

## CHAPTER 6

---

# Complementary Investors

*Terms like concessional and blended finance have become second nature in green infrastructure since the Paris Climate talks of 2015 - this chapter breaks down the web of available concessional capital available to complement renewable energy projects in developing countries.*





## **CHAPTER 6**

---

# **Complementary Investors**



---

This chapter is an excerpt from the publication: Lessons on how to promote and execute equity capital in the renewable energy sector of Nepal (Dolma Foundation, 2019).

The full publication can be accessed at: [www.dolmaenergy.com/publication](http://www.dolmaenergy.com/publication)



**DOLMA FOUNDATION**

E-mail: [contact@dolmafund.org](mailto:contact@dolmafund.org)

Website: [www.dolmafoundation.org/consulting](http://www.dolmafoundation.org/consulting)

---

Dolma Foundation is a non-profit organisation, promoting prosperity by investing in education and sustainable business in Nepal that are risky for the private sector.

This report series was produced and authored by Matthew Ribeiro-Norley and Vishal Bista. The team is grateful for collaboration and data within Dolma and from various agencies in Nepal. The cut-off date for data in this report was January 2019.

#### **SUGGESTED CITATION**

This chapter is an excerpt from the publication: Lessons on how to promote and execute equity capital in the renewable energy sector of Nepal (Dolma Foundation, 2019).

#### **DISCLAIMER**

This publication has been funded by the UK government through the Department for International Development (DFID). The findings, interpretations, and conclusions expressed in this paper are the author's alone and do not necessarily reflect the views or official policies of the UK government.

## EXECUTIVE SUMMARY

---

### CHAPTER 1: ENERGY MARKET ANALYSIS

Chapter 1 sets the tone for the series in highlighting that commercial institutional investors are the only sector with the capacity to finance this gap.

Nepal currently sits on a USD 17.8 bn infrastructure gap (excluding transmission and distribution) which needs to be addressed.

A prime solar belt region with 300 days of sunshine, and holding an economically feasible potential of ~43,000 MW of hydropower, Nepal boasts impressive renewable energy potential.

Despite this, Nepal's total installed capacity (March 2018) stands at 1,017 MW – 968 MW from hydro resources and 49 MW from thermal alternatives. Solar capacity is limited to 1.2 MW.

Electricity imports remain high in the dry season (Oct-Mar) for both peak load and base load energy, and as of March 2019 stood at 650 MW.

The Nepalese Rupee has remained pegged to the Indian rupee since 1993, primarily in the interest of price stability.

Based on Dolma's findings, the Project Internal Rate of Return for hydropower projects in Nepal range from 15-20%.

The main barriers to entry in Nepal include political stability, policy stability, currency, weak governance, climate change and bureaucracy.

Barriers to exit include the process of repatriating funds (whereby multiple authorities are required to sign-off after taxes are paid); as well as the lock-in period of up to three years after IPO on the Nepal Stock Exchange.

While there is a clear opportunity to export electricity to India in future, a clear framework agreed by both parties has not yet been enforced.

### CHAPTER 2: CLIMATE CHANGE

Chapter 2 reflects on the environmental and social implications of a changing climate. Known for its pristine glaciers and abundant flora, the Himalayan region has witnessed an alarming number of climate-related tragedies in the last two decades. Between 2000 and 2015, ICIMOD estimates that 45,534 people died due to flooding, 10,893 to extreme heat, and 191 by drought, in Himalayan countries alone.

Higher temperatures have resulted in glaciers receding at alarming rates, adding volume to Glacial Lakes which pose a threat to those living downstream in the event of a burst. Moreover, unpredictable river flow can be a threat to farmers.

This chapter also puts into perspective that while CO<sub>2</sub> rates remain high, the most immediate threat to the region – as identified in a series of recent reports from the Intergovernmental Panel on Climate Change (IPCC) and International Centre for Integrated Mountain Development (ICIMOD) – are short-lived climate pollutants, such as black carbon.

Despite its shorter life-span (approximately 50 years), black carbon is a warming agent with 1,500 times the warming effect of CO<sub>2</sub>. According to research, fossil fuel sourced black carbon appears to have twice the particle-specific warming potential of biomass sourced black carbon.

