmers in exchange for reimbursement by the government on a half-yearly cycle. The bank also maintains a significant lending portfolio for drip irrigation and solar tube wells, contributing to the provision of effective and efficient irrigation systems.

In addition, ZTBL recently completed a soya cultivation project on 100 acres of land in Thatta, Sindh. Due to changing cropping patterns, farmers have a month and a half to sow and harvest soya beans before sowing wheat, giving them an opportunity to enhance the organic content of land. Pakistan’s soil is highly deficient in

organic matter i.e. it contains only 0.5% organic matter compared to an average of 2-3% in other developing countries. Enhancing organic content in the soil reduces the fertiliser cost for wheat production by 15% and water costs by 20%, leading to an overall decrease of 35%. ZTBL paid for the seed, encouraged farmers to cultivate the crop and is now in the process of expanding cultivation to arid regions. It also seeks to launch a dry rice project (associated with raised bed technologies, lower water requirements and reduced fertiliser evaporation) and climate resilient rice seeds. However, the promotion of climate smart agriculture is hindered by lack of capacity in farmers, inadequate service delivery from the Agriculture Extension Department and so on.

4. Overall Summary and Recommendations

GOP has also introduced many environment friendly projects to overcome the adverse effect of climate change. One flagship project in this regard is Green Pakistan Program aimed at extensive tree plantation across the country etc.

In response to the adverse impact of climate change on Pakistan's economy, there has been an increase in climate action by a range of stakeholders including government, the central bank, private commercial banks and the private sector. The enactment of the Pakistan Climate Change Act 2017 is one of the most significant developments, laying the foundation for the Pakistan Climate Change Authority and the Pakistan Climate Change Council to guide strategic vision and fundraising.

Intersections between climate action and the central bank have also been promising, with the establishment of the Green Banking Unit that aims to promote sustainable banking practices in the financial sector, the formulation of the Green Banking Guidelines to encourage private sector investment in green initiatives and the SBP Refinancing Scheme for Renewable Energy in 2016 to promote renewable energy. Commercial banks such as JS and ZTBL have also contributed through investments in sustainable agriculture and transitioning of physical infrastructure to solar power.

Despite this recent progress, challenges continue to exist in advancing mitigation and adaptation initiatives. First, difficulties remain in accessing resources from international and regional financial institutions. Insufficient institutional arrangements, including ambiguous roles and responsibilities of different ministries, have led to unsuccessful efforts by multiple stakeholders to attract finances from the Adaptation Fund. In the last two years, the MOCC has tried to access resources from the Green Climate Fund (GCF), however of the 48 institutions that can lend for the GCF, only 14 have a presence in Pakistan, with minimal accreditation for climate-related development programmes between them. Second, where investments in green initiatives were made by the government or the banking sector, they were made inadvertently and without an assessment of impact or clear focus on mitigation or adaptation (e.g. hydropower). Third, due to insufficient technical processes and inappropriate systems to identify and record climate finance expenditures, it is often not clear that what proportion of a project cost can be attributed to climate response.

In order to address these issues, a strengthening of data and analytical capacity in the Ministry of Climate Change and Ministry of Finance is required and work related to oversight and accountability needs to be pursued with the parliamentary committees on climate change and environment. There is also a need to establish linkages between climate change and the banking industry and develop a deeper understanding of whether a higher proportion of expenditure is required for adaptation or mitigation. Thirdly, there is need to develop technical tools to estimate GHG emissions, and not only CO₂. In order to promote climate finance and green or sustainable banking, commercial banks should create a dedicated section in their banks, hiring a minimum of three people to establish a green financing portfolio including green product development (e.g. green advisory service, green marketing). Lastly, in order to generate a holistic assessment of the issues that pertain to this sector, it is critical to identify the contribution of the banking sector (both good and bad) to climate change. Ministry of Finance can help because they deal with public financial management, they are useful conduits for this.

Annex A

List of stakeholders interviewed (in chronological order)

Date	Organization	Names and Designation	Organization Type
24-04-2017	Ministry of Climate Change, Islamabad	Mr. Muhammad Fawad Hayat, Director Climate Finance Unit	Government
25-04-2017	Zarai Taraqati Bank Limited (ZTBL)	Mr. Farhat Karim Hashmi, Executive Vice President, Planning, Research and Technology Division(PRTD)	Government bank
25-04-2017	State Bank of Pakistan(SBP)	Mr. Farrukh Abbas Mirza	Government Bank
16-05-2017	Leadership for Environment and Development (LEAD) Pakistan	Ms. Hina Lotia, Director Programmes at Senior Management Department	Non-Governmental Organization(NGO), Islamabad
26-04-2017	UNDP Pakistan	Mr. Asad Abbas Maken	Development Agency
18-04-2017	Asian Development Bank	Dr. Qamar uz Zaman Chaudhry	Development Financial Institutions

Annex B

Assessment of potential national champions

Type	Organization	Level and Rationale
Central Bank	State Bank of Pakistan	SBP takes great initiatives about climate change financing in Pakistan. It proposed Green Banking Unit/ Sustainable Banking Unit in 2013 to promote green and environment friendly practices in banking operations. Under this banking unit it proposed Green Banking Guidelines in which they encourage Commercial and Development Finance Institutions to invest in green products. It has also issued "Refinancing Scheme for Renewable Energy" in 2016, in context to meet the growing electricity demand through renewable energy. Under this financing scheme, it provides concessionary financing for renewable energy projects. It is also an active and enthusiastic member of IFC sustainable Banking Network (SBN). Therefore SBP have a potential to become a champion for climate change financing in Pakistan.

Government Institute	Ministry of Climate Change, Pakistan	MOCC is an active, strong and responsible government institute and taking various initiatives to combat climate change issues in Pakistan. Recently, in 2017, National Assembly of Pakistan passed the Act “Pakistan Climate Change Act”. Under this Act, they established “Pakistan Climate Change Council” which is responsible to supervise and coordinate with other relevant ministries. Under this Act, they established “Pakistan Climate Change Authority” with aims to formulating and planning the climate change policies at national level. Under the Climate Change Act, they are in a process of development of Pakistan Climate Change Fund which could be a major stakeholder and most appropriate programme for the fund-raising from domestic and international levels. The fund would mobilize resources to reduce adverse effects of climate change on the economy as well as provide financial support in climate change to mitigation and adaptation initiatives in the country. MOCC is also working with other ministries to resolve the issues of climate change in Pakistan.
Private Institute	Pakistan Business Council (PBC)	PBC has established “Centre of Excellence in Responsive Business” to augment the capacity building of private businesses and sustainable development in Pakistan. It has also identified the Goal 7 from SDGs “Decompiling Growth for Environmental Impact” and 22 targets in which they have contribute and take benefit from them. PBC can play a dominant role in climate change mitigation and adaptation perspectives. It is also working on the climate change research and provides guidance to private sectors in policy making process. PBC may be the champion for the private sectors by investing in different climate related projects at the country and international level.

Annex C

List of external support provided to banks (and impacts if any)

Organisation	Dates	Activity	Target beneficiaries and Impact
International Finance Corporation, World Bank	2012	Support to State Bank of Pakistan by making it part of Sustainable Banking Network, carrying out Environment and Social Risk Management Survey and setting up Green Banking Unit.	State Bank of Pakistan. Outcome of this support is formation of Green Banking Guidelines.

Annex D

List of existing financial products/schemes for low-carbon, climate resilient development (and outcomes and impacts if any)

Organisation	Type of product	Date Introduced	Outcome/Impacts
State Bank of Pakistan	SBP Refinancing Scheme for Renewable Energy	December 2016	By using renewable energy resources it is beneficial in reducing GHG emissions.

JS Bank	Greenfield Project	2016	<p>It would use the waste from both dairy farms and sugar mills, which will promote a cleaner environment.</p> <p>The output would be passed on to the consumer grid, with little or no transmission losses, thereby reducing the electricity deficit in the surrounding areas.</p> <p>This cheaper fuel would not weigh in on the balance of payments unlike furnace oil based electricity production</p>
	USAID Clean Energy Project	-	It is responsible and environmentally friendly manner by allowing small scale energy projects access to long term rupee financing through the Bank. This also encourages private investment in clean energy.

Annex E

List of Existing incentives for low-carbon and climate resilient development (and outcomes and impacts if any)

Incentive	Mechanism	Administrative Level	Outcome/Impacts
Exemption from Income Tax	Section 126 (l) of Second Schedule (Part I) of Income Tax Ordinance 2001. Under this section income generated by an industrial undertaking engaged in the manufacture of plant, machinery, equipment and items with dedicated use (no multiple uses) for generation of renewable energy from sources like solar and wind. This exemption has been given for five years starting from 1st July 2015.	Federal Board of Revenue - National	To gauge the outcomes/impacts of this incentive refer to Table E below. It contains the data on new power plants which started operations since 2015. It can be seen that there have been considerable renewable energy based additions (Wind and Solar) in the national grid since then.
Zero Tax Rate	Under Serial numbers 108 and 110 of Table 2 of Fifth Schedule of Sales Tax Act, 1990, components and parts of energy savers and such equipment which run on wind, solar or hydel energy have been kept in zero tax regime.	Federal Board of Revenue - National	-
Exemption from scope of Sales Tax Act 1990	According to serial number 14, 14A, 15 and 15A of Table 3 of Fifth Schedule of STA 1990, added by Finance Act 2017, plant and machinery being used for generation of renewable energy is exempted from the scope of Act.	Federal Board of Revenue - National	-

Table E: List of Power Plants Started Operating Since 2015

2015			2016			2017		
Plant Names	Fule Type	Installed Capacity (MW)	Plant Names	Fule Type	Installed Capacity (MW)	Plant Names	Fule Type	Installed Capacity (MW)
RYKML	Bagasse	30	APOLO SOLAR	Solar	100	Fatima	Coal/ Bagasse	120
FWEL-I	Wind	50	Best Green Solar	Solar	100	Hamza	Bagasse	15
QUAID AZAM	Solar	100	Crest Energy Solar	Solar	100	Bhiki	Gas	760
NANDIPUR	Furnance Oil	425	Younus	Wind	50	Dawood Wind	Wind	50
SAPPHIRE	Wind	50	Metro	Wind	50	Sachal Wind	Wind	50
CHINIOT	Bagasse	62	Tapal	Wind	30	TOTAL		995
TOTAL		717	Master	Wind	50			
			Tenaga	Wind	50			
			Gul Ahmed	Wind	50			
			Chashnupp-III	Nuclear	340			
			TOTAL		919			

Source: Pakistan Economy Survey (2016-17) – Chapter 14: Energy

Philippines National Scoping Study

September 2017



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Lastly, we gratefully acknowledge the United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP) for mobilizing funding for promoting innovative climate finance mechanisms for financial institutions in the Asia-Pacific region and for selecting the Philippines and SERDEF for this important undertaking.

List of Acronyms

ADB	Asian Development Bank
APCF	Asia Pacific Carbon Fund
BAIPHIL	Bankers Institute of the Philippines
BDO	Banco de Oro
BOI	Board of Investments
BPI	Bank of the Philippine Islands
BSP	Bangko Sentral ng Pilipinas
CBC	China Banking Corporation
CCA	Climate Change Act
CCAM	Cabinet Cluster on Climate Change Adaptation and Mitigation
CCAP	Climate Change Action Plans
CCC	Climate Change Commission
CCF	Climate Change Fund
CEFPF	Clean Energy Financing Partnership Facility
CLEECP	Credit Line for Energy Efficiency and Climate Protection
DA	Department of Agriculture
DBM	Department of Budget and Management
DBP	Development Bank of the Philippines
DENR	Department of Environment and Natural Resources
DMC	Developing Member Countries
DILG	Department of the Interior and Local Government
DOA	Department of Agriculture
DOE	Department of Energy
DOF	Department of Finance
DOST	Department of Science and Technology
DOTC	Department of Transportation and Communication
DPWH	Department of Public Works and Highways
EISCP	Environmental Infrastructure Support Credit Program
FCF	Future Carbon Fund
FSCC	Financial Stability Coordination Council
GCF	Green Climate Fund
GDP	Gross Domestic Product
GHG	Greenhouse gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
IFC	International Finance Corporation
ITH	Income tax holiday
INDC	Intended Nationally Determined Contribution
JICA	Japan International Cooperation Agency
KfW	Kreditanstalt fuer Wiederaufbau
LBP	Land Bank of the Philippines
LGU	Local Government Unit
MABS	Microenterprises Access to Banking Services
NCCAP	National Climate Change Action Plan
NDC	Nationally Determined Contribution
NDRRMC	National Disaster Risk Reduction and Management Council
NEDA	National Economic & Development Authority
NFSCC	National Framework Strategy on Climate Change
NOLCO	Net operating loss carry-over
ODA	Official Development Assistance
PEZA	Philippine Economic Zone Authority
PSF	People's Survival Fund
PSFB	Peoples' Survival Fund Board
SEF	Sustainable Energy Finance
UN ESCAP	United Nations Economic and Social Commission for the Asia and the Pacific
USAID	United States Agency for International Development
WB	World Bank

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Figure 01: Current Nationally Integrated Climate Change Architecture under the 2009 Climate Change Act

Figure 02: Aspirational National Financial Sector Framework in Support of Climate Change Initiatives

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1. Introduction

The United Nations Economic and Social Commission for the Asia and the Pacific (UN ESCAP) commissioned studies between 2015 and 2016 to examine the trends and innovative approaches to climate finance in the Asia and the Pacific region. These studies revealed that central and national development banks are the emerging leaders and key players in the mobilization of domestic private finance. Based on these findings, ESCAP received funding support from the UN Development Account for providing targeted advisory and technical assistance support to central and national development banks in 4-5 countries in South and South-East Asia to develop financial instruments stimulating investments in low carbon climate resilient development. The aim of the regional project is to assist the selected countries in mobilizing (domestic) private funding to implement their Intended Nationally Determined Contribution (INDC).

Based on comparative analysis, the Philippines was selected as one of the four beneficiary countries where a scoping study was initiated with support from Small Enterprises Research and Development Foundation (SERDEF) and Association of Development Financing Institutions in Asia and the Pacific (ADFIAP).

Scope of Work and Methodology

The primary aims of the Scoping Study and the First National Workshop are as follows:

1. Assess on the ground the capacity gaps to identify priority strategic areas for intervention and institutional arrangements at the policy level and
2. Identify among the participating technical experts, policy makers and/or key stakeholders who with strong institutional support from their organization will serve as project “champions” at the national and regional level.

A secondary aim is to contribute to the development of a scenario of climate finance based on current institutional infrastructure in the country and a future of desired outcomes.

To prepare the Scoping Study, a literature research of existing documents and information on climate finance and environmental management was conducted for their relevance; some information gathered were incorporated in the scoping study.

Primary data were also obtained through interviews of selected stakeholders.

A Mapping Exercise was also prepared with the following objectives:

1. To prepare a list of potential financial institutions, technical experts, policy makers and other stakeholders to identify “champions” to be involved in the project;
2. To identify organizations with climate finance related activities by other UN agencies, multilateral development banks, bilateral donors and others;
3. To map the role and actions taken by civil society in relation to climate finance;
4. To present the landscape in the country related to climate finance based on the current institutional infrastructure and future vision of desired outcomes;
5. To present the existing incentives for low carbon development such as taxation; and
6. To identify priority strategic areas for intervention, entry points and institutional arrangements.

2. Summary of findings

2.1 Identification of the identified/proposed national champion

Based on the discussions in the National Dialogue the Role of Central, Public and Private Banks and Opportunities for the Private Sector in Supporting Low-carbon, Climate Resilient Development in the Philippines, and its supervisory role of the banking system in the Philippines, the Central Bank, known as the *Bangko Sentral ng Pilipinas* (BSP) could serve as the anchor and champion for mobilizing domestic private sector climate finance. By including climate and other environmental initiatives on its agenda, the BSP can signal the importance of this topic to the financial sector and encourage them to take it seriously.

The Commission on Climate Change (CCC), as the focal point for climate change initiatives and Secretariat of the Cabinet Cluster on Climate Change Adaptation and Mitigation (CCAM), was also selected as the other champion.

2.2 Past and ongoing external support provided to banks for low carbon, climate resilient development

The World Bank (WB), Asian Development Bank (ADB), Japan International Cooperation Agency (JICA) / Japan Bank for International Cooperation (JBIC), US Agency for International Development (USAID), Kreditanstalt fuer Wiederaufbau (KfW) and International Finance Corporation (IFC) are international agencies that offer financial support for financing green investments in the Philippines¹. As of 2015, JICA had the largest share in the Official Development Assistance (ODA) portfolio, followed by the WB and ADB².

There are 16 programs for financing green investments in the Philippines starting from 1998, to date, and onwards. Initiatives by WB are the: Philippine Chiller Energy Efficiency Project, Carbon Credit Purchase, and the Country Partnership Strategy for the Philippines. Projects initiated by ADB which benefits the Philippines as one of its developing member countries (DMCs) are the: Integrated Natural Resources and Environmental Management Sector Development Program, Seed Capital Assistance Facility (Financed by the Global Environment Facility), Carbon Market Program, Clean Energy Financing Partnership Facility (CEFPP), Climate Change Fund (CCF), Clean Energy Program, Energy for All, Asia Pacific Carbon Fund (APCF), and Future Carbon Fund (FCF). Other initiatives to mobilize private sector funding and build capacity of national financial institutes to mobilize private climate finance are the: Cool Earth Partnership by JICA, Microenterprises Access to Banking Services (MABS) by USAID, Industrial Pollution Control Lending Program by KfW, and Sustainable Energy Finance (SEF) by IFC.

At present, there is no comprehensive study which assessed the outcomes of these interventions.

2.3 Current and proposed institutional arrangements for mobilizing domestic/national private sector climate finance.

The Philippines has over the years significantly overhauled its climate policy framework from a number of stand-alone laws passed during 1997-2008 to the current comprehensive, nationally integrated climate policy architecture guided by the 2009 Climate Change Act (CCA).