Based on conversations Dolma has had with regional climate scientists, prioritising the mitigation of short term climate pollutants is paramount to reversing Himalayan glacial melt – of which one third is expected to disappear by 2100 in a business-as-usual environment.

### CHAPTER 3: TRANSMISSION AND DISTRIBUTION

Chapter 3 traces Nepal's energy infrastructure development and progress. Unlike energy generation, Nepal's transmission network grew at an annual rate of 8% from 2008 to 2012.

Electricity markets in Nepal are gradually un-bundling. Until 1990 all production, transmission and distribution were vertically controlled by the Nepal Electricity Authority.

Since 1990, Independent Power Producers have added ~500 MW to the grid.

Despite plans to un-bundle the NEA's transmission and distribution business following The Hydropower Development Policy 1992, it was only with assistance from the Asian Development Bank in 2015 that the National Transmission Grid Company was set up.

As this publication went to print, the newly-found distribution company had still not made any significant progress.

There are some USD 817 mn allocated to the enhancement of Nepal's transmission and distribution, mainly led by key donors such as ADB, Government of Norway, MCC and JICA.

A further USD 471.5 mn is being spent on policy and institutional reforms led mainly by the World Bank, ADB, and Canadian Government.

#### CHAPTER 4: REGULATORY ADVOCACY

Chapter 4 puts forward a number of recommendations to government that would facilitate the enabling environment for international investors.

Nepal has over the last five years (2013-2018) amended and introduced several regulations to facilitate public-private partnership and encourage further private sector investment.

Despite the government's best intentions to prioritise infrastructure, some have labelled the planning "erratic": since 2001 there have been five strategic documents on energy capacity targets, one every three years on average.

The most recent government plan, from 2016, calls for the construction of 10,000 MW by 2030.

The World Bank and others have argued that to attract and retain investment to the tune of tens of billions of dollars, an enabling environment is required.

"Quick-Win" regulatory reforms that would have a disproportionately positive impact on the infrastructure investment environment in Nepal:

- Automatic route for foreign investment
- Foreign currency power purchase agreements
- Return on equity (ROE) clarifications
- Alternative and auxiliary energy tariffs (new technologies such as batteries)

Long-term reform opportunities beyond the scope of this project:

- Sovereign credit rating
- Cost-plus approach
- Competitive bidding
- Protection for seasonality
- Benefit sharing
- Cooperation with regional partners

#### CHAPTER 5: INSTITUTIONAL INVESTOR INVESTMENT LANDSCAPE

Chapter 5 identifies three key catalysts for driving institutional investors into frontier markets like Nepal: low global interest rates; the commercial viability of renewable technologies; and heightened public, shareholder and regulatory opinion in relation to carbon emissions.

The need to attract large amounts of FDI to finance Nepal's power needs is well documented, both the Investment Board of Nepal and National Planning Commission agree that to meet just domestic demand, approximately USD 18 bn is required in capital investment (both debt and equity), or USD 1.5 bn annually.

The Dolma team interviewed some of the world's largest institutional investors, testing the risk and return mandate for Nepal against their current and emerging risk strategies. Interviewees included funds with

assets under management from USD 1 bn to 6 tn.

**These were our findings:**

Some investors suggested that the required return on equity for construction risk could be up to 20%, provided a Nepal project vehicle can demonstrate equivalency to investment grade status after successfully mitigating risks.

Among institutional investors there is a clear negative bias against credit and currency risk, suggesting that FX risk, real or perceived, prevents perhaps trillions of dollars from flowing to the poorest economies.

Dolma’s findings also suggested that a country’s credit rating is fundamental to getting an investment proposal through the first step of the investment procedure. In some cases, the lack of a sovereign credit rating and international sovereign bonds for Nepal has been too large a barrier to overcome in our discussions with some investors who are often restricted to considering countries that are at least investment grade (BBB-).

Some solutions to perceived risks included adopting Political Risk Insurance (PRI); Currency Hedging Mechanisms; and Bank Guarantees, amongst others.

Investors interviewed fell into two groups –leaders and followers – the former willing to take higher risk in search of greater yield and the latter less so; 2) there is no clear connection between Assets Under Management (AUM) and risk profile when it comes to investing in frontier markets like Nepal.

**CHAPTER 6: COMPLEMENTARY INVESTORS**

Chapter 6 discusses complementary investors (or blended concessional finance) which provide a new wind of opportunity for institutional investors – previously unable to invest in frontier market because of perceived risk. Blended capital works to de-risk perceived obstacles.