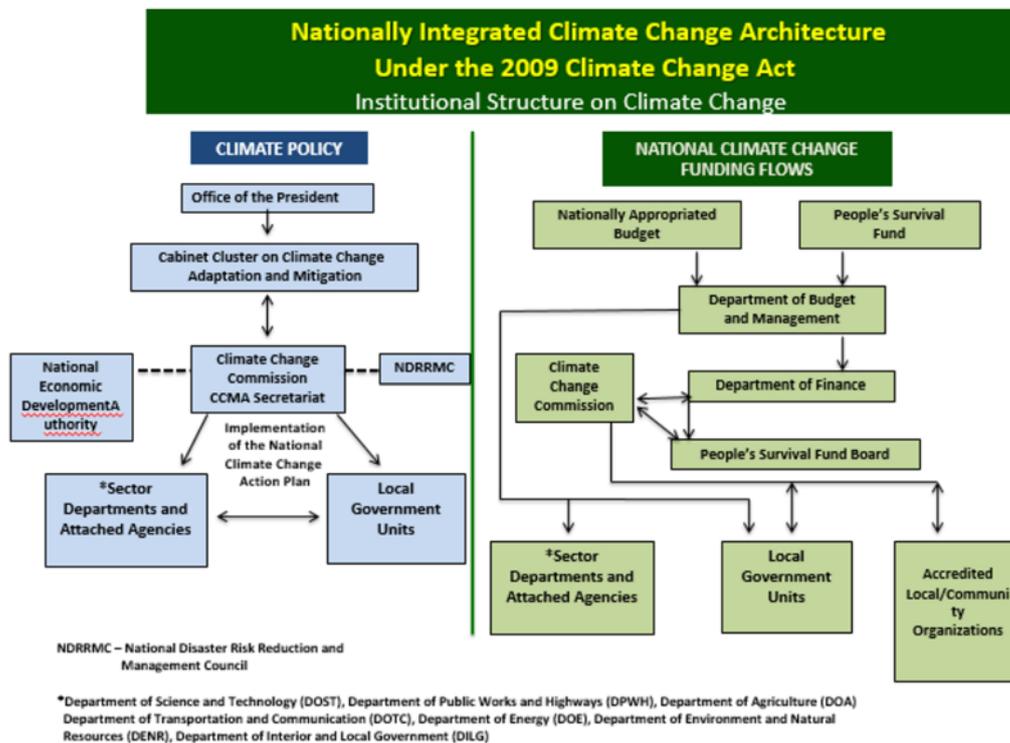
The CCA calls for the systematic integration of climate change in various phases of policy formulation, development plans, poverty reduction strategies and other development tools used by all government agencies and departments. It also led to the establishment of the Philippines Climate Change Commission (CCC) under the Cabinet Cluster on Climate Change Adaptation and Mitigation (CCAM). The CCC is tasked with coordinating policy integration.

As shown in the diagram below, the institutional structure on climate change is divided into Climate Policy and Climate Finance, specifically national climate change funding flows. These two go hand-in-hand in the NDC implementation as at the outset, Climate Policy is implementable only with the availability of adequate public financing.

¹ Department of Trade & Industry (2012). Green Financing in the Philippines.

² CY 2015 ODA Portfolio Review Report. <http://www.neda.gov.ph/2017/01/19/oda-portfolio-review-2015/>

Figure 1: Current Nationally Integrated Climate Change Architecture under the 2009 Climate Change Act



Source: ADFIAP

Climate Policy is under the responsibility of the CCAM which recommends measures on policy and operational matters for the consideration of the Office of the President. It focuses on the conservation and protection of the environment and natural resources and takes the lead in pursuing measures to adapt to and mitigate the effects of climate change in the Philippines. The CCC serves as the Secretariat of the CCAM while the CCAM exercises oversight function over the CCC in terms of providing guidance and direction in recommending legislation and the formulation of environment-related policies, strategies, programs on the appropriations for climate change adaptation and mitigation and other related activities. CCAM and CCC have a direct strong reporting relationship accounting for the solid lines connecting the two.

With the CCC as focal point for climate change initiatives, the previously fragmented sectoral approach to address climate change was modified into a coordinated national integration of sectoral initiatives wherein the CCC, the National Economic & Development Authority (NEDA) and the National Disaster Risk Reduction and Management Council (NDRRMC) hold dialogues to exchange inputs, feedback and recommendations for the effective implementation of the National Climate Change Action Plan (NCCAP). This accounts for the dotted lines relationship amongst the three indicating that while there is no direct reporting relationship, there is some formal level of interaction. The CCC was mandated to formulate a National Framework Strategy on Climate Change (NFSCC) which defines the overall parameters for developing a NCCAP. The NCCAP serves as the Government's road map for climate action and is the lead policy document guiding the climate agenda at all levels of government implemented by the CCC through the various sectors, departments and attached agencies of government such as the Department of Science and Technology (DOST), Department of Public Works and Highways (DPWH), Department of Agriculture (DOA), Department of Transportation and Communication (DOTC), Department of Energy (DOE), Department of Environment and Natural Resources (DENR) and through the Local Government Units (LGUs).

LGUs are required to develop local Climate Change Action Plans (CCAP), an integral part of which is to have comprehensive land use plan including climate change concerns. The LGUs are guided and aided by the various sectors, departments and attached agencies of government in the formulation of their CCAPs and they work in tandem with them in the implementation thereof. Adopting climate change adaptation and mitigation measures by local government units (LGUs) and their respective communities, national government agencies and the general public and ensure that these are incorporated in their annual work plans and budgets.

The Department of Budget and Management (DBM) undertakes the formulation of the annual national budget that ensures the appropriate prioritization and allocation of funds to support climate change-related programs and projects implemented by the relevant sector departments and attached agencies and LGUs.

On August 16, 2012, Republic Act 10174 was approved creating the People’s Survival Fund (PSF) to supplement the annual budget appropriation. Sourced from the national budget, at least P1.0 Billion is intended for LGUs and accredited local/community organizations to implement climate change adaptation projects that will better equip vulnerable communities to deal with the impacts of climate change.

The PSF is administered by the Peoples’ Survival Fund Board (PSFB) headed by the Secretary of the Department of Finance (DOF). The DOF coordinates with the CCC on matters concerning the monitoring and reporting measures involving climate finance including the utilization of the PSF.

The CCC is also tasked with the evaluation and review of project proposals from LGUs and community organizations and recommends approval of project proposals to the PSFB.

The amount allocated to the PSF may be increased as the need arises, subject to review and evaluation of the accomplishments of the CCC by the Office of the President and the DBM.

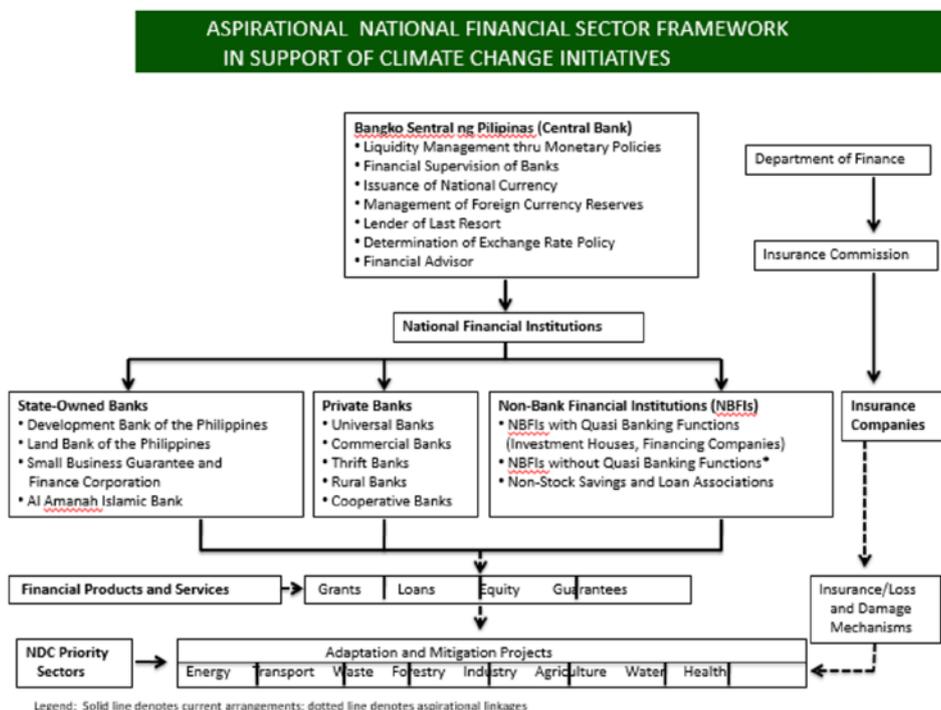
The current arrangements as per the diagram and description above are aligned with the institutional arrangements for NDC implementation wherein the Philippine government has put in place a comprehensive climate change policy agenda, the highlight of which is the passage of the CCA establishing the CCC to increase convergence and coordination among government agencies with key roles on adaptation and mitigation, and introduce the Peoples’ Survival Fund for adaptation needs of local communities and local governments.

Aspirational National Financial Sector Framework in Support of Climate Change Initiatives

Significant investments are needed to support the transition to low-carbon, climate resilient future. To this end, national climate finance is essential involving both state-owned banks and private banks as government resources cannot finance this transition alone as shown in the climate finance gap of 1.7% of GDP mentioned above. Unlocking private sector capital will be essential to achieve large, transformational and long-term impacts across the economy. However, issues to be addressed include how to mobilize private investment in climate change activities, how to design risk-return arrangements that attract public and private capital and how to align public and private investment incentives.

In the Philippines, the ideal scenario towards attaining the country’s low carbon and climate resilient/ climate smart/green development goals is illustrated below.

Figure 2: Aspirational National Financial Sector Framework in Support of Climate Change Initiatives



The Central Bank, known as the Bangko Sentral ng Pilipinas (BSP) could serve as the anchor and champion for mobilizing domestic private sector climate finance. BSP's over-all functions include liquidity management thru monetary policies, financial supervision of banks, issuance of national currency, management of foreign currency reserves, lender of last resort, determination of exchange rate policy and financial advisor of government. BSP's oversight function, prudential regulation and supervision of banks matters a lot for promoting the development of new green products and services and the nurturing of sustainable financial market practices.

By including climate and other environmental initiatives on its agenda, the BSP can signal the importance of this topic to the financial sector and encourage them to take it seriously.

The private sector is prepared to take certain risks, but less comfortable with policy risk and activity and country specific barriers to investments needed for climate-friendly technologies and projects, which affect the risk-return profiles of investments. Public funds are essential for unlocking needed private climate finance by taking on the classes of risk that the private market will not bear. National development banks or state-owned banks play a dual role in this context, both complementing and catalyzing private sector players.

State-owned banks have a unique role and focus. Their special knowledge and long-standing relationships with the local private sector places them in a privileged position to access local financial markets and understand local barriers to investments. Compared to commercial banks and investment funds, they have a greater potential to take risks and provide long-term financing, having access to multilateral and bilateral overseas development assistance funds, including environmental funds. State-owned banks can play a more active and effective role if they are given a clear mandate within national frameworks for action to mitigate climate change and their technical capacities for channeling international climate finance are strengthened.

National financial institutions are envisioned to offer a menu of financial products and services such as grants, loans, equity, and guarantees to support adaptation and mitigation projects of the NDC priority sectors namely: energy, transport, waste, forestry, industry, agriculture, water and health sectors. Insurance companies, which are supervised by the Insurance Commission which is an agency under the Department of Finance (DOF), are also essential actors in the climate finance framework to ensure that loss and damage from climate change and extreme events are minimized, thus, providing the National Financial Institutions a high level of comfort in lending to adaptation and mitigation projects. There is no operational link between the BSP and the DOF except that both are members of the Financial Stability Coordination Council (FSCC) together with the Insurance Commission, Philippine Deposit Insurance Corporation and Securities and Exchange Commission whose key objective is to identify, manage and mitigate the buildup of systemic risks.

With all the support infrastructure and actors in place, the national financial sector framework will bring to fruition the country's low carbon and climate resilient/climate smart and green development goal.

2.4 Existing Low carbon, climate resilient financial products/schemes

Developing carbon, climate resilient financial products and schemes is just in its infancy stage in the Philippines³. Banks who are pioneering in prioritizing lending to this area are: Development Bank of the Philippines (DBP), Land Bank of the Philippines (LBP), and Bank of the Philippine Islands (BPI).

LBP, who was recently recognized as the 'Green Bank Champion for Environmental Due Diligence' by the Bankers Institute of the Philippines (BAIPHIL), has the Credit Line for Energy Efficiency and Climate Protection (CLEECP), which provides sub loans to reduce electricity consumption and GHG emissions, thereby contributing to mitigation while at the same time increasing the competitiveness of companies through resource efficiency.

DBP's Green Financing Program has funded climate change projects which include renewable energy, solid waste management, cleaner production, water sanitation, energy efficiency, green transport and green building. DBP's Industrial Pollution Control Loan Project II and Environmental Infrastructure Support Credit Program II (EISCP) are both lending programs which support SME's investments in efficient production and environmentally sound technologies, and support investments in projects that improve the quality of the environment through reduction or prevention of pollution, respectively.

BPI is the only private bank which was reported to be outstanding in the promotion of green fund. BPI's Sustainable Energy Finance (SEF) scheme, supported by IFC, offers financing opportunities which will allow interested parties to invest in technologies aimed at improving the efficiency of energy generation, energy distribution, and energy use.

³ Private Sector Promotion Programme PSP SMEDSEP (2010). Climate Change and Private Sector Development: Integrating green growth strategies into the MSME Development Plan 2010-2016

Other banks who are now offering low carbon, climate resilient financial products are: Banco de Oro (BDO), China Banking Corporation (CBC, Chinabank), and BPI Globe BankO. BDO, the largest bank in the Philippines, eventually joined SEF and is now leading in renewable energy in terms of carbon emission reduction. The two other banks followed in 2012.

Full implementation of the Philippine INDC GHG reduction target of 70% by 2030 requires support in the form of adequate, predictable and sustainable financing; capacity building; technology transfer; enabling policy environment and partnerships. Reduction of CO₂ emissions will derive from energy, transport, waste, forestry and industry sectors, but, currently, breakdown of sectoral targets in terms of mitigation and adaptation actions is lacking⁴.

With the creation of the Commission on Climate Change in 2009, the efforts of CCC should be directed towards aligning its climate change efforts with the NDC.

2.5 Existing incentives for low carbon, climate resilient development

Existing incentives for low carbon, climate resilient development exist for project developers. These are enumerated in the Republic Act 9513 (An Act Promoting the Development, Utilization and Commercialization of Renewable Energy Resources and for other Purposes). According to the said law, renewable energy facilities, including hybrid systems, in proportion to and to the extent of the RE component, for both power and non-power applications, as duly certified by the Department of Energy (DOE), in consultation with the Board of Investments (BOI), shall be entitled to the following incentives⁵: 1) income tax holiday (ITH), 2) duty-free importation of RE machinery, equipment and materials, 3) special realty tax rates on equipment and machinery, 4) net operating loss carry-over (NOLCO), 5) corporate tax rate, 6) accelerated depreciation, 7) zero percent value-added tax rate, 8) cash incentive of renewable energy developers for missionary electrification, 9) tax exemption of carbon credits, and 10) tax credit on domestic capital equipment and services.

Non-Fiscal Incentives include: 1) employment of foreign nationals, 2) simplification of customs procedures, 3) importation of consigned equipment, and 4) privilege to operate a bonded manufacturing/trading warehouse.

At present, the impact and outcomes of the incentives have yet to be studied.

3. Additional findings

- Existing policies to incentivize low carbon investments such as those enumerated in the Renewable Energy Act, are incentives for the clients or developers. There is no policy incentivizing the banks at the national level.
- There are no financial products at national financial institutions to incentivize low carbon investments. Special funding programs availed by the banks are initiated by foreign governments and not by the Philippine government.
- While certain banks monitor their share of loans to climate projects, these are not monitored and mandated by the BSP.
- Banks need government support in the aspect of climate finance policy. The government may come up a quota in the total portfolio for green projects similar to agri-agra law, and to give tax credit to the bank should a bank give a loan to a green project.
- Institutions that provide capacity building support are all from multilateral institutions such as the Green Climate Fund (GCF), IFC, USAID and GIZ.
- Capacity building support that banks think will be effective are on the following:

⁴ Republic of the Philippines (October 2015), Intended Nationally Determined Contributions, <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Philippines/1/Philippines%20-%20Final%20INDC%20submission.pdf>

⁵ Republic Act No. 9513, http://www.lawphil.net/statutes/repacts/ra2008/ra_9513_2008.html

- a. Improvement of local knowledge on climate change and successful green technologies that can be adopted in the Philippines
- b. How to prepare viable project proposals
- c. How to access international funds

4. Overall Summary and Recommendations

The Philippine Government has increased its climate appropriations by 2.5 times in real terms and on the average 26% annually, outpacing the estimated 6% growth of the national budget. This corresponds to .3% of the GDP, which falls below the Stern Review recommendation that countries should expend at least 2% of GDP to implement climate action, resulting to a climate finance gap of 1.7%. Moreover, in order to achieve the Philippine INDC GHG reduction target of 70% by 2030, the Philippines needs to do more. The role of national financial institutions is essential in bridging said climate finance gap.

Key challenges faced in investing in climate projects are in the areas of 1) financing, 2) technology, 3) technical assistance, 4) capacity building, and 5) regulations.

Specific challenges in financing include: limited local funds for climate projects (e.g. bank's internal funds) because of lack of support from government, difficulty in accessing international funds (e.g. Green Climate Fund, Adaptation Fund, etc.), high cost of funds, difficulty of clients to submit environmental and climate requirements (e.g. Environmental Compliance Certificate (ECC), solid waste management plan, comprehensive land use plan, local climate change action plan, etc.), and difficulty of clients in preparing viable project proposals.