Investment instruments typically involve the deployment of grants, concessional lending, guarantees, and equity. These are deployed using adaptable programme, policy and sector investment loans, debt swaps, PPPs, advanced market commitments, and first loss reserve tranches.

Green bonds have recently also proven to be a potential solution by providing debt financing to eligible climate change projects. As of 2018, green bond issuance reached some USD 250 bn.

Complementary investors have played a key role in attracting investment to Nepal’s renewable sector – these include Development Finance Institutions such as FMO, OEEB, DGGF and FINNFUND, as well as Multilateral platforms like IFC and ADB.

As stated in chapter 5, Dolma finds that at least two blended finance instruments are required for institutional investors to consider a renewable energy project in Nepal: political risk insurance and a currency hedge.

Dolma’s research finds that countries successful in solving these risks for investors were able to make bold moves within their own domestic economies.

Nepal could follow the path of successful governments in doing so by creating its own government backed instruments and enacting reform.

**CHAPTER 7: LEGAL STRUCTURING**

Chapter 7 explains the legal structuring backdrop which is an essential component for foreign investors considering large infrastructure in Nepal.

To invest in Nepal through the FDI route, it is important to analyse and decide upon which country to invest from. To date there are 15 jurisdictions which hold a Dual Taxation Agreement (DTA) with Nepal which mitigates the risk of paying double taxation.

Dolma finds that Mauritius is generally viewed as the “gateway” to Nepal because both countries hold a DTA – Mauritius is

also known as a transparent jurisdiction that ranks well according to the financial services index. It also has experience fund management and administrative services which manage approximately USD 670 bn in assets.

Despite Mauritius' favourable positioning, the choice of domicile is based on the circumstances and preferences of individual investors.

Dolma views the UK as one of many strong locations to set up a fund manager, and has based the examples in chapter 7 on an English limited partnership or UK company as the fund vehicle.

#### CHAPTER 8: FINANCIAL STRUCTURING

Chapter 8 explores key regulated and non-regulated institutions that could act as potential sources of financing for energy projects in-country.

Nepal is yet to formulate specific regulatory provisions for private equity funds that invest in private companies.

There are a number of private equity players investing in renewable energy in Nepal, which include IFC, Dolma Impact Fund I and Equicap.

Dolma found that key exit issues for international investors include, but are not limited to the following:

- Valuation at exit
- Taxation in change of ownership
- Repatriation issues

Dolma found that there could be some challenges for investors keen to invest through a project finance model, particularly for debt financing:

- A limited tenor and floating interest rates on long term loans.
- Generally, a limited capacity for banks to lend.
- A limited scope for corporate bonds, which is still a nascent market.

The chapter also explores key financial issues for investors and how to integrate

these solutions at the fund level: these include suggestions for currency risk, political risk, and debt risk.

#### CHAPTER 9: PROJECT DESIGN AND ENGINEERING

Chapter 9 focuses on the practical realities of executing renewables projects in Nepal, acknowledging that besides hydropower – Nepal's most mature energy asset class – other newer technologies such as solar and batteries could play a significant role in servicing growing supply, and providing auxiliary services.

Despite Nepal's installed generation capacity standing at 1,100 MW, there are some 7,000 MW in licenses that have been issued by the government to IPPs. The vast majority of these are for hydro-run-of-river (RoR) projects.

Dolma has identified a priority pipeline of hydro and solar projects that are optimal from a project execution perspective.

The chapter also includes a summary of leading battery technologies and which would be most suited in Nepal's context.

While there are no Nepali contractors that offer Engineer Procurement Construction (EPC) contracts this chapter analyses local firms that have a track record for hydro and solar projects in-country.

As financiers are increasingly aligning their investment mandates to the UN's Sustainable Development Goals, the chapter also outlines high level strategies for climate adaptation and resilience.