Technological challenges cited are: few proven and tested green technologies implemented in the Philippines, inadequate knowledge on latest successful green technologies, and high cost of green technologies.

Challenges in technical assistance are: limited technical assistance grants for developing climate project proposals, and difficulty in accessing grant funds.

In terms of capacity building, limited local training on climate change, limited readiness assistance to access international funds, and inadequate knowledge in preparing project proposal on climate change adaptation and mitigation, were identified.

Lastly, regulatory challenges include: absence of a regulatory policy mandating banks to embed environmental and social safeguards in credit evaluation, and low climate portfolio since there is no law requiring the banks to finance climate projects (need to pass a law similar to Agri-Agra law).

It is recommended that the government, through the Climate Change Commission, should play a stronger role in engaging all key government agencies such as the BSP, DENR, DOE, DOST, DPWH, DOTC, DILG, and DA, and other key stakeholders. They should also increase public awareness on climate change, measures on adaptation and mitigation, and the availability of climate financing and how to access them.

Central Bank or BSP should take a more proactive role in climate finance by including climate and other environmental initiatives on its agenda. In so doing, the BSP can signal the importance of climate change to the financial sector and encourage them to increase their portfolio on green finance. They may also consider the best practices of the central banks of other countries, such as coming up with specialized schemes to incentivize the banks (e.g. risk-sharing scheme) which is being done by the Central Bank of Pakistan.

Financial Institutions should be capacitated on how to assess climate-related risks and green technologies, and on environmental management and governance.

Target clients should be capacitated as well about climate change, climate finance, and how to prepare a viable project proposal.

Annex A

List of stakeholders interviewed (in chronological order)

Date	Organization	Names and Designation	Organization Type
May 29, 2017	Climate Change Commission (CCC)	Hon. Emmanuel M. de Guzman, Commissioner	National Government Agency
June 1, 2017	Bangko Sentral ng Pilipinas (BSP)	Rochelle D. Tomas, Acting Deputy Director, Policy and Literacy Group, Financial Consumer Protection Department	Central Bank
June 2, 2017	Department of Environment and Natural Resources, Climate Change Office (DENR)	Atty. Analiza R. Teh, Undersecretary for Climate Change Service	National Government Agency
July 12, 2017	Development Bank of the Philippines (DBP)	Benel D. Lagua, Executive Vice President, Head, Development Sector	Universal Bank (State-owned development bank)
July 17, 2017	BDO Unibank, Inc.	Eun Joo Park Minc, Chief Advisor, Multilateral and ECA Desk / International Desks	Universal Bank (Private)

Annex B

Assessment of possible national champions (list most suitable on the top)

Type	Organization	Level and Rationale
Central Bank	Bangko Sentral ng Pilipinas (BSP)	BSP is the supervisor and regulator of banks and non-bank financial institutions in the Philippines.
National Government Agency	Commission on Climate Change (CCC)	CCC serves as the focal point for climate policy formulation. Climate policies are implemented by the CCC through the various sectors, departments and attached agencies of government. It also serves as secretariat of the People's Survival Fund Board.
National Government Agency	Department of Environment and Natural Resources (DENR)	DENR provides inputs and recommendations to CCC and implements climate policies.
Universal Bank (Specialized Government Bank)	Land Bank of the Philippines (LBP)	LBP was recognized as the 'Green Bank Champion for Environmental Due Diligence' by the Bankers Institute of the Philippines (BAIPHIL) as environment is one of its ten priority lending sectors.
Universal Bank (State-owned development bank)	Development Bank of the Philippines (DBP)	DBP has been pioneering in prioritizing lending to environment related projects, including CDM eligible projects by offering the 'Green Financing Program' as an umbrella for the environment sector thrust designed primarily to assist industries and local government units (LGU) in adopting environment-friendly processes and technologies.

Annex C

List of external support provided to banks

Organization	Dates	Activity	Target beneficiaries and Impact
World Bank (WB)	2010-2017	Philippine Chiller Energy Efficiency Project	Property managers or owners
WB	2010-2020	Carbon Credit Purchase	Local government units (LGUs) and operators of sanitary landfills
WB	2015-2018	Country Partnership Strategy (CPS) for the Philippines	Philippine Government
Asian Development Bank (ADB)	2012-2020	Integrated Natural Resources and Environmental Management Sector Development Program	Philippine government and LGUs
ADB, UNEP, and other multilateral institutions	2009-onward (Ph. 1&2)	Seed Capital Assistance Facility (Financed by the Global Environment Facility)	Local RE and EE enterprises
ADB	2010-onward	Carbon Market Program	All ADB developing member countries (DMCs)
ADB	2007-onward	Clean Energy Financing Partnership Facility (CEFPF)	All DMCs
ADB	2008-onward	Climate Change Fund (CCF)	All DMCs
ADB	2010-onward	Clean Energy Program	All DMCs
ADB	2008-onward	Energy for All	All DMCs
ADB	2007-onward	Asia Pacific Carbon Fund (APCF)	All DMCs
ADB	2008-2015 (or 2023)	Future Carbon Fund (FCF)	All DMCs
Japan International Cooperation Agency (JICA)	2011-onward	Cool Earth Partnership	Developing countries
United States Agency for International Development (USAID)	1998-onward	Microenterprises Access to Banking Services (MABS)	Local rural banks
Kreditanstalt für Wiederaufbau (KfW)	2004-onward	Industrial Pollution Control Lending Program	SMEs
International Finance Corporation (IFC) with local bank partners	2011-onward	Sustainable Energy Finance (SEF)	Businesses with sustainable energy projects
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)	2013-2016	Promotion of Green Economic Development (ProGED) Project	MSMEs and government institutions

Annex D

List of existing financial products/schemes for low-carbon, climate resilient development

Organization	Type of product	Date Introduced
Land Bank of the Philippines	Credit Line for Energy Efficiency and Climate Protection (CLEECP)	TBV
Development Bank of the Philippines	Industrial Pollution Control Loan Project	TBV
Development Bank of the Philippines	Environmental Infrastructure Support Credit Program (EISCP)	TBV
Bank of the Philippine Islands Banco de Oro	Sustainable Energy Finance	TBV
Department of Science and Technology – Technology Application and Promotion Institute	Venture Financing for Environmentally Sound Technologies Program	TBV

Annex E

List of Existing incentives for low-carbon and climate resilient development

Incentive	Mechanism	Administrative Level
Fiscal: Income Tax Holiday (ITH)	Renewable Energy (RE) developer fully exempt from income taxes by the National Government for a certain period (7 years)	Philippine Board of Investments (BOI), an attached agency of Department of Trade and Industry (DTI)
Fiscal: Exemptions from duties on RE machinery, equipment, and materials	Within the first 10 years from the issuance of Certificate of Registration, the importation of machinery and equipment, and materials and parts thereof, including control and communication equipment.	Duly certified by the DOE, in consultation with the BOI
Fiscal: Special realty tax rates on equipment and machinery	Any law to the contrary notwithstanding, realty and other taxes on civil works, equipment, machinery, and other improvements of a Registered RE Developer actually and exclusively used for RE facilities shall not exceed one and a half percent (1.5%) of their original cost less accumulated normal depreciation or net book value: Provided, That in case of an integrated resource development and generation facility as provided under Republic Act No. 9136, the real property tax shall only be imposed on the power plant;	DOE and BOI
Fiscal: Zero percent value-added tax rate	The sale of fuel or power generated from renewable sources of energy such as, but not limited to, biomass, solar, wind, hydropower, geothermal, ocean energy and other emerging energy sources using technologies such as fuel cells and hydrogen fuels, shall be subject to zero percent (0%) value-added tax (VAT), pursuant to the National Internal Revenue Code (NIRC) of 1997, as amended by Republic Act No. 9337.	DOE and BOI
Fiscal: Tax exemption of carbon credits	All proceeds from the sale of carbon emission credits shall be exempt from any and all taxes	BOI

<p>Fiscal:</p> <p>Reduction of the Rates of Duty on Capital Equipment, Spareparts and Accessories by Virtue of EO 528</p>	<ul style="list-style-type: none"> • Any importation of capital equipment, spare parts and accessories by enterprises registered with the Board of Investments (BOI) shall be subjected to zero (0%) duty, as indicated in Section 2 hereof. • The zero percent (0%) duty on article or equipment classified under Chapters 40, 59, 68, 69, 70, 73, 76, 82, 83, 84, 85, 87, 89, 90, 91 and 96 of the Tariff and Customs Code of the Philippines, as amended, shall be granted to BOI registered new and expanding enterprises, upon the issuance by the BOI of a Certificate of Authority; provided that the importation of machinery, equipment, spare parts and accessories shall comply with the following conditions: <ul style="list-style-type: none"> • They are not manufactured domestically in sufficient quantity, of comparable quality and at reasonable prices; and • They are reasonably needed and will be used exclusively by the enterprise in its registered activity, unless prior approval of the BOI is secured. 	BOI
<p>Non-Fiscal:</p> <p>Employment of Foreign Nationals</p>	<p>A registered enterprise may be allowed to employ foreign nationals in supervisory, technical or advisory positions for five (5) years from date of registration, extendible for limited periods at the discretion of the Board. The positions of President, General Manager and Treasurer of foreign-owned registered enterprises (more than 40%) or their equivalent shall, however, not be subject to the foregoing limitations.</p> <p><i>Non-Fiscal Incentives to PEZA-Registered Economic Zone Enterprises</i></p> <ul style="list-style-type: none"> • Simplified Import – Export Procedures (Electronic Import Permit System and Automated Export Documentation System). • Non-resident Foreign Nationals may be employed by PEZA-registered Economic Zone Enterprises in supervisory, technical or advisory positions. • Special Non-Immigrant Visa with Multiple Entry Privileges for the following non-resident Foreign Nationals in a PEZA-registered Economic Zone Enterprise: Investor/s, officers, and employees in supervisory, technical or advisory position, and their spouses and unmarried children under twenty-one years of age. PEZA extends Visa Facilitation Assistance to foreign nationals their spouses and dependents. 	BOI
<p>Non-Fiscal:</p> <p>Simplification of customs procedures</p>	<p>Customs procedures for the importation of equipment, spare parts, raw materials and supplies, and exports of processed products by registered enterprises shall be simplified by the Bureau of Customs.</p>	BOI
<p>Non-Fiscal:</p> <p>Importation of consigned equipment</p>	<p>Importation of consigned equipment for a period of 10 years from date of registration, subject to posting of a re-export bond equivalent to 100% of the estimated taxes and duties.</p>	BOI

Non-Fiscal: Privilege to operate a bonded manufacturing/trading warehouse	The privilege to operate a bonded manufacturing/trading warehouse subject to customs rules and regulations.	BOI
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Annex F

Summary of Answers to Questions for the National/Domestic Financial Institutions

Legend:

Bangko Sentral ng Pilipinas	BSP
Development Bank of the Philippines	DBP
Banco de Oro	BDO

The role of the financial sector in mobilizing climate finance		
	Question	Response
2-1	<i>Policies and key players</i>	
2-1-1	In what ways do policies incentivize low carbon investments?	<p>BSP: There is no mandate for the banks to focus on climate projects. It is always the business decision of the banks. What we have put in place are safeguards, making sure they understand the risks, they mitigate the risks, or making sure their capital can absorb any losses.</p> <p>We have an ongoing initiative to encourage lending to that sector but it should be because they see the value in lending to that sector. It is an ongoing initiative with IFC. The primary purpose is to capacitate ourselves. We are also not very well-versed on how to do it or how to further encourage our banks to lend to climate-related projects.</p> <p>We also have to recognize that it is not just the financial sector that can drive this process. We have other other ministries which would need to be involved like the Climate Change Commission. We also need strong environmental regulations and enforcement of those regulations and they have to go hand in hand. Even if the banks decide to take on the responsibility of influencing their client firms to follow environmental standards, the enforcement is also weak in the country so we cannot blame clients if they are not open to it. We are trying to see the role we can play and how we can play it in this area.</p> <p>DBP: Tax holidays for pioneering projects in terms of technology, design, etc.</p> <p>BDO: There's a policy for our clients. For example the renewable energy law. It incentivizes clients directly but not the banks.</p>
2-2	<i>Domestic equity finance</i>	

2-2-1	What financial products exist at national financial institutions (for e.g. central bank/national development bank / private sector financial institutions) to incentivize low carbon investments?	<p>DBP: None that we know of.</p> <p>BDO: We have special funding programs that we availed from several government and international financial institutions that provide lower interest rate as compared to the prevailing commercial rates for project related to green projects. But these are not initiated by the Philippine government. It is all from foreign governments such as Japan (JBIC).</p>
2-3	Domestic debt finance	
2-3-1	What is the share of loans to climate projects in banks' total lending portfolio?	<p>BSP: Our financial reporting is sectoral. Before we can ask the banks to report on climate projects, we need to define first what a climate project is and change a lot in our systems. We don't have regulations saying that it should be defined and that banks should report on it.</p> <p>DBP: As of April 30, 2017, DBP's total lending portfolio is Php 157 Billion (US\$3 Billion), of which, the climate projects funded under DBP's Green Financing Program is Php 21 Billion (US\$419 Million) or 13.34%.</p> <p>Climate Change Mitigation Projects</p> <ol style="list-style-type: none"> 1. Renewable energy – Php 8.5 Billion (\$170 Million) 2. Solid Waste Management – Php 3.3 Billion (\$66 Million) 3. Cleaner Production – Php 1.1 Billion (\$22 Million) 4. Water Sanitation – Php 5.3 Billion (\$106 Million) 5. Energy Efficiency – Php 101 Million (\$2.02 Million) 6. Green Transport – Php 35.5 Million (\$71 Million) 7. Green Building – Php 200 Million (\$4 Million) <p>Climate Change Adaptation Projects</p> <ol style="list-style-type: none"> 1. Tunnel Ventilated Poultry – Php 951.4 Million (\$19 Million) 2. Riverbank Stabilization – Php 166 Million (\$3.3 Million) <p>BDO: 2 to 3%</p>

<p>2-3-2</p>	<p>Do banks provide project loans to climate projects? That is, lending is based on project profitability, rather than on a firm's on-balance sheet assets.</p>	<p>DBP: We provide funding to the following Climate Projects:</p> <ol style="list-style-type: none"> 1. Renewable energy 2. Green transport (e.g. electric vehicle, alternative fuel – CNG/LPG, Euro 4) 3. Solid Waste Management (e.g. sanitary landfill, composting facility, waste to energy, etc.) 4. Energy Efficiency (e.g. LED lighting) 5. Air pollution prevention and control facilities and equipment 6. Water pollution prevention and control facilities and equipment 7. Water sanitation 8. Green building (new construction, retrofitting) 9. Water supply <p>DBP's credit evaluation process involves the assessment of the financial viability based on the projected cash flows of the project. Proposed loan tenor is typically cash flow based.</p> <p>BDO: Yes, but we check both of them. They cannot be separated.</p>
<p>2-3-3</p>	<p>What interest rates do banks charge for climate projects? Are interest rates floating or fixed? How do these compare to other project rates?</p>	<p>DBP: The interest rate offered by the bank follows the prevailing market rate but risk-based, taking into consideration the creditworthiness of both the borrower and the project. Currently, there is no difference between interest rates offered by the bank for other climate projects and for other types of projects.</p> <p>The client's preference of floating or fixed interest rate is usually taken into consideration as long as the terms of the loan are supported by the project's projected cash flow.</p> <p>BDO: We have both. We do not have a definite percent rate for climate projects, but the questions are who the proponent is and what kind the project is.</p>
<p>2-3-4</p>	<p>What differences in debt finance eligibility and collateral criteria exist for low-carbon investments?</p>	<p>DBP: At the moment, there is no difference in debt finance eligibility and collateral criteria for low carbon investments and for other investments.</p> <p>BDO: Same as the regular plus the project asset. But it really depends on who the project proponent is. If the project is very attractive and viable but the owner is not, we will not approve it.</p>
<p>2-3-5</p>	<p>Is the domestic debt structure for climate investments accessible to SMEs?</p>	<p>DBP: Yes</p> <p>BDO: Yes. We encourage lending to SMEs. That is why Sustainable Energy Finance (SEF) team is here. Usually the cost for evaluation is very high for SMEs. That's why BDO has a structure to support SMEs and promote their projects. We also guide them what to do and they are able to have savings</p>

2-3-6	How many years are the tenors for energy efficiency, renewable energy and green infrastructure projects, respectively?	<p>DBP: The term of the loan for energy efficiency, renewable energy and green infrastructure projects ranges from 1 to 15 years, depending on the projected cash flow of the proposed project and the loan purpose.</p> <p>BDO: It ranges from 5-10 years. The bank's standard tenor for long term loans is 7 years. Energy efficiency has a shorter tenor. For RE, it can be longer.</p>
2-3-7	What is the discount rate that banks generally put on the fixed assets of EE and RE projects?	<p>DBP: No available information.</p> <p>BDO: Between 7-9%. That is an assumption. Of course we are conservative on the 9. This discount rate is more or less the same as interest rate.</p>
2-4	Green bond	
2-4-1	What is the size of corporate bond market?	<p>BSP: We know the bond exposures of the bank but we cannot distinguish if it's a green bond or otherwise, at this point. We don't have data on this.</p> <p>DBP: As of April, 2017, the corporate bond market represents Php 708,640.</p> <p>BDO: We are pursuing green bonds. Right now, there's no green bond in South Asia. We hope BDO can lead first.</p>
2-4-2	What is the share of bonds that are issued by non-state enterprises?	<p>DBP: The corporate bond market or private debt securities' share is 11.37% (Php 708,640 / US\$ 14,000) vs. 88.63% share of the public debt securities (Php 5,521,906 / US\$ 110,000).</p> <p>BDO: N/A (Green bond)</p>
2-4-3	Are there examples of green bonds (i.e., bonds that are issued for addressing climate change, sustainable development or environmental protection)?	<p>DBP: The ADB has backed the issuance of the first Climate Bond in Asia and the Pacific for credit-enhancement to the Philippine firm AP Renewables, Inc., a subsidiary of Aboitiz Power Corp. It amounts to Php 10.7 Billion (\$ 225 Million) for Tiwi-MakBan geothermal energy facilities. It guarantees the 75% of the principal and interest on the bond.</p> <p>BDO: N/A (Green bond)</p>
2-5	Gaps in capacity	

<p>2-5-1</p>	<p>How well information/knowledge is shared between climate finance policy focus areas and bank strategic investment areas – do they align?</p>	<p>DBP: Being a government bank, DBP supports the climate finance policy of the Philippine Government. The bank’s investment areas are aligned with that of the national government. Environmental protection including climate change mitigation and adaptation is one of its strategic thrusts.</p> <p>In 2011, DBP established Green Financing Program (GFP), which was designed primarily to assist strategic sectors in adopting environment-friendly processes and technologies such as pollution prevention and control, proper waste management, resource conservation, resource efficiency, cleaner production, renewable energy, among others as well as incorporating climate change adaption and mitigation and disaster risk reduction measures, by providing financing and technical assistance.</p> <p>Aside from the GFP, the bank also established the DBP Forest Program, a CSR program, and the Tree Plantation Program, a lending program.</p> <p>BDO: We need government support on climate finance policy. My suggestion is to have a quota in total portfolio for green projects, similar to the agri-agra law. Second, if a bank gives a loan to a green project, certain tax credit should be given to the bank and not just the borrower.</p> <p>BDO is leading in renewable energy. Each project size is quite big. In terms of carbon emission reduction, BDO is ahead. We have small number of projects but more carbon emission reduction.</p>
<p>2-5-2</p>	<p>Are banks aware of policies to incentivize investments at the national level?</p>	<p>DBP: No.</p> <p>BDO: No. There is an incentive for the project developer but not to the banks. The problem is banks are not equipped. That’s the reason why IFC came in - to fill in the gap.</p>

<p>2-5-3</p>	<p>What are the key challenges faced in investing climate projects?</p>	<p>BSP: Based on the scoping study we did with IFC, banks said that they don't know how to do it and don't have the tools to do it. There's a mixed perception on the adoption because many see it as costly and a compliance burden if you mandate regulation (e.g. environmental clearance certificate). They would prefer that they get capacitated first and they decide if it is part of their risk appetite. In short, capacity is lacking, both on our side and the banks' side.</p> <p>DBP:</p> <ol style="list-style-type: none"> 1. Financing <ol style="list-style-type: none"> a. Limited local funds for climate projects (e.g. bank's internal funds) b. Difficulty in accessing international funds (e.g. Green Climate Fund, Adaptation Fund, etc.) c. High cost of funds d. Difficulty of clients to submit environmental and climate requirements (e.g. Environmental Compliance Certificate (ECC), solid waste management plan, comprehensive land use plan, local climate change action plan, etc.) e. Difficulty of clients in preparing viable project proposals 2. Technology <ol style="list-style-type: none"> a. Few proven and tested green technologies implemented in the Philippines b. Inadequate knowledge on latest successful green technologies c. High cost of green technologies 3. Technical Assistance <ol style="list-style-type: none"> a. Limited technical assistance grants for developing climate project proposals. b. Difficulty in accessing grant funds 4. Capacity Building <ol style="list-style-type: none"> a. Limited local training on climate change b. Limited Readiness Assistance to access international funds
<p>2-5-4</p>	<p>What are the priority areas that need support for capacity building to scale up low carbon, climate resilience investments?</p>	<p>DBP:</p> <ul style="list-style-type: none"> • Energy efficiency technologies for the industrial, residential and transport sectors • Water supply for waterless communities • Climate adaptation strategies at LGU level <p>BDO: We are covering everything. From energy efficiency to renewable energy, and also green buildings. Basically any environmental friendly project from small to large scale.</p>

<p>2-5-5</p>	<p>What kinds of capacity building support has the financial sector received?</p>	<p>DBP: DBP has received technical assistance (TA) grant from KfW as a component of the Credit Facility for Solid Waste Management availed by the bank in 2004-2009 as well as technical assistance loan from JICA as part of the Environmental Development Project in 2009-2016. Both TAs were utilized for the following purposes:</p> <ol style="list-style-type: none"> 1. Promotion of the Credit Facility 2. Sub-project appraisal / evaluation 3. Sub-project monitoring 4. Preparation of project evaluation guides / toolkits 5. Capacity development <p>BDO: None from the government. From IFC but we pay for it. It is not for free. There was partial subsidy in the first two years but for the rest it was fully paid by the bank.</p>
<p>2-5-6</p>	<p>Which institutions are providing capacity building support?</p>	<p>DBP: One of the institutions is Green Climate Fund (GCF). GCF's Readiness and Preparatory Support Programme seeks to build ongoing initiatives to strengthen developing capacity to make effective use of climate finance.</p> <p>BDO: Since the government does not have for financial institutions, the only incentive the government has is for the developers. That is why the IFC and other multilateral institutions like USAID and GIZ are supporting the private sector. IFC is very active in doing that since 2008. They are providing capacity building to us. The German government, thru RENAC, also offered free online training, but it is selective (not from everyone).</p>
<p>2-5-7</p>	<p>What kinds of capacity building support will be most effective?</p>	<p>BSP: It should address the questions of the banking industry on how to do it, very very basic.</p> <p>DBP:</p> <ul style="list-style-type: none"> • Improvement of local knowledge on climate change and successful green technologies that can be adopted in the Philippines • How to prepare viable project proposals • How to access international funds <p>BDO: Small group face to face training so that we can have more interactive Q&As.</p>

Annex G

Answers to Questions for the Private Sector and Relevant Government Agencies

Interviewee: Department of Environment and Natural Resources, Climate Change Office

Engagement of the private sector		
	Question	Response
3-1	Small and medium enterprises (SMEs)	
3-1-1	In what ways do policies incentivize SMEs to make low carbon investments?	<ul style="list-style-type: none"> • The Board of Investments (BOI) introduced tax incentives that benefit SMEs and large industries that entitles them for income tax holidays especially energy efficiency. • RA 9513 (Renewable Energy Act) section 15 enumerates the general incentives. • Executive Order No. 528, reducing the rates of duty on capital equipment, spare parts and accessories imported by the BOI and shall be subjected to zero (0%) duty. <p>Non-Fiscal Incentives (DTI website)</p> <ul style="list-style-type: none"> • Employment of Foreign Nationals • Simplification of customs procedures • Importation of consigned equipment • Privilege to operate a bonded manufacturing/trading warehouse • Generate savings • Increase social image being actively participating in climate change thru carbon reduction initiatives • Awareness to come up with mitigation measures in their own company
3-1-2	What are the key challenges faced by SMEs for low carbon investments?	<ul style="list-style-type: none"> • Access to cost effective low carbon technology • Lack of capacity to develop proposal to access investment finance • Access to finance due to voluminous and stringent requirements • Vulnerable to ASEAN economic integration on the aspect of non-tariff barriers measures • Production of high value products to make local SMEs more competitive despite of high electricity cost

3-1-3	What policies/incentives do SMEs expect/propose the government to provide to encourage low carbon investments?	<ul style="list-style-type: none"> Government to promote/facilitate development of low carbon technology thru DOST, DOE for them to invest in renewable energy (inter-agency concentrated effort) Economic benefit for low carbon technology DOE introduced Feed-in Tariff rates to lower cost of renewable energy technology to consumers Non-fiscal incentives (Employment of Foreign Nationals) As provided in RA 9513 and EO 528
3-2	<i>Foreign direct investment (FDI)</i>	
3-2-1	What are the sectors that attract most FDI?	<ul style="list-style-type: none"> Energy sector Transport sector Waste sector (methane capture from landfill converted to bio-fuel; waste-to-energy generation)
3-2-2	Do low carbon projects enjoy certain tax exemptions?	Yes.
3-2-3	Are there any examples of importing low carbon technologies from other countries?	<ul style="list-style-type: none"> Yes, windmill (renewable energy technology) Solar (parts and machineries)
3-2-4	What are the barriers to importing low carbon technologies from other countries?	<ul style="list-style-type: none"> Bilateral/multilateral agreements ASEAN Integration (Non-tariff barriers)
3-3	<i>Gaps in capacity</i>	
3-3-1	What are the key challenges faced in investing in domestic climate projects?	Through the engagement of the Private Sector, DENR provide capacity building initiatives in the conduct of GHG inventory to ensure application of updated methodologies (EO 174)
3-3-2	What are the priority areas that need support for capacity building to scale up low carbon investments?	<ul style="list-style-type: none"> Renewable energy –to do away fossil fuel based energy or carbon (wind, geothermal, hydrology, etc) Energy Efficiency sector Waste-to-energy generation (bio-mass)
3-3-3	Which institutions are providing capacity building support?	<ul style="list-style-type: none"> DOE DTI-BOI
3-3-4	What kinds of capacity building support will be most effective?	Technology and policy instruments to promote low-carbon investments to encourage SMEs with incentives
3-3-5	Is and how is the country planning to utilize GCF's PSF?	<ul style="list-style-type: none"> Submission of climate related projects thru DENR as NDA Proposals will undergo approval process
3-4	<i>Additional question for government agency</i>	
3-4-1	To what extent are they engaged with the private sector and financial institutions. In what way and how?	<ul style="list-style-type: none"> Through the issuance of Executive Order No. 174- Institutionalizing Philippine Greenhouse Gas Inventory Management and Reporting System EMB as regulatory body ensures environmental quality. They collaborate with Private Sector especially in environmental laws which they have to comply.
3-4-2	Are they interested in improving this engagement, and do they have any suggestions for how this should happen?	<ul style="list-style-type: none"> Streamline processes Facilitate processing of clearances/permits (on-line permitting/approval)

Sri Lanka National Scoping Study

September 2017



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List of Acronyms

ADB	Asian Development Bank
ARDQ	Aquatic Resource Development and Quality Improvement
AusAid	Australian Agency for International Development
BAU	Business-As-Usual
BHP	Broadlands Hydropower Project
BDCSES	Enhancing biodiversity conservation and sustenance of ecosystem services in environmentally sensitive areas
CASUMPP	Conservation and Sustainable Use of Medicinal Plants Project
CED	Centre for Environment and Development
CEPF	Clean Energy Partnership Facility
CCS	Climate Change Secretariat
CRIWMP	UNDP Green Climate Fund (Climate Resilient Integrated Water Management Project)
CFP	Sri Lanka Community Forestry Programme
CRIP	Climate Resilience Improvement project
CRIPAF	Climate Resilience Improvement Project Additional Financing
CCIMRB	Addressing climate change impacts on Marginalized Agricultural Communities Living in the Mahaweli River basin of Sri Lanka
CRIPAD	Climate Resilience Improvement Project Additional Financing
CCSL	Climate Resilient Action Plans for Coastal Urban Areas, Sri Lanka
CENEP	Clean Energy and Network Efficiency Improvement Project.
COP	Conference of Parties
CF	Climate Financing
CRTSP	Colombo Rapid Transit System Project
EU	European Union
EOAZ	Establish & Operate an Agro Zone
ESCAMP	Ecosystem Conservation and Management Project
EBFSMP	Encouragement of Bicycle Use and Feasibility Study on Cycle and Motor Cycle Paths
ETSNC	An Electric Train System Between Negombo And Colombo
EFL	Environmental Foundation Ltd.
FRDP	Forest Resources Development Project
FQS	Improving food quality and safety of Sri Lankan fruits and vegetables
FDI	Foreign Direct Investment
GCF	Green Climate Fund
GEF	Global Environment Fund
GHG	Green House Gas
GoChina	Government of China
GoKA	Government of Korea
GoSL	Government of Sri Lanka
HND	Hatton National Bank
IWMI	International Water Management Institute
IRCRCCOT	Increasing the resilience of coastal and riverine communities to climate change and other threat.
IWNSD	Integrated Waste Management System at Dumped
IWMPO	Improving Waste Management to Protect the Ocean
JICA	Japan International Cooperation Agency
KIAE	Katunayake International Airport Expansion
MCSWMP	Metro Colombo Solid Waste Management Project
LKWSSIP	LK Water Supply and Sanitation Improvement Project

Mn	Millions
MCUDP	Metro Colombo Urban Development Project
MGUI	Management of Groundwater Use in Irrigation
MOF	Magroves for the future
NCF	Nordic Climate Facility
NAMA	Nationally Appropriate Mitigation Action
NDCs	National Determined Contributions
NGOs	Non-Governmental Organizations
PAMWCP	Protected Area Mgt. and Wildlife Conservation Project
PSBMBT	Promoting Sustainable Biomass Energy Production and Modern Bio-Energy Technologies.
PRE	Promoting Renewable Energy as A Drive for Sustainable Development and Mitigation of Climate Change in Sri Lanka
REREDP	Renewable Energy for Rural Economic Development Project
RSPGS	Rooftop Solar Power Generation Systems in Sri Lanka
RDRP	Restoration of Degraded Areas Inside & Outside the Protected Area Network to Enhance Resilience
RVEP	Reduce Vehicle Emission Project
SDGs	Sustainable Development Goals
STDP	Sustainable Tourism Development Project
SLHDP	Sri Lanka -Second health sector development project
SLHSDP	Sri Lanka Health sector development project
SLTERL	Sri Lanka Tsunami Emergency Recovery Programme
SLAMP	Sri Lanka Agricultural Sector Modernization project
SPFBSL	Sustainable Production in The Food and Beverage Industry in Sri Lanka
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNECOSOC	The United Nations Economic and Social Council
UNDP	United Nations Development Program
USD	United States Dollar
USAID	United States Agency for International Development
WB	World Bank
WFP	World Food Programme
WTO	World Trade Organization

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1. Introduction

1.1 Background

In December 2015, the Paris Agreement on Climate Change was adopted, outlining a global action plan to avoid dangerous climate change by limiting global warming to below 2°C above pre-industrial levels. Countries have put forward Nationally Determined Contributions (NDCs), articulating their climate mitigation and adaptation ambitions. Delivering on the Paris Agreement will require countries to effectively implement these INDCs, as well as increase their ambition over time. The Paris Agreement on Climate Change emphasised the importance of making available financial resources to support the implementation of policies, strategies, regulations and action plans for climate change mitigation and adaptation. While international climate finance to the Asia and the Pacific region are among the largest, the extent of overall climate finance in the region is far below the estimated needs.

Mobilizing adequate climate finance resources requires identifying innovative and alternative sources of funding, including leveraging private-sector financing. National public finance institutions – including Central Banks and National Development Banks - have a key role to play in overcoming these challenges and guiding investments towards low-carbon sustainable development alternatives. These public financial institutions are effective ‘change agents’ for advancing environmental sustainability solutions because of the influence they exert through the impact of their policies. Practical challenges to private sector engagement include the high up-front investments needed for the transition to low-emission and energy-efficient alternatives; managing the perceived and political, technology and policy risks; and the lack of an enabling policy environment with clear signals to the private sector.

To address this, and to strengthen the capacity of financial institutions in the Asia-Pacific region to develop an enabling policy environment that promotes private investments in climate change mitigation and adaptation initiatives, UNESCAP developed a regional project on *Innovative Climate Finance Mechanisms for Financial Institutions in the Asia-Pacific Region* that will be implemented in five countries, including Sri Lanka.

The project seeks to achieve its objective through a three-pronged strategic approach that includes:

- i. Analytical research to identify and develop best-practices
- ii. Capacity development through on-line and in-person activities, including targeted national advisory services delivered to key partners
- iii. A networking component, including (a) development of a group of thought-leaders and project champions who will, through online and in-person meet, share information, support implementation and strategize the next steps to ensure the sustainability of the project completion, and (b) a regional outreach and cooperation component

The Centre for Environment and Development (CED) partnered with ESCAP to implement the early activities of the project within Sri Lanka including conducting the National Scoping Study on Climate Change, initiating outreach to engage necessary stakeholders and organising national workshops. CED is an ECOSOC accredited organisation which is legally incorporated in Sri Lanka and operates as a campaigner, concept builder, think tank, watchdog and research and policy institute at local, national and international levels.

1.2 Scope of the Study

The scoping study seeks to survey the overall climate finance landscape in Sri Lanka. It plans to map existing and potential flows of climate finance from a variety of sources, which could count towards any burden share that Sri Lanka may acquire. It further aims to identify potential issues and implications for Sri Lanka in meeting the terms of future international climate finance agreements. The scoping study will be limited to available information and data in an environment where climate financing is still at an inception stage in the country.

- i. The development of the scoping study included the following activities: Mapping of a preliminary list of potential financial institutions, technical experts, policymakers and/or other key stakeholders and identify “champions” in innovative climate financing;

- ii. Mapping of climate finance-related initiatives by other UN agencies, multilateral development banks, bilateral donors, etc.;
- iii. Mapping the role and actions of other stakeholders in the field of climate finance for the past 2/3 years;
- iv. Mapping the landscape of climate finance in Sri Lanka based on the current institutional infrastructure and the future vision of desired outcomes;
- v. Mapping existing incentives for low carbon development;
- vi. Mapping priority strategic areas for intervention, entry points and institutional arrangements at the policy level;

1.3 Methodology of the Study

The methodology to conduct the scoping study – undertaken between February to November 2017 – consisted of:

1. Desk study to collect information and data on climate financing policies and policy framework, institutional framework and arrangements, projects and investments, partnerships, etc.;
2. Consultations with experts in the field of climate change, sustainable development, banking and finance to ascertain the climate financing environment, status and potentials in Sri Lanka;
3. The 1st national workshop in April 2017 as an early consultation of experts and sectoral representatives to seek guidance;
4. Circulation of customised questionnaires amongst banks and financial organisations, government organisations, UN and other multilateral agencies, NGOs, the private sector and other stakeholders to determine the current level of understanding and application of internationally identified climate financing tools;
5. Presentation of preliminary understanding on innovations in climate finance environment in Sri Lanka at the first regional workshop and learning from the partner countries and stakeholders;
6. Interviews of representatives from financial agencies, government agencies, UN and multilateral agencies, private sector organizations, NGOs, and other stakeholders to learn specific climate financing project information: previous and future;
7. Identification and mapping of climate financing initiatives amongst public and private sector banking institutions and other organisations;
8. Identification and mapping of priority strategic areas for intervention and institutional arrangements at the policy level;
9. Drafting of scoping study based on overall findings with infographics to depict the climate financing landscape in Sri Lanka and formulation of case studies and fact sheets;
10. 2nd national workshop to discuss and finalize the scoping study and establish a follow-up and way forward;
11. Completion of the project.