ABBREBIATIONS

<b>1.1 INTRODUCTION</b>	4
<b>1.2 SUMMARY OF INVESTMENT INTO RENEWABLE ENERGY</b>	6
<b>1.3 ANALYSIS OF OTHER INVESTOR CATEGORIES</b>	8 Uses Of Climate Finance
<b>1.4 COMPLEMENTARY INVESTOR CATEGORIES</b>	9
<b>1.5 INSTRUMENTS AND MODALITIES PRACTISED TO CATALYSE INSTITUTIONAL INVESTMENT</b>	14 Instruments Grants Concessional lending (SOFT LENDING) Guarantees Equity investments Modalities Loans Debt Swaps Performance-Based Payments Public-private partnerships (PPP) Advanced market commitments First Loss reserve (FLR)
<b>1.6 GREEN BONDS</b>	19 Challenges Opportunities Green Bonds In Nepal?
<b>1.7 BLENDED FINANCE</b>	22 Investor Perceived Risks Blended Finance Instruments
<b>1.8 APPENDICES</b>	28 Appendix A
<b>1.9 REFERENCES</b>	30

FIGURES

<b>FIGURE 1 GLOBAL NEW INVESTMENT IN RENEWABLE ENERGY BY ASSET CLASS, 2004-2016 (\$BN)</b>	<b>7</b>
<b>FIGURE 2 CLIMATE FINANCE INFLOWS (\$BN)</b>	<b>7</b>
<b>FIGURE 3 PERCEIVED RISKS IN EMERGING/FRONTIER MARKETS</b>	<b>23</b>
<b>FIGURE 4 BLENDED FINANCE STRUCTURES</b>	<b>26</b>
<b>FIGURE 5 CLIMATE FINANCE LANDSCAPE 2017</b>	<b>28</b>

**TABLES**

<b>TABLE 1 MAIN SOURCES OF CLIMATE FINANCE</b>	<b>8</b>
<b>TABLE 2 CLIMATE FINANCE INSTRUMENTS</b>	<b>8</b>
<b>TABLE 3 RECIPIENTS AND USES OF CLIMATE FINANCE IN 2017</b>	<b>8</b>
<b>TABLE 4 USES OF CLIMATE FINANCE 2017</b>	<b>8</b>
<b>TABLE 5: MULTI AND BILATERAL CLIMATE FUNDS</b>	<b>9</b>
<b>TABLE 6: DFI INVESTMENT IN NEPAL</b>	<b>9</b>
<b>TABLE 7 MULTILATERAL AND BILATERAL CLIMATE FUNDS WITH NEPAL AS A MANDATE</b>	<b>10</b>
<b>TABLE 8 STATUS OF LOCAL ENTITIES SEEKING GCF ACCREDITATION</b>	<b>13</b>
<b>TABLE 9 BLENDED FINANCE INSTRUMENTS</b>	<b>24</b>
<b>TABLE 10 BLENDING FINANCE AT DIFFERENT LEVELS</b>	<b>26</b>

## ORGANISATIONS AND/OR INDIVIDUALS INTERVIEWED

Those mentioned in this report have agreed to being referenced:

- United Nations Development Programme in Nepal
- NMB Bank Limited, Nepal
- Standard Chartered Bank, Nepal
- Dolma Advisors Private Limited (DAPL), Nepal
- Gregory Paterson Jones