Figure 1: Methodology of the Scoping Study



1.4 Remarks

Sri Lanka is at an inception stage with regard to climate financing and reflective of the lack of consensus at the international level. Also, there is no central depository of information on projects addressing climate change and the financing details. However, while conducting the scoping study, it was evident that a wide range of projects with climate co-benefits could be traced. Yet, with minimal financial reporting with clear classification, it was not possible to identify the climate co-financing component of these projects. Overall, tracing climate financing history in the country without proper records and reports presented an enormously difficult task. Also, it must be noted that most organisations were reluctant to share financial details which does not correspond with the Right to Information Act of Sri Lanka.

This scoping study was mainly focuses on the Nationally Determine Contributions (NDCs) by Sri Lanka in accordance with the Paris Agreement. The NDCs to date remain barely known to the banks, financial and business sectors and even policy makers of the country at large. As the understanding of the NDCs were low during the period of this scoping study, the project had to spend time creating awareness and understanding amongst banking and private sector organizations to draw responses on climate financing activities and potentials.

The emergence of financing the sustainable development agenda presents greater prospects. With growing understanding of the Sustainable Development Goals (SDGs), the financial and business sectors appear to show greater interest in innovative financing for sustainable development projects with climate co-benefits. However, in the absence of a policy coherence between NDCs and SDGs at country level, the study team also embarked on conducting a mapping of interlinkages between these two agendas.

2. Climate Change Policy Overview and Nationally Determined Contributions (NDCs)

2.1 Climate change policies and institutional structure

The National Climate Change Policy contains a vision, mission, goal and a set of guiding principles followed by broad policy statements under Vulnerability, Adaptation, Mitigation, Sustainable Consumption and Production, Knowledge Management and General Statements.

The goal of the National Climate Change Policy is “adaptation to and mitigation of climate change impacts within the framework of sustainable development”. The objectives of the policy are to;

- Sensitise and make aware the communities periodically on the country’s vulnerability to climate change.
- Take adaptive measures to avoid/minimise adverse impacts of climate change to the people, their livelihoods and ecosystems.
- Mitigate greenhouse gas emissions in the path of sustainable development and promote sustainable consumption and production.
- Enhance knowledge on the multifaceted issues related to climate change in the society and build their capacity to make prudent choices in decision making.
- Develop the country’s capacity to address the impacts of climate change effectively and efficiently. Mainstream and integrate climate change issues in the national development process.

The Ministry of Mahaweli Development and Environment (MMD&E) provides the climate policy lead through the Climate Change Secretariat of Sri Lanka (CCS). CCS is the Designated National Authority (DNA) to approve and authorise participation by entities in CDM projects in Sri Lanka. The main function of the DNA is to assess the potential CDM projects to determine if they will assist Sri Lanka in achieving its sustainable development goals and issue approval letters to project participants in CDM projects.

The following table provides a landscape of policy strategies and plans related to climate action in Sri Lanka.

Table 1: Climate Action Related Policies in Sri Lanka

No.	Activity	Period
1	National Forest Policy	1995
2	Forestry Sector Master Plan	1995-2020
3	National Air Quality Management Policy	2000
4	National Solid Waste Management Strategy	2000
5	Initial National Communication developed in 2000	2000
6	National Policy on Wildlife Conservation	2000
7	National Environmental Policy	2003
8	National Watershed Management Policy	2004
9	National Wetlands Policy	2006
10	National Land Use Policy	2007
11	Sector Vulnerability Profiles: Water, Health Agriculture and Fisheries, Urban Development, Human Settlements and Economic Infrastructure	2007-2016
12	Forest Ordinance	2009
13	Fauna and Flora Protection Ordinance	2009
14	Technology Action Plans for Haritha Lanka Programme in 2009	2010-2020
15	Nationally Appropriate Mitigation Action (NAMA) on Energy Generation and End Use Sectors	2010
16	National Climate Change Policy (2016 - 2025)	2011
17	Second National Communication	2011
18	National Climate Change Adaptation Strategy (NCCAS)	2011-2016
19	Technology Needs Assessment and Technology Action Plans for Climate Change Adaptation (for food, health, water sectors)	2011-2016
20	Urban Transport Master Plan 2032 based on the National Transport Policy	2013-2035
21	NAMA on Transportation (Draft)	2015

22	National Climate Change Adaptation Plan of Sri Lanka	2015-2024
23	The Long-Term Electricity Generation Expansion Plan	2015-2032
24	National Adaptation Plan (NAP) for Climate Change Impact in Sri Lanka	2016-2025
25	National Biodiversity Strategic Action Plan (NBSAP)	2016-2022
26	National REDD+ Investment Framework and Action Plan (NRIFAP)	2018-2023

2.2 Sri Lanka's Nationally Determined Contributions (NDCs)

Sri Lanka is a country highly vulnerable to adverse effects of climate change and comparatively has very low greenhouse gas emissions. Therefore, its NDCs seek to strengthen the global efforts of both mitigation and adaptation. In response to challenges posed by climate change, Sri Lanka has taken several positive steps by introducing national policies, strategies, and actions in order to address climate change induced impacts, amongst which are the National Climate Change Policy of Sri Lanka.

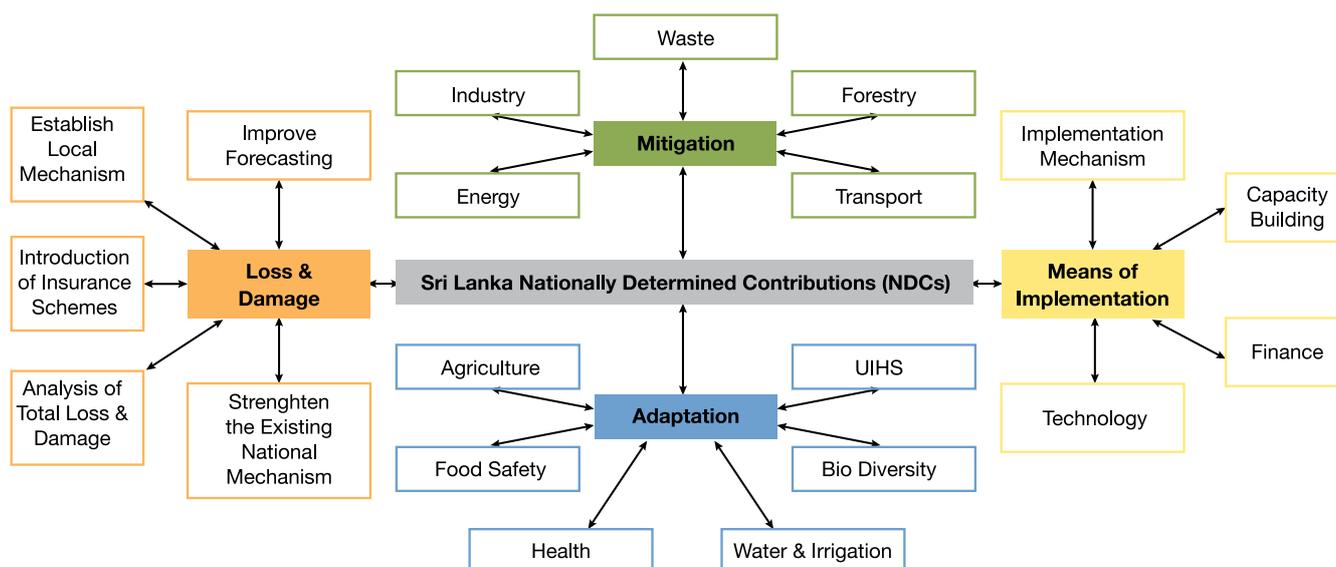
The Ministry of Mahaweli Development and Environment (MMD&E) in Sri Lanka, as the National Focal Point to the United Nations Framework Convention on Climate Change (UNFCCC), submitted its Nationally Determined Contributions (NDCs) in accordance with Decision 1/CP.21 of the 21st session of the Conference of the Parties to the UNFCCC.

Sri Lanka's NDCs include instruments for mitigation, adaptation, loss and damage and means of implementation. Further mitigation and adaptation focuses on 12 sectors and consists of unconditional as well as conditional NDCs. The baseline year is set as 2010 as per Business-As-Usual(BAU) scenario on indicating quantifiable information on these sectors and target period for implementing NDCs is 2021-2030. In addition, in 2017, the Readiness Plan for the Implementation of INDCs in Sri Lanka has been developed for the country to prepare for full scale implantation of INDCs.

Sri Lanka's NDCs comprise of the following four areas:

- **Mitigation** - Reducing GHG emissions against the Business-As-Usual (BAU) scenarios in the sectors of energy (electricity generation), transportation, industry, waste, and forestry. The key contributors to GHG are Carbon Dioxide (CO₂), Methane (CH₄) and Nitrous Oxide (N₂O).
- **Adaptation** - Building resilience in most vulnerable communities, sectors and areas to adverse effects of climate change. Adaptation will focus on human health, food security (agriculture, livestock, and fisheries), water and irrigation, coastal and marine, biodiversity, urban infrastructure and human settlement, tourism and recreation. Adaptation initiatives that derive mitigation co-benefits will be prioritised.
- **Loss and Damage** - To address issues related to loss and damage resulting from extreme weather events, a local mechanism will be developed in accordance with the Warsaw International Mechanism for Loss and Damage.
- **Means of Implementation** - External support for finance, technology development and transfer and capacity building for the above sectors are considered in the implementation process of the NDCs of Sri Lanka.

Figure 2: Sri Lanka's Nationally Determined Contributions (NDCs)



The mitigation action targets on reducing GHG emissions against the BAU scenario are set for the sectors of energy, transportation, industry, waste and forestry. Intended emissions reduction of the energy sector is targeted for 20% (16% conditionally and 4% unconditionally) and by 10% in the other four sectors. Possible emissions reduction actions have been identified in each sector too and they will be implemented from 2020 to 2030.

In implementing actions to achieve mitigation targets in the energy and transportation sectors are highlighted in national NDCs. Energy sector mitigation plans lead with the Nationally Appropriate Mitigation Action (NAMA). This focuses on energy generation through renewable energy sources such as wind, solar and hydro. Development of an Urban Transport Master Plan and new emission standards are key approaches designed to fulfill transport targets. Colombo Rapid Transit System Project and Reduce Vehicle Emission Project are major ongoing projects to achieve the targets in transport sector. Increasing forest cover from 29% to 32% by 2030 is the ultimate target set for forestry sector in INDCs and this is contributed to by the Sri Lanka community forestry program. The National Solid Waste Management Strategy, which introduces the life cycle assessment by 2025 is an input approach to minimise GHG emissions in industry and waste management sectors under the umbrella of National Climate Change Policy of Sri Lanka, which is referred by setting mitigation measures in NDCs.

The most vulnerable seven sectors affected by climate change in terms of adaptation are (i) health, (ii) food security, (iii) water, irrigation, (iv) coastal and marine, (v) biodiversity, (vi) tourism and recreation, and (vii) urban infrastructure and human settlements.

Development projects in health have been initiated to improve the standards of the public health system. This project intends to enhance resilience to combat climate induced vector borne diseases and reduce food and water borne diseases. Recommendations are also made within NDCs to take action in these sectors.

To ensure food security while reducing GHG emissions, three major areas of agriculture, livestock, and fisheries have been empowered. This action also falls under food security sector in NDCs. The government has identified several NDCs where climate change will impact on food availability, food accessibility, food utilisation and food system stability. The Sri Lanka Agricultural Sector Modernization Project has proposed to address these issues and reduce vulnerabilities.

Another cross-cutting sector of Sri Lanka's NDCs is water and irrigation. Quality and equitable water supply and water safety management are expected targets in these areas. Restoring and rehabilitation of irrigation systems for efficient water usage, water resource management and modification of irrigation techniques are focuses of the irrigation sector within NDCs and its proposed action plan.

Specific NDCs have been proposed to increase the resilience of coastal and riverine communities. Sea water level monitoring mechanisms, enhanced coastal green belt coverage and preparation of coastal zone risk management maps are some of the action plans introduced through the INDCs.

The Ecosystem Conservation and Management Project and Protected Area Management and Wildlife Conservation Project are ongoing large-scale projects targeted at achieving NDC targets of biodiversity. Urban infrastructure and human settlements are mainstreamed to enhance resilience by minimising physical damage during disasters as well as through the development of green and environmentally friendly building guidelines.

Although the targets and action plans for mitigation and adaptation in the NDCs are well defined, clear financial allocations and fund-raising mechanisms remain undefined. Therefore, a set of well-planned programs are required to implement actions determined by NDCs with the support of proper financing mechanisms.

2.3 Status of Implementation of the NDCs and the Readiness Phase (2017-2019)

The readiness phase till 2020 has been designed to enable full-scale implementation of chosen NDCs. A host of groundwork and preparation is required to ensure successful implementation of NDCs to achieve the set GHG emissions reduction targets by 2030.

A readiness plan for the implementation of the NDCs has been developed in consultation with the relevant stakeholders led by line ministries that cover the 14 sectors identified. The sector specific line ministries and other stakeholders have provided information and recommendations on the implementation of the NDCs, the need to identify policy gaps, institutional gaps and the need for improvements in human and technical capacity, as well as financial and technical support to implement the NDCs by 2020.

Sri Lanka's total GHG emissions represent less than 0.1% of global emissions and per capita emissions are 0.6 tCO₂e. The base year of its NDCs is 2010, with a target period of 2021-2030. It sets out to reduce GHG emissions against BAU scenario unconditionally by 7% (Energy sector 4%, and 3% from other sectors), and conditionally 23% (Energy sector 16%, and 7% from other sectors) by 2030. Sri Lanka includes a quantitative estimation of financial needs for adaptation alone in their NDCs, requiring USD 0.4 billion.

Table 2: Sri Lanka NDCs against Business-as-Usual

NDC Type	Target	Base Year	Target period
Business as Usual	7% Unconditional; 23% Conditional	2010	2021-2030

Five major sectors have been identified under mitigation: energy (electricity generation), transport, industry, forestry, and waste (Figure 1). NDCs for mitigation intend to reduce the GHG emissions against BAU scenario by 20% in the energy sector (4% unconditionally and 16% conditionally) and by 10% in other sectors (transport, industry, forestry, and waste) by 3% unconditionally and 7% conditionally by 2030.

Table 3: GHG Emissions Reduction Targets for Mitigation

Sector	GHG Emission Reduction (target year 2030)		
	% (Gg)	Unconditional reduction	Conditional reduction
Energy	20% (39, 383 Gg)	4% (9,173 Gg)	16% (30,210 Gg)
Transport	10%	3%	7%
Industry	10%	3%	7%
Forest	10%	3%	7%
Waste	10%	3%	7%

While Sri Lanka proposed fair and ambitious mitigation approaches, it faces challenges in addressing adaptation and loss and damage due to its vulnerability to climate change and natural disasters.

3. Summary of findings

3.1 Climate Financing Examples in Sri Lanka

Information on projects financed with the main objective of addressing climate change are limited. These findings are mainly from external financing sources that have direct references to the international climate change agreements.

3.1.1 GCF Financing for Climate Action in Sri Lanka

On 7th June 2017, the Green Climate Fund (GCF) approved a USD 38.1 million grant to GOSL through UNDP for “Strengthening the resilience of smallholder farmers in the Dry Zone to climate variability and extreme events through an integrated approach to water management”. With co-financing of USD 14.0 million by GOSL, the total financing for the project will be USD 52.1 million.

This project intends to improve integrated water management within the Dry Zone of Sri Lanka to strengthen the resilience of smallholder farmers in the face of rising temperatures and extreme weather events attributable to climate change.

Persistent rural poverty afflicts Sri Lanka, making smallholder farmers who cultivate under village irrigation schemes poorer than those who have access to major irrigation. This makes them more vulnerable to impacts of climate change. Unseasonal rain and low water availability are driving down agricultural production, increasing food deficit and indebtedness and also contaminating surface water. Village irrigation schemes have been damaged through flooding, siltation and the impact of extreme weather events all of which also threaten access to safe drinking water.

This project plans to improve the irrigation sector in the Northern and Eastern Provinces by investing in community irrigation water infrastructure, scaling-up decentralised drinking water systems and strengthening early weather warnings, flood-response and water management.

The GCF investment will build on baseline government investment in rural water management, reaching 77,500 people in smallholder households directly and 1,179,800 beneficiaries indirectly.

3.1.2 Financing the National REDD+ Strategy/Action Plan

The government of Sri Lanka has reinforced its commitment to develop a national REDD+ strategy as a vital part of its contribution to combat climate change in line with the conclusions of the Paris Agreement. The Forest Department is moving forward together with the Department of Wildlife Conservation and the Climate Change Secretariat under President Maithripala Sirisena to increase forest cover from 29.7% to 32%.

Sri Lanka became a UN-REDD Program partner in 2009 and received approval for funding at the 8th meeting of the UN-REDD Program Policy Board, with a request for some minor changes. The document was resubmitted in September 2012. The proposed national REDD+ roadmap is designed to achieve the following five outcomes:

- Outcome 1: National consensus reached on the Sri Lanka REDD + program
- Outcome 2: Management arrangements contributing to the National REDD+ process
- Outcome 3: Improved stakeholder awareness and effective engagement
- Outcome 4: National REDD+ Strategy and implementation framework
- Outcome 5: Monitoring and MRV results for REDD+ activities provided

A roadmap for the National REDD+ strategy development was formulated in 2015 through which Sri Lanka’s vision for REDD+ was developed with representation of key national and sub-national stakeholder groups. Drivers of deforestation and forest degradation, identified in 2014, were analysed in 2015 to identify options for potential strategic REDD+ Policies and Measures (PAMs). The PAMs were then prioritised through a stakeholder-defined

multi-criteria process.

A financial mechanism was then designed to access and manage potential REDD+ funds from international sources. A study on fund management was completed with recommendations to design a financial mechanism to access and manage potential REDD+ funds from external sources, which will be incorporated into the National REDD+ strategy. Ongoing support is being provided to analyse the tenure implications of prioritised PAMs. High-level support for REDD+ was further strengthened through a dialogue with key government policy makers including the Secretary of the Ministry of Mahaweli Development and Environment (MMDE).

Table 4: Summary of Financing National REDD+ Programs in Sri Lanka

Financial Summary (USD) ⁴			
UN Agency	Approved Programme Budget ⁵	Amount Transferred ⁶	Cumulative Expenditures up to December 2015 ⁷
FAO	2,410,000	2,410,000	1,032,977
UNDP	915,000	915,000	568,322
UNEP	413,318	413,318	130,979
Indirect Support Costs (7%)	256,682	256,682	111,110
Total	4,000,000	4,000,000	1,843,389

3.2 Current and Proposed Institutional Arrangements to Mobilize Domestic/National Private Sector Climate Finance

The financial system in Sri Lanka comprises the major financial institutions, namely the Central Bank of Sri Lanka (CBSL), Licensed Commercial Banks (LCBs), Licensed Specialized Banks (LSBs), Licensed Finance Companies (LFCs), Specialized Leasing Companies (SLCs), Primary Dealers (PDs), Pension and Provident Funds, Insurance Companies, Rural Banks, Stock Brokers, Securities Market Intermediaries, Unit Trusts and Thrift and Credit Co-operative Societies; the major financial markets, such as the Foreign Exchange Market, Money Market, Capital Market and the informal financial market; and the financial infrastructure which is the legal framework related to the financial system and the payment and settlement.

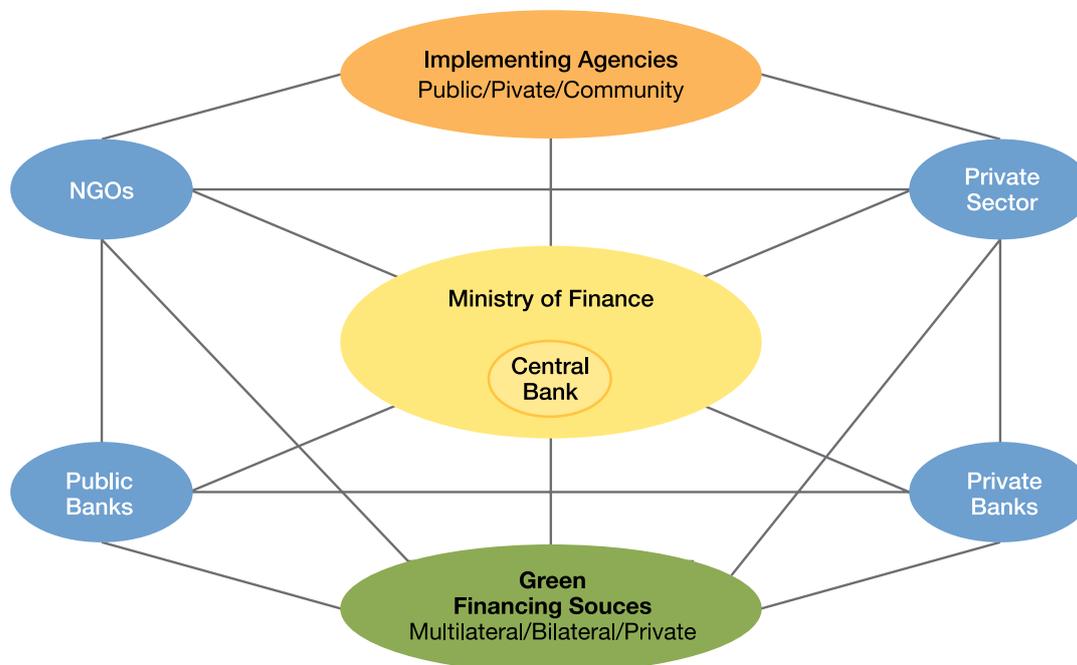
The banking sector in Sri Lanka, which comprises of LCBs and LSBs, dominates the financial system and accounts for 58 percent of the total assets of the financial system as at the end of 2014. Banks play a critical role within the Sri Lankan financial system, as they are engaged in provision of liquidity to the entire economy, while transforming the risk characteristics of assets. Banks are also engaged in providing payment services, thereby facilitating all entities to carry out their financial transactions. On the other hand, banks can create vulnerabilities of systemic nature, partly due to a mismatch in the maturity of assets and liabilities and their interconnectedness. Therefore, the soundness of banks is important, as it contributes towards maintaining confidence in the financial system and any failure may have the potential to impact on activities of all other financial and non-financial entities and finally the economy.

Climate financing flows and institutional relations are based on the financial system in Sri Lanka. Lending portfolios of banks and financial institutions are analysed and monitored based on the industry and sub sector classifications provided by the Central Bank of Sri Lanka. However, these classifications do not necessarily lend themselves to track sustainable or climate financing and therefore, it becomes difficult to discern climate financing from the total portfolio. However, funding made available for dedicated purposes such as solar refinancing schemes is traceable. The work of the Climate Change Secretariat and Sustainable Energy Authority has established a clear focus for financing of solar projects. The credit lines provided by foreign Development Finance Institutions have also contributed to this focus.

Commercial banks have still not been integrated adequately into financing targets in the NDCs, but have already entered the renewable energy financing market. However, projects financing climate co-benefits involve a wider range of stakeholders from across government agencies, the private sector, NGOs, international agencies and practitioners at the local level.

Despite having a plethora of policies, strategies and plans reinforcing climate action, Sri Lanka does not have a clearly defined climate financing policy framework and does not yet have a climate financing strategy to achieve the NDCs. In this respect, a clear institutional structure for climate financing does not exist as well. The following figure is a scenario designed by the scoping study team to demonstrate possible institutional relationships in financial flows related climate financing in Sri Lanka.

Figure 3: Scenario for Institutional Relations and Financial Flows for Climate Financing in Sri Lanka



3.3 Existing Low carbon, Climate Resilient Financial Products/Schemes

Climate financing in the banking sector is at an inception phase in Sri Lanka, as highlighted above, and needs greater understanding of the benefits and requires incentives to attract greater voluntary commitment. Banks investing on climate financing needs assurance and insurance that the investment they make derives dividends. A conducive environment for green and sustainable financing is based on policy and regulatory frameworks that encourages greater climate resilient investment. With Sri Lankan policy makers gradually realizing that climate change has become a serious challenge to development, climate resilient and sustainable planning of development policies, strategies and programs is becoming more possible.

3.3.1 Green Financing Tools for Financing Institutions in Sri Lanka

The results in Table 5 were drawn from a survey conducted as part of this scoping study. The target group includes public and private banks including the Central Bank of Sri Lanka. The results demonstrate the lack of readiness amongst the banking sector to adopt green climate financing at this stage.

Table 5: Status of Innovate Climate Financing Tools Adopted by the Banking Sector in Sri Lanka

Financial Tools	Status	Comments
1. Disclosure of climate-related financial risks	No	Currently not available in Sri Lanka
2. Credit ceilings and Climate Related Stress Testing	No	Sri Lankan banks currently do not provide ceiling for carbon intensive polluting activities. The national legislative and policy framework must provide strict guidelines in order for financing sustainable development in Sri Lanka. In fact, incentive for low carbon projects must be provided by the policy framework to create a market demand, as no exemptions are available also for low carbon projects in banks.

3. Directed Green Credit Policy Instruments	No	Not yet commenced. However, most banks in Sri Lanka at their discretion have initiated Green Banking initiatives and some have made use of international credit lines for green energy.
4. Green Differentiated Reserve Requirements	No	No requirement in Sri Lanka yet
5. Green Differential Capital Requirements	No	No such system in Sri Lanka yet
6. Acceptance of Carbon Certificates as part of Commercial Banks' Legal Reserves	No	No system in Sri Lanka yet
7. Green Quantification Easing and Reserve Management	No	No system in Sri Lanka yet
8. Green Finance Guidelines and Frameworks	Yes	However, Sri Lanka Banks' Association is in the process of formalizing a standard procedure to follow the internationally recognized principles of sustainable banking in the banking sector.
9. Signatory to UN Principles on Responsible Investing or any other social impact investment standard?	No	The directory of signatories of the Principles for Responsible Investment does not identify Sri Lanka as a signatory country?
10. Other financial tools (e.g. Risk sharing)	No	Not available in Sri Lanka yet
11. Other low carbon, climate resilience related products and services	Yes	Various products and initiatives have been launched by banks at their discretion including funding for green projects, E-waste programs, private sector investment in renewable energy and energy efficiency projects, etc.

3.4 Past and Ongoing External Support Provided to Banks for Low Carbon, Climate Resilient Development

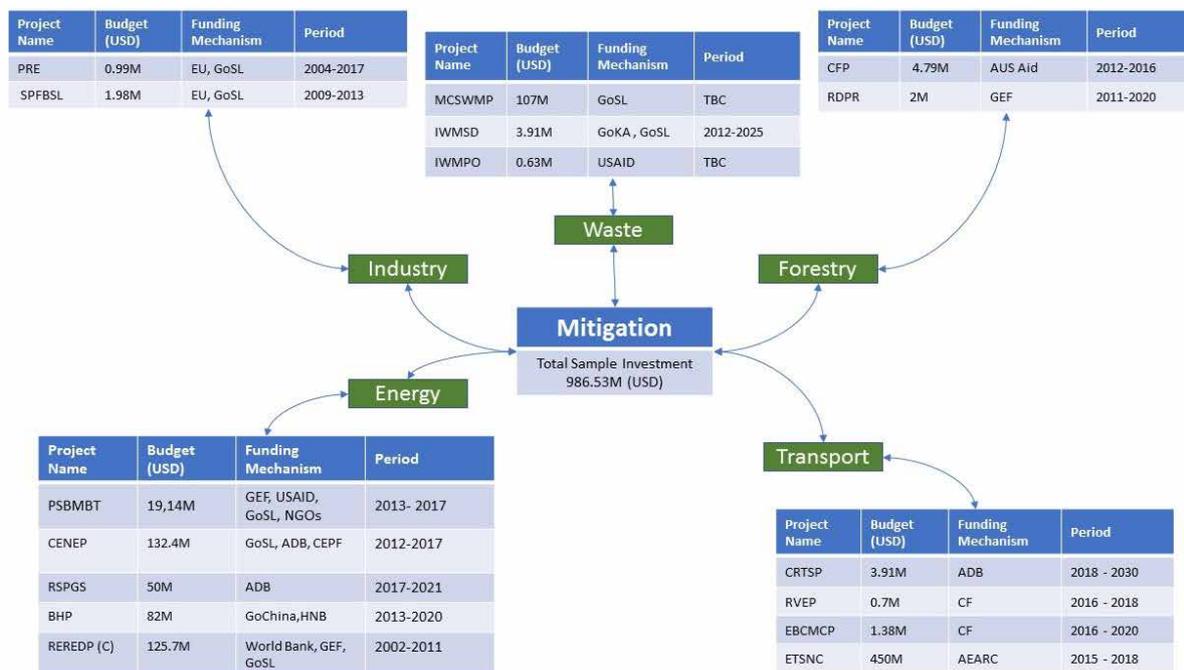
Sri Lanka does not have a registry for climate financing or a depository for projects implemented and planned to address climate mitigation and adaptation. The lack of clarity on what constitutes climate financing and a lack of proposer system of evaluating projects financing climate action is a major gap in analysing the status of climate financing in the country.

Figures 4 and 5 provide sample landscapes of financing for projects in line with mitigation and adaptation in the NDC. Information was drawn from a study based on the leads gained during the series of interviews and meetings held by the scoping study team. The featured projects were selected to have a climate co-benefit and only demonstrate a possible scenario of how financing for climate resilient and sustainable development has evolved during past three decades.

3.4.1 Sample Survey on Climate Financing for Mitigation

The sample survey found projects aimed at mitigation in transport, industry, forestry and waste financed by World Bank, Global Environmental Facility(GEF) under UNDP, Australian Development Agencies, Asian Development Bank(ABD), European Union, China and Korea with co-financing also from Sri Lanka.

Figure 4: Mitigation Sector Funded Projects



Abbreviations for figure 4

PSBMBT	Promoting Sustainable Biomass Energy Production and Modern Bio-Energy Technologies.
CENEP	Clean Energy and Network Efficiency Improvement Project.
BHP	Broadlands Hydropower Project
REREDP	Renewable Energy for Rural Economic Development Project
RSPGS	Rooftop Solar Power Generation Systems in Sri Lanka
CRTSP	Colombo Rapid Transit System Project
EBFSMP	Encouragement of Bicycle Use and Feasibility Study on Cycle and Motor Cycle Paths
RVEP	Reduce Vehicle Emission Project
ETSNC	An Electric Train System Between Negombo And Colombo
PRE	Promoting Renewable Energy as A Drive for Sustainable Development and Mitigation of Climate Change in Sri Lanka
SPFBSL	Sustainable Production in The Food and Beverage Industry in Sri Lanka
CFP	Sri Lanka Community Forestry Programme
RDPR	Restoration of Degraded Areas Inside & Outside the Protected Area Network to Enhance Resilience
MCSWMP	Metro Colombo Solid Waste Management Project
IWMSD	Integrated Waste Management System at Dumped
IWMPPO	Improving Waste Management to Protect the Ocean

The European Union has granted approximately USD 3 million towards promoting renewable energy as a driver for sustainable development, mitigation of climate change and sustainable production in the food and beverages sector. Climate mitigation financing in the transport sector has been significant. Approximately USD 500 million to improve railway systems from Colombo to Negombo has been extended by the Airport Express Air and Rail Co. Ltd. (AEARC) of Malaysia as long-term loan to the Sri Lankan Government. The Colombo Rapid Transit System Project and the project to Reduce Vehicle Emissions are major ongoing projects to achieve the targets in transport sector.

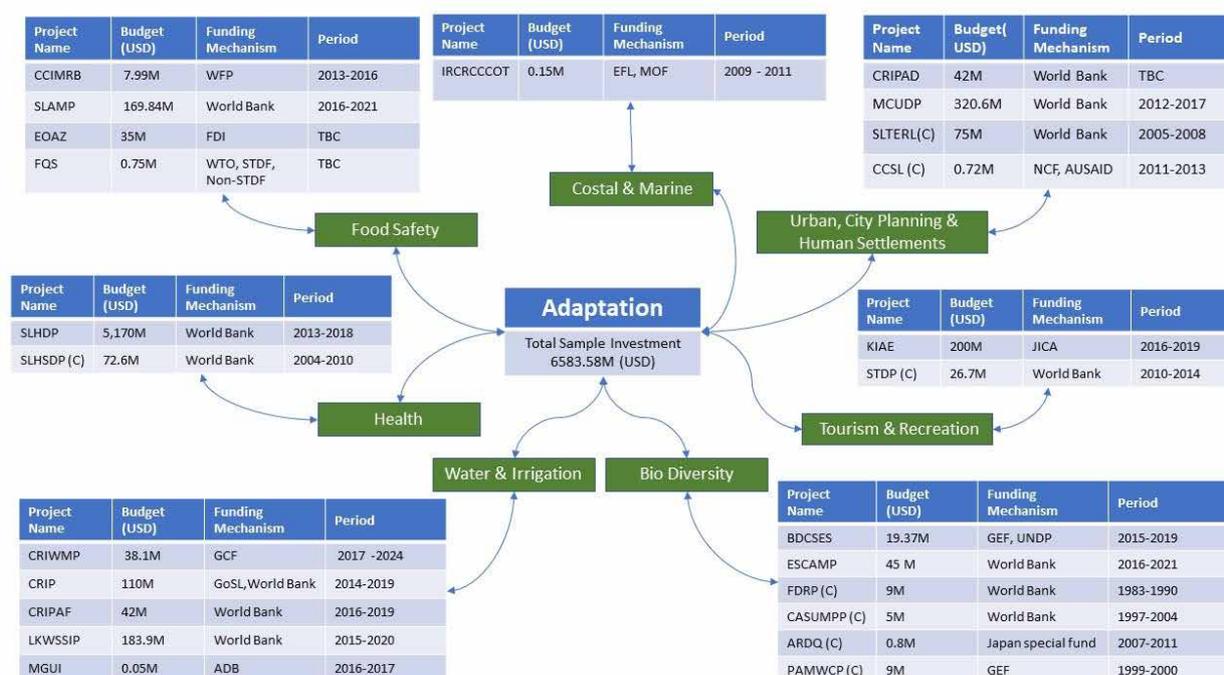
Metro Colombo Solid Waste Management Project (MCSWMP) and Integrated Waste Management System in Dompe (IWMSD) are ongoing projects funded by Government of Sri Lanka in partnership with Government of South Korea with financing of about USD 111 million. This will reinforce the National Solid Waste Management Strategy and introduce lifecycle assessments by 2025 to minimise GHG emissions in industry and waste management as articulated in the National Climate Change Policy.

Furthermore, the Australian Development Agency and Global Environment Facility (GEF) has invested in the forestry sector. Nearly USD 7 Million appears to be invested towards increasing forest cover from 29% to 32% by 2030 through community forestry programs.

3.4.2 Sample Survey on Climate Financing for Adaptation

The seven sectors focusing on adaptation i.e. health, food security, water and irrigation, coastal and marine, biodiversity, tourism and recreation, and urban infrastructure and human settlements are mapped with sources of finance in Figure 5. Financing for these sectors mainly comes from the World Bank, Global Environmental Facility (GEF) under UNDP, Japan International Cooperation Agency (JICA), Asian Development Bank (ABD) with co-financing from the government of Sri Lanka.

Figure 5: Sample Financing of Adaptation Sectoral Projects



Abbreviations for figure 5

FRDP	Forest Resources Development Project (closed project)
CASUMPP	Conservation and Sustainable Use of Medicinal Plants Project
ARDQ	Aquatic Resource Development and Quality Improvement (Closed project)
BDCSES	Enhancing biodiversity conservation and sustenance of ecosystem services in environmentally sensitive areas
PAMWCP	Protected Area Mgt. and Wildlife Conservation Project (closed project)
ESCAMP	Ecosystem Conservation and Management Project
SLHDP	Sri Lanka -Second health sector development project
SLHSDP	Sri Lanka Health sector development project
CRIWMP	UNDP Green Climate Fund (Climate Resilient Integrated Water Management Project)
MGUI	Design and pilot Testing of performance-based Management of Groundwater Use in Irrigation
CRIP	Climate Resilience Improvement project

CRIPAF	Climate Resilience Improvement Project Additional Financing
LKWSSIP	LK Water Supply and Sanitation Improvement Project
FQS	Improving food quality and safety of Sri Lankan fruits and vegetables
SLAMP	Sri Lanka Agricultural sector Modernization project
EOAZ	Establish & Operate an Agro Zone
CCIMRB	Addressing climate change impacts on Marginalized Agricultural Communities Living in the Mahaweli River basin of Sri Lanka
CRIPAD	Climate Resilience Improvement Project Additional Financing
MCUDP	Metro Colombo Urban development project
SLTERL	Sri Lanka Tsunami ERL
CCSL	Climate Resilient Action Plans for Coastal Urban Areas, Sri Lanka

The maximum amount of financing appears to be made in the health sector. USD 5242.6 million has been invested to meet the potential health hazards associated with climate change. These have come from the World Bank as loans towards health sector development projects.

For the water and irrigation sector, the Green Climate Fund has granted USD 38.1 million through the Climate Resilient Integrated Water Management Project (CRIWMP) in dry zone of Sri Lanka. Research also found about USD 336 million financial investment through World Bank partnerships and other non-banking services for projects on water resilience improvement. ADB in collaboration with the International Water Management Institute (IWMI) invested around USD 50,000 to carry out a project on irrigated ground water management in Sri Lanka.

The World Trade Organization (WTO), World Bank and World Food Program (WFP) have invested in food security. USD 213.59 million has been allocated to the Sri Lanka Agricultural Sector Modernization Project by the World Bank to establish and operate agro zones.

The biodiversity sector has received about USD 90 million from Japan, World Bank and GEF under several project areas such as conservation and sustenance of ecosystem services of forests and protected areas, enhancing biodiversity and development of forest resources.

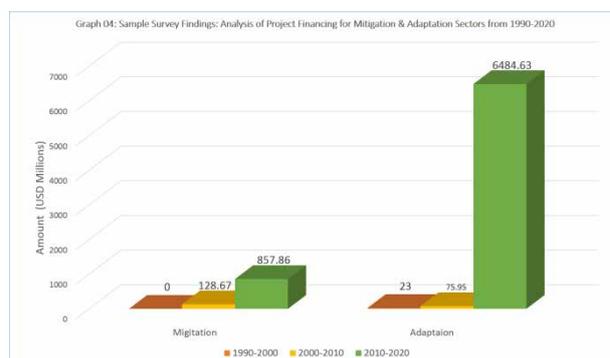
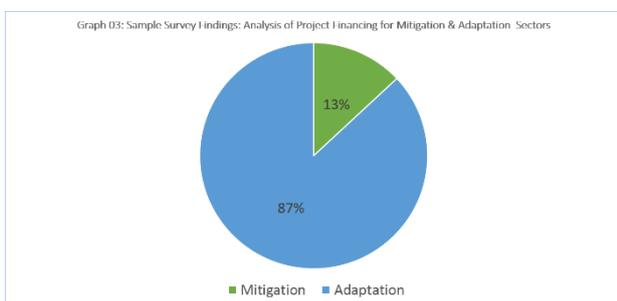
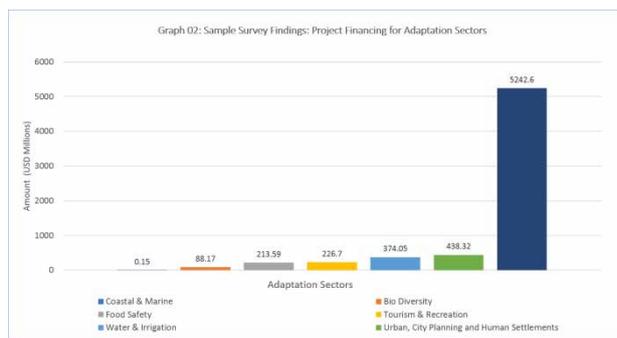
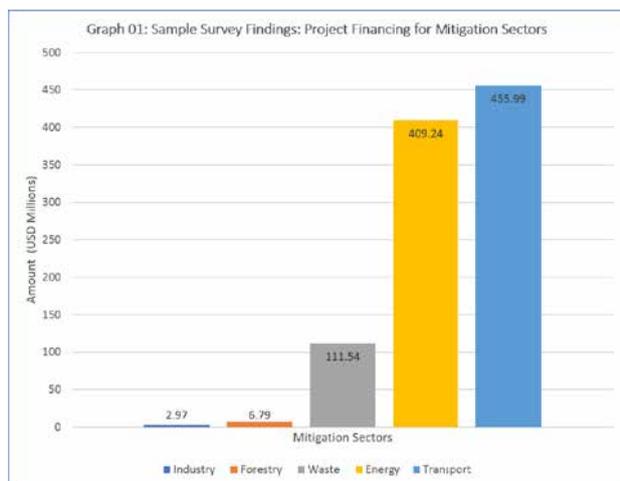
The survey also found financing allocation of around USD 438 million in the infrastructures and human settlements sector. The Metro Colombo Urban Development Project (MCUDP) and Climate Resilient Action Plans for Coastal Urban Areas Sri Lanka (CCSL) are ongoing projects funded by the World Bank and Norwegian Climate Facility (NCF) respectively.

In the tourism and recreation sector financing of around USD 226.7 million had been made available. A larger portion of financing comes from JICA for the Katunayake International Airport Expansion (KIAE) project.

The survey could not find much investment in coastal and marine sector. Although specific procedures and actions have been proposed and implemented by the government to increase the resilience of coastal and marine and riverine ecosystems, the level of financing and financing mechanisms have not been made clear.

3.4.3 Results from the Sample Survey

The survey sample ranges from 1990-2020 covering three decades. It is noteworthy that most of the investment in climate mitigation and adaptation has happened since 2010 demonstrating a realisation of the need to plan for climate resilient development. According to the above sample survey on climate co-benefit investments, the financial allocation towards adaptation is far greater than that for mitigation. This demonstrates that Sri Lanka has recognised climate vulnerability and has started to address the challenges. A comparative analysis on the sample survey on mitigation and adaptation financing is provided in graphs 1-4 below.



3.5 Existing Incentives for Low Carbon, Climate Resilient Development

Renewables are now implemented around the world as a core component of the global energy mix. As of 2016, solar power produces 1% of total electricity generated in the world, following a growth acceleration of 33% per annum. In Sri Lanka, 1.2 of national electricity needs are met by solar power.

3.5.1 Financing Solar Power in Sri Lanka

A clear majority of countries appear to focus on investing in solar power energy generation projects. Similar to national governance bodies, private sector investors have also stepped up their commitments to renewable energy in the last few years, with an increase in commitment from commercial and development banks involved in financing renewables.

The scope of engagement in solar power projects for existing banking entities are different. Combined financing investments with overseas banking agents or domestic peer bankers are a common engagement practice. For example, DFCC Bank, Commercial Bank of Ceylon and Hatton National Bank partnered as co-financiers with the European Investment Bank to source green funding for the 10MW utility-scale grid connected solar power project in Hambantota.

Moreover, specific lending portfolios exist for solar projects. Reduced interest rates, debt financing eligibilities with more flexible collateral criteria and increased tenor periods are significant features of those lending systems. For example, since 2014, Pan Asia Bank’s “Solar Loan Scheme” offered credit facilities up to LKR 03 million at a special interest rate with a repayment period up to 7 years with the intention of increasing accessibility and affordability to a larger segment of households in the country. The Commercial Bank of Ceylon has also initiated concessionary rates on Green Energy Loans from June 2017. This special rate starts from 14% and offers up to LKR 25 million repayable in seven years to small and medium enterprises (SMEs) and entrepreneurs that wish to invest in energy saving, energy efficiency or off-grid renewable energy projects, especially investments in solar power. Sampath Bank also offers loans targeted at the renewable energy sector which currently amounts to almost 3% of its loan portfolio.

In 2015, the banking industry collaborated with Sri Lanka Banks Association and launched the Sri Lanka Sustainable Financing Initiative to explore opportunities for industry alignment and capacity building in environmental and social risk management. These initiatives will result in strategic economic benefits to the country through the development of renewable energy sources particularly in solar energy.

3.5.2 Soorya Bala Sangramaya (Battle for Solar Energy)

The Ministry of Power and Renewable Energy has launched a new community based power generation titled 'Soorya Bala Sangramaya' (Battle for Solar Energy) in collaboration with Sri Lanka Sustainable Energy Authority (SLSEA), Ceylon Electricity Board (CEB) and Lanka Electricity Company (Private) Limited (LECO.) The initiative aims to promote the establishment of small solar power plants on the rooftops of households, religious places, hotels, commercial establishments and industries. It is expected to add 200 MW of solar electricity to the national grid by 2020 and 1000 MW by 2025.

Under this program, consumers will have the ability to generate and use electricity in their premises and sell surplus energy to the national grid or store it for future consumption. Based on usage, consumers can select from the following three options:

i. **Net Metering:** The customer generates electricity using solar panels fixed on their rooftops which are connected to the grid through a net metering system, paying only for the net amount of electricity consumed. If production exceeds consumption, the balance can be carried forward for future use up to 10 years. No fee will be paid for the excess electricity produced. Existing net metering customers can switch to other schemes if they wish to. However, the accumulated electricity units prior to the signing of new agreement shall not be carried forward.

ii. **Net Accounting:** If electricity generation is greater than consumption, the consumer will be paid for the excess amount. If consumption is greater than generation, the consumer shall pay for the excess consumption according to the existing electricity tariff structure.

iii. **Net Plus:** The total electricity generation from the solar rooftop system will be purchased by the utility. The bill for electricity consumption will be paid to the utility as usual. The utility will pay the solar electricity producers for the excess electricity exported with effect from the date of agreement signed with the utility. The installed capacity of the generating facility shall not exceed the contract demand of the producer. The contract period is 20 years.

4. National Climate Financing Champions

4.1 Identification of the Proposed National Champion

The Central Bank of Sri Lanka (CBSL) has been identified as the potential "National Champion" in the process of climate financing. The Central Bank's 2017 Roadmap states that it will promote Green Financing by enhancing awareness to encourage enterprises to protect the environment, conserve resources and to achieve carbon neutrality. Banks will also be encouraged to provide financial facilities to green enterprises with the intention of protecting the environment. In line with the international appetite to promote green financing, the Central Bank has also joined the Sustainable Banking Network (SBN) of the International Finance Corporation (IFC), which is a knowledge and capacity building platform for financial regulators and banking associations of emerging markets on sustainable finance. As a member of the SBN, the Central Bank will focus on sustainable banking practices to help banks effectively manage environmental and social risks in the projects they finance and support businesses that are greener, climate friendly and socially inclusive.

Established in 1950 under the Monetary Law Act No.58 of 1949 (MLA), the Central Bank of Sri Lanka (CBSL) is the apex institution in the financial sector in Sri Lanka. The Central Bank of Sri Lanka undertakes the following four agency functions for the Government of Sri Lanka.

- i. Foreign Exchange Management
- ii. Public Debt Management
- iii. Regional Development
- iv. Management and Administration of the Employees' Provident Fund

Since its inception, the Central Bank has been responsible for regulating the financial system of the country. Several key legislative enactments provide powers to the Central Bank to carry out its functions to achieve its primary objectives of economic and price stability and financial system stability. Under these powers, the Central Bank issues directions for the establishment and operations of all categories of financial institutions under its supervisory and regulatory purview. In addition, the Central Bank has been empowered to carry out certain agency functions under other legislative enactments.

- i. Legislative Enactments:
- ii. Regulations, Directions, Rules, Guidelines, Circulars and Operating Instructions
- iii. Licensing, Registration, Appointment and Authorization Procedures

4.2 Sustainable Finance Roadmap

The CBSL has signed a Memorandum of Understanding (MoU) with International Finance Corporation (IFC), a member of the World Bank Group, to enhance and develop environmental and social risk management and sustainable financing practices for Sri Lanka's financial sector. Under this partnership, the Central Bank will collaborate with IFC's Sustainable Banking Network (SBN) to develop a 'Sustainable Finance Roadmap' to guide the local banking and finance industry, strengthen the capacity of the banking sector to implement such practices, facilitate knowledge sharing with other SBN members; and promote green investment in the country. The Central Bank will promote 'Green Financing' by enhancing awareness to encourage enterprises to protect the environment, conserve resources and to achieve carbon neutrality. Banks will also be encouraged to provide financial facilities to green enterprises with the intention of protecting the environment.

4.3 Sustainable Banking Initiative

The Sri Lanka Banks Association's (SLBA) Sustainable Banking Initiative (SLBA-SBI) has been created with the aim of developing a platform where banks can work together on sustainability issues. On 15 November 2015 CEOs of eighteen Banks operating in Sri Lanka signed a document containing eleven Sustainable Banking Principles. These principles were developed and agreed by an Environment and Social (E&S) Committee consisting of members from the participating banks. This constituted Phase I of the SLBA-SBI.

This milestone has led to the active support of the CBSL in encouraging and advancing the sustainability agenda within banks. The CBSL organised a Sustainable Finance Work-Shop in February 2017 to build consensus among key stakeholders and explicitly acknowledged the SLBA-SBI.

Phase II of the SLBA-SBI kicked-off on 15 August 2017 with a workshop aimed at systematically developing and implementing strategies for effectively putting the Eleven Principles into practice. The working groups are preparing to contribute to this in terms of documents, training, facilitating e-Learning and case studies. This phase will continue until the end of February 2019. Financial support for SLBA-SBI comes from the four European Development Finance Institutions (DFIs); (i) DEG – Deutsche Investitions und Entwicklungsgesellschaft mBH, a subsidiary of KfW Banking Group (ii) OEB – Oesterreichische ische Entwicklungsbank AG (iii) Proparco a subsidiary of Agence Francaise de Developpement (AFD), and (iv) FMO – The Dutch development bank.

5. Additional Findings

5.1 Climate financing and climate co-benefit

In Sri Lanka, there is no clear definition or collective understanding of what constitutes climate financing. There is no central depository of information on projects addressing climate change and the financing details. However, while conducting this scoping study, it was evident that a wide range of projects with climate co-benefits are already underway, even though it was difficult to identify the climate co-financing components

In 2015, the Multilateral Development Banks (MDBs) collectively committed more than USD 25 billion in climate finance, and have financed more than USD 131 billion in climate action in aggregate since 2011. As a group, the MDBs have been applying jointly developed methodologies for climate finance accounting, adding transparency to efforts to track global development finance flows that deliver climate co-benefits. In 2015, Common Principles for tracking mitigation and adaptation activities were developed together with the International Development Finance Club (IDFC), and a set of guidelines was established and applied to set a common approach for reporting on climate co-financing flows that are invested alongside MDBs' climate finance activities. The total climate co-finance committed in 2015 was more than USD 55 billion, representing a cumulative total of USD 80 billion when combined with climate finance from the MDBs. While 18 percent of climate finance by the MDBs was committed to South Asia, it is not clear how much Sri Lanka received.

5.2 Potential of Green Bonds

Green bonds are yet to embrace the Sri Lankan financial market. According to an article by Mainstreet Partners published by the World Economic Forum, the issuance of 'green bonds' could nearly double to 150 billion dollars in 2017. These environmental bonds are fixed income instruments whose proceeds are predominantly allocated to financing renewable energy, pollution prevention and conservation, among other things. Launched by multilateral institutions such as the World Bank and EIB, the green bond market has proliferated in the first half of 2017. Around \$55 billion of labelled green notes were issued, an increase of 38% year-on-year from the \$40 billion issued in the first six months of 2016.

The Export-Import Bank of India (Exim), India's export finance institution, is planning to support Sri Lanka through its recently launched 5-year green bond issue of USD 500 million. The issue attracted subscription of around 3.2 times which was led by strong demand across 140 accounts. Exim will use the net proceeds from the sale of the notes to fund Eligible Green Projects in countries including Bangladesh and Sri Lanka. The green bond issue was priced at 147.50 basis points over US Treasuries (UST) at a fixed coupon of 2.75 per cent p.a., cutting through the current secondary trading levels of similar bonds and achieving a pricing tighter than the Bank's own US\$ 500 million Reg S bonds issued in February 2015 for a 5.5 year tenor.

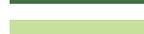
Sri Lanka must learn from the experience from India. IFC, a member of the World Bank Group, has invested INR 6.67 billion (\$103 million) in L&T Infrastructure Finance Company Ltd. by subscribing to the first official green bonds in India. This is in line with IFC's strategy to support renewable energy infrastructure in the country and also develop the capital markets. IFC also has, with the Tata Group, created the first private sector "Green Investment Bank" in India – Tata Cleantech Capital Limited – and has given \$170 million in wholesale investments to financial intermediaries that support the climate change program in the country. In addition, IFC has invested about \$1.2 billion in climate-friendly projects through direct investments in India, in the last five years.

5.3 Linkages between NDCs and the Sustainable Development Goals

Sri Lankan policy makers have yet to align the Sustainable Development Goals (SDGs) and the NDCs. The scoping study conducted a preliminary mapping of the interlinkages between the two. This study aims to lay the foundation for an integrated approach and the Table 6 demonstrates the degree of alignment that already exists between NDC sectors and SDG targets.

Table 6: Interlinkages between Sri Lanka's NDCs and the SDGs

SDGs Goals	NDCs for Mitigation Sectors					NDCs for Adaptation Sectors						
	Energy	Transport	Industrial	Forestry	Waste	Health	Food Security	Water & Irrigation	Coastal & Marine	Biodiversity	Urban, City Planning & Human Settlements	Tourism & Recreation
SDG 1												
SDG 2												
SDG 3												
SDG 4												
SDG 5												
SDG 6												
SDG 7												
SDG 8												
SDG 9												
SDG 10												
SDG 11												
SDG 12												
SDG 13												
SDG 14												
SDG 15												
SDG 16												
SDG 17												

	Primary SDG is Goal 13 on Climate Action for the NDC Sectors
	Secondary SDG Goals for the NDC Sector
	Key SDG for the NDC Sector
	No relation with the SDG Goal for the NDC Sector
	Cross cutting SDG Goal across all NDC Sectors

The 12 sectors under mitigation and adaptation in the NDCs have full scale integration with SDG 13 on climate action. Also, SDG 17 on global partnerships to implement national sustainable actions by financing, technological support and capacity building cuts across all NDC sector intentions and corresponds with NDC sector 14 on means of implementation.

The targets of SDG 3 on healthy lives and well-being), SDG 6 on water and sanitation, SDG 11 on sustainable cities and human settlements, and SDG 12 on sustainable consumption and production are highly integrated with all NDC mitigation sectors and a large part of the adaptation sectors. However, the NDCs appear not to be strongly based on social equity and gaps exist in linkages with goal 5 on achieving gender equality and empower all women and girls and SDG 10 on reducing inequality within and among countries. Its approaches towards social coherence and integrity are less developed, especially in industry, forestry, transportation, energy and waste under mitigation.

The above analysis demonstrates the need for policy and strategy integration of Sri Lanka's NDCs with the SDGs. Financing the sustainable development agenda is inclusive of climate action. On the other hand, if challenges posed by climate vulnerabilities are not adequately addressed in economic planning, sustainable development is unlikely to be feasible. For this, alignment between climate financing and financing the sustainable development agenda is critical.

6. Overall Summary and Recommendations

6.1 Planning to Meet Challenges of Climate Vulnerability

i. In the last decade and a half, natural disasters in Sri Lanka have increased in frequency and intensity, with major flooding, prolonged drought and flash floods in 2016-2017 alone, making climate change a reality and urgent priority. In the last 15 years, Sri Lanka has experienced a range of natural disasters including tsunamis, landslides and the collapse of a garbage dump and in the wake of this new realization that Sri Lanka must be prepared to face the constant challenges of climate related disasters and other vulnerabilities economic development planning must be aligned towards sustainability.

ii. Development planning in Sri Lanka is prone to working in siloes. Economic development planning and climate sustainability planning continue to be on two separate tracks and require convergence in order to address the economic challenges presented by climate vulnerability. Policy makers must be made aware that all investment plans must ensure climate resilient and sustainable development if economic prosperity is to be achieved.

iii. Public, private and civil society sectors must work collectively towards addressing common challenges and climate financing must be promoted through public-private-civil society partnerships to ensure sustainable futures.

6.2 Creating Awareness on Implementing the NDCs

Even though the policy framework for climate change is quite advanced and well prepared, Sri Lanka does not have a clear plan of action for climate financing. The following aspects related to financing the NDCs needs attention:

i. NDCs provide an overall national guideline for climate commitments. However, there is a lack of awareness and understanding stemming from the national policy level that results in a lack of integration into the national finance policy adequately.

ii. The lack of awareness on the NDC by the stakeholders and particularly amongst the banks and financial sector limits their participation in climate financing.

iii. There is a lack of understanding of opportunities for climate financing and the current approach is on financing solar and few other renewable energy projects including micro hydro and wind, therefore limiting the implementation of the NDCs.

6.3 Formulating a Cohesive Climate Financing Strategy

Sri Lanka does not have a clear policy or strategy for climate financing. While projects are funded with climate co-benefits, there is a lack of clarity on what constitutes climate financing specially amongst the financial sector. The lack of a cohesive financing strategy presents an obstacle towards monitoring and evaluating the actual climate financing activities in the country. The following aspects must be considered in building a climate financing strategy for Sri Lanka:

i. Sri Lankan policy makers need to clarify what constitutes climate financing and how to assess climate co-benefits in development financing projects. A national policy decision in line with emerging international agreements and development assistance would help financiers and implementers engage in climate financing more positively.

ii. The use of green financing tools is low in the Sri Lankan banking and finance sector. A climate financing strategy will help the CBSL to formulate and enforce green financing regulations and incentives adequately.

iii. CBSL is formulating a Sustainable Banking Roadmap with support from IFC's Sustainable Banking

Network. In parallel, Sri Lanka Bank's Association (SLBA) has established a Sustainable Financing Initiative and successfully engaged 18 leading banks to agree to a set of 11 sustainable banking principles. A national climate financing strategy can be drawn in collaboration with these processes for a convergent outcome.

6.4 Building Convergence between the SDGs & NDCs for Financing Sustainable Development

The Government of Sri Lanka (GoSL) is a signatory and party to both the 2030 Agenda for Sustainable Development and the Paris Climate Agreement. Goals 13 of the SDGs relates to climate action and has multiple linkages with other goals. Therefore, planning and implementing the NDCs must be convergent with the national SDG action plans.

i. A mapping between the 17 SDGs and the 14 NDCs has been conducted by the CED scoping study team to demonstrate the interlinkages between the two agendas. A more detailed mapping between the 169 SDG targets and NDC subsectors can help the policy planning to identify the overlapping areas for climate co-benefit financing.

ii. GoSL recently adopted the Sustainable Development Act and will soon institute the Sustainable Development Council. Similarly, it is expected that the Climate Change Commission will be established legally through an act of parliament. These agencies will have the primary responsibility of implementing the SDGs and the NDC in Sri Lanka and must establish a clear working relationship for convergent outcomes.

iii. Financing the sustainable development agenda has already gained wide acceptance amongst all stakeholders and public-private partnerships are starting to emerge. The private and financial sectors have already started to establish their priority investment areas and want to graduate from corporate social responsibility (CSR) to sustainable business investments. The NDCs must present itself with this opportunity and enhance the climate co-benefits financing.

6.5 Capacity Building for Innovative Green Sustainable Climate Financing

The financial sector in Sri Lanka has not proactively engaged in climate financing and is gearing up towards venturing into innovate green financing. The sector currently lacks the requisite understanding, experience, exposure and expertise in climate financing and needs external support for capacity building.

i. The sector currently lacks an understanding of the NDCs and has only a basic awareness of the SDGs. Greater guidance is needed on theoretical on embedding sustainability in business processes. This can be delivered through collaboration between the GoSL, financial sector associations, multilateral agencies like ESCAP, and knowledge partners like CED and individual financial institutions.

ii. The CBSL is identified as the national champion to lead the climate financing and sustainable development financing process in Sri Lanka. The mandate of the CBSL as the financial regulator in the country must be extended towards improving the capacity of commercial banks and other financial institutions to engage effectively in green climate sustainable financing. It is expected that the sustainable banking roadmap of CBSL can provide the necessary background for innovative green financing to take off in Sri Lanka.

iii. The Sustainable Finance Initiative (SFI) of the SLBA provides an ideal platform for collaboration amongst the banking sector to foster a new generation of sustainable financing principles and voluntary agreements. It is recommended that wider collaboration is established through this project to engage SLBA and CBSL towards building the requisite capacity of banks, financial institutions and financial sector professionals on innovating green climate financing.

References

1. ADAPTATION FUND. 2017. Addressing Climate Change Impacts on Marginalized Agricultural Communities Living in the Mahaweli River Basin of Sri Lanka. Available: <https://www.adaptation-fund.org/project/addressing-climate-change-impacts-on-marginalized-agricultural-communities-living-in-the-mahaweli-river-basin-of-sri-lanka/>.
2. ASIAN DEVELOPMENT BANK 2007. Sri Lanka: Protected Area Mgt. and Wildlife Conservation Project. www.adb.org: Asian Development Bank.
3. ASIAN DEVELOPMENT BANK. 2011. Aquatic Resource Development and Quality Improvement Project. Projects [Online]. Available: <https://www.adb.org/projects/documents/aquatic-resource-development-and-quality-improvement-project>.
4. ASIAN DEVELOPMENT BANK. 2016. Design and Pilot Testing of Performance-Based Management of Groundwater Use in Irrigation. Available: <https://www.adb.org/results/design-and-pilot-testing-performance-based-management-groundwater-use-irrigation>.
5. ASIAN DEVELOPMENT BANK. 2017. Sri Lanka: Clean Energy and Network Efficiency Improvement Project. Projects [Online], 2017.
6. CENTRAL ENVIRONMENTAL AUTHORITY. 2013. The Construction of Integrated Waste Management System at Maligawatta, Dompe. Latest Projects [Online].
7. CEYLON 1938. Fauna and Flora Protection Ordinance
8. CLEAN AIR 2000 ACTION PLAN IMPLEMENTATION COMMITTEE 2000. National Policy on Air Quality MANAGEMENT.
9. COLOMBO PAGE. 2017a. Asian Development Bank grants \$ 50 million to develop rooftop solar power systems in Sri Lanka. Leading News from Sri Lanka [Online]. Available: http://www.colombopage.com/archive_17B/Sep27_1506522208CH.php.
10. COLOMBO PAGE. 2017b. United States partners with Sri Lanka to protect oceans by improving waste management. Available: http://www.colombopage.com/archive_17B/Sep27_1506524556CH.php.
11. FOREST DEPARTMENT SRI LANKA 1995. National Forest Policy of Sri Lanka. In: LANKA, F. D. O. S. (ed.).
12. FORESTRY PLANNING UNIT, M., LANDS AND FORESTRY 1995. Sri Lanka Forestry Sector Master Plan: National Forestry Policy and Executive Summary, Colombo, Sri Lanka, Forestry Planning Unit, Ministry of Agriculture, Lands, and Forestry.
13. DAILY FT SRI LANKA. 2015. \$ 450 m investment planned for 42-km Colombo-Negombo electric train system; township. Available: <http://www.ft.lk/article/473883/--450-m-investment-planned-for-42-km-Colombo-Negombo-electric-train-system--township>.
14. DEPARTMENT OF WILDLIFE CONSERVATION 1990. National Policy on Wildlife Conservation In: CONSERVATION, D. O. W. (ed.).
15. DEPARTMENT OF LAND USE POLICY PLANNING 2007. National Land Use Policy of Sri Lanka.
16. GLOBAL ENVIRONMENTAL FACILITY. 2015. Enhancing Biodiversity Conservation and Sustenance of Ecosystem Services in Environmentally Sensitive Areas.
17. MAHANAMA, P. K. S., HEWAWASAM, T., JAYASINGHE, A.B., ABENAYAKE, C.C., DE SILVA, C., KUMARASINGHE, S., BARTHELOT, K.S., BANDARA, D. AND SENANAYAKE, L. 2015. Climate resilient action plans for Coastal urban areas in Sri Lanka (CCSL). www.fukuoka.unhabitat.org: University of Moratuwa (UOM). Norwegian Institute for Water Research (NIVA). United Nations Human Settlement Programme (UN- HABITAT). Batticaloa Municipal Council (BMC). Negombo Municipal Council (NMC).
18. MANGROVES FOR THE FUTURE. 2009. Increasing the resilience of coastal and riverine communities to climate change and other threats, by conserving the ecosystems of the Maya Oya and associated coastal wetlands in Sri Lanka. Available: <https://www.mangrovesforthefuture.org/grants/large-grant-facilities/sri-lanka/increasing-the-resilience-of-coastal-and-riverine-communities-to-climate-change-and-other-threats-by-conserving-the-ecosystems-of-the-maya-oya-and-associated-coastal-wetlands-in-sri-lanka/>.
19. MINISTRY OF FORESTRY AND ENVIRONMENT. 2002. National strategy for solid waste management. In: ENVIRONMENT, M. O. F. A. (ed.).
20. MINISTRY OF ENVIRONMENT & NATURAL RESOURCES 2003. National Environmental Policy Sri Lanka. In: RESOURCES, M. O. E. N. (ed.).
21. MINISTRY OF ENVIRONMENT AND NATURAL RESOURCES AND CENTRAL ENVIRONMENT AUTHORITY. 2005. National Policy on Wetlands. Ministry of Environment and Natural Resources
22. MINISTRY OF ENVIRONMENT AND NATURAL RESOURCES 2009. The Forest Ordinance. In: Ministry of Environment and Natural Resources (ed.). Ministry of Environment and Natural Resources.
23. Natural Resources and Central Environment Authority.
24. SENEWIRATNE, H. 2016. USD 700mn from JICA for KIA expansion project. Available: http://www.island.lk/index.php?page_cat=article-details&page=article-details&code_title=140453.

25. SLEUBC 2017. To Establish and Operate an Agro Zone. <http://www.sleubc.com/assets>: Sri Lanka European Union Business Council (SLEUBC).
26. SRI LANKA, 2000. Initial National Communication under the United Nations Framework Convention on Climate Change. Colombo, Sri Lanka government.
27. STANDARD AND TRADE DEVELOPMENT FACILITY 2016. Improving SAFETY AND QUALITY OF FRUITS AND VEGETABLES IN SRI LANKA. <http://www.standardsfacility.org/>: Standard and Trade Development Facility
28. SVP DEVELOPMENT TEAM. 2011. SRI LANKA: Sector Vulnerability Profile: Urban Development, Human Settlements, and Economic Infrastructure. In: ENERGY, M. O. E. A. R. (ed.).
29. SWITCH ASIA. 2012. Sustainable Production in the Food & Beverages Industry. Food & Beverages [Online]. Available: <http://www.switch-asia.eu/projects/food-beverages-industry/>.
30. SWITCH ASIA. 2017. Promoting Renewable Energy as a Driver for Sustainable Development and Mitigation of Climate Change in Sri Lanka. Sri Lanka Renewable Energy [Online]. Available: <http://www.switch-asia.eu/projects/sri-lanka-renewable-energy/>.
31. THE OFFICIAL GOVERNMENT NEWS PORTAL. 2017. Govt. initiates Metro Colombo Solid Waste Management Project. Development-Provincial [Online]. Available: <https://www.news.lk/news/item/2362-govt-initiates-metro-colombo-solid-waste-management-project/>
<https://drive.google.com/file/d/0B6Q7hCpymaTzbEJDTm0xSDZXWkk/view>.
32. THE WORLD BANK. 1993. Forest Resources Development Project. Available: <http://projects.worldbank.org/P010180/forest-resources-development-project?lang=en&tab=overview>.
33. THE WORLD BANK. 2004. Conservation and Sustainable Use of Medicinal Plants Project. Available: <http://projects.worldbank.org/P035828/conservation-sustainable-use-medicinal-plants-project?lang=en>.
34. THE WORLD BANK. 2011. Sri Lanka Tsunami ERL. Available: <http://projects.worldbank.org/P094205/sri-lanka-tsunami-erl?lang=en>.
35. THE WORLD BANK. 2013. Renewable Energy for Rural Economic Development. Available: <http://projects.worldbank.org/P076702/renewable-energy-rural-economic-development?lang=en&tab=newsmedia>.
36. THE WORLD BANK. 2016a. Climate Resilience Improvement Project Additional Financing. Available: <http://projects.worldbank.org/P157392?lang=en>.
37. THE WORLD BANK. 2016b. Climate Resilience Improvement Project Additional Financing. Available: <http://projects.worldbank.org/P157392?lang=en>.
38. THE WORLD BANK. 2016c. Sri Lanka - Ecosystem Conservation and Management Project (English). Available: <http://documents.worldbank.org/curated/en/104461468185345971/Sri-Lanka-Ecosystem-Conservation-and-Management-Project>.
39. THE WORLD BANK. 2017a. Climate Resilience Improvement Project (CRIP). Available: <http://projects.worldbank.org/P146314?lang=en>.
40. THE WORLD BANK. 2017b. LK Water Supply and Sanitation Improvement Project. Available: <http://projects.worldbank.org/P147827?lang=en>.
41. THE WORLD BANK. 2017c. Metro Colombo Urban Development Project. Available: <http://projects.worldbank.org/P122735/metro-colombo-urban-development-project?lang=en>.
42. THE WORLD BANK. 2017d. Sri Lanka - Second Health Sector Development Project. Available: <http://projects.worldbank.org/P118806/second-health-sector-development-project?lang=en>.
43. THE WORLD BANK. 2017e. Sri Lanka Agriculture Sector Modernization Project. Available: <http://projects.worldbank.org/P156019?lang=en>.
44. UNDP. 2016. UNDP Announces New Fund to Support Dry Zone Communities in Sri Lanka. Available: <http://www.lk.undp.org/content/srilanka/en/home/presscenter/pressreleases/2016/10/19/undp-announces-new-fund-to-support-dry-zone-communities-in-sri-lanka-.html>.
45. UNDP SRI LANKA. 2012. Sri Lanka Community Forestry Programme. Environment & Energy [Online]. Available: http://www.lk.undp.org/content/srilanka/en/home/operations/projects/environment_and_energy/sri-lanka-community-forestry-programme-.html.
46. UNFCCC Project Idea for Technology 1: Restoration of degraded areas inside and outside the protected area network to enhance resilience. tna_project_idea_sri_lanka_adaptation_study_on_identifying_and_. Climate Technology Center and Network
47. UWMP 2004. National Watershed Management Policy Sri Lanka in: ENVIRONMENT, M. O. (ed.).
48. WATER POWER AND DAM CONSTRUCTION. 2010. Contract signed for Broadlands hydro project, Sri Lanka.