## 1.1 INTRODUCTION

---

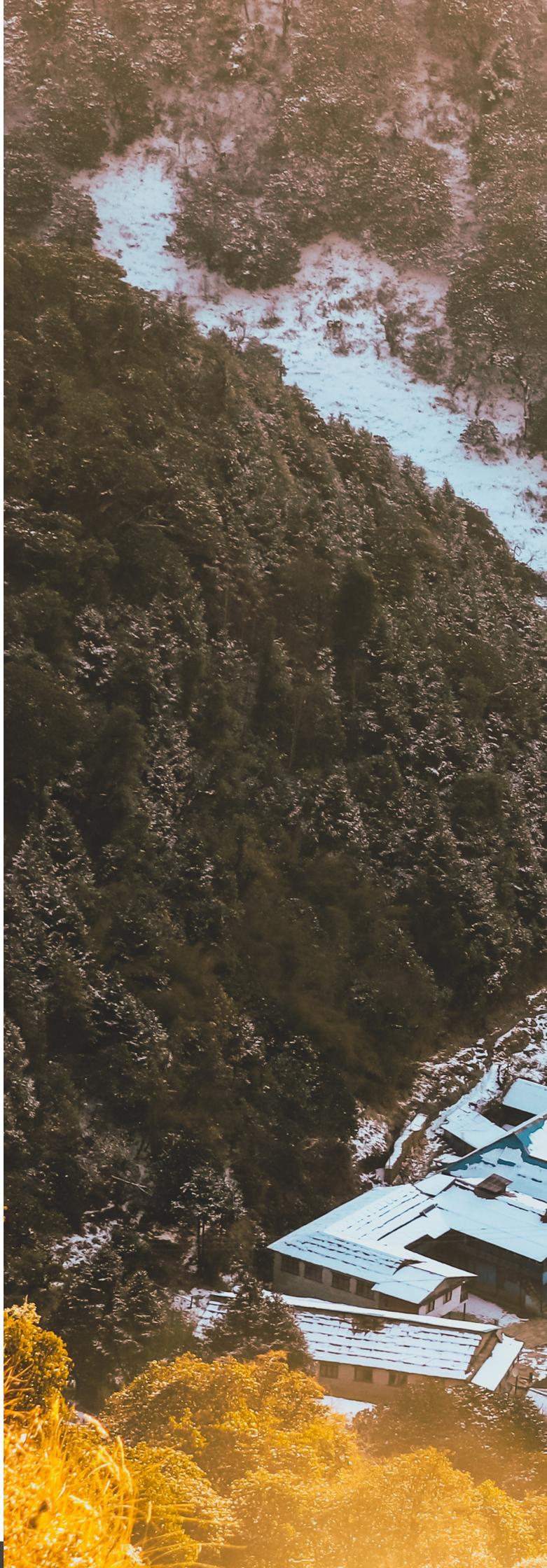
In recent years, there has been a substantial growth in international attention to the role of blended concessional finance to promote private sector participation in developing countries. More concessional resources for blending have become available, which have provided investors with more possibilities for development impact.

As highlighted in Chapter 5 – Institutional Investor Appetite and Landscape, additional investments of at least USD 700 bn are needed per year to maintain global temperatures beneath 2°C, the role of blended finance will be instrumental to bridge that gap.

According to the Blended Finance Taskforce, the market could double in the next 3–4 years as providers of concessional and other forms of development capital earmark more money for blending and as private investors look to take advantage of this risk cushion. To make this happen, we need to see a dramatic scale-up in the size of blended vehicles and the trial and testing of instruments that are currently available to commercial investors.

### SCOPE

This document is divided into two sections. The first will analyse trends of investment in clean energy and the investor categories driving this momentum. The second will cover the blended instruments used globally and the potential for Nepal to take advantage of this growing market.





## 1.2 SUMMARY OF INVESTMENT INTO RENEWABLE ENERGY

---

According to the Climate Policy Initiative, many investors committed to combatting the effects of climate change have chosen to channel their capital into renewable energy projects (rather than adaptation initiatives) to achieve this aim. It is useful, therefore, to get a broad picture of which investors are committed to this space.

A handful of reports cited the relative investment decline in renewable energy in 2016, , citing sharp reductions in capital costs for various energy technologies – namely photovoltaics and onshore and offshore wind.

Figure 1 puts this into a 12-year perspective, outlining a global climate finance surge from less than USD 50 bn in 2004 to USD 305 bn in 2015; investment fell 12% to USD 249 bn in 2016. The largest source of investment came from Asset Finance (the use of a company's balance sheet assets, including short term investments, inventory, and accounts receivable in order to borrow money or get a loan), with the figure adjusted for re-invested equity from estimates of undisclosed deals.

In addition to lowering technology capital costs, Bloomberg New Energy Finance (BNEF) cites four further reasons for a relative decline.

1. Lower dollar-denominated costs: The average capital cost for projects starting construction in 2016 was 13% lower than for those in 2015. For onshore wind, the drop was 11.5% and for offshore wind 10%.
2. Timing: A lot of projects in wind and solar were financed in late 2015 and only commissioned in 2016, in which case the investment dollars associated with them were recorded in the earlier year and the GW addition in the later one.
3. Underlying slowdown in activity only set-in in 2016: In particular, the Chinese solar market declined sharply after a hectic first half.
4. Delays in developing-market auctions: Several expected renewable energy projects in the developing world were postponed due to auctioning delays.

FIGURE 1: GLOBAL NEW INVESTMENT IN RENEWABLE ENERGY BY ASSET CLASS, 2004–2016 (USD BN) 1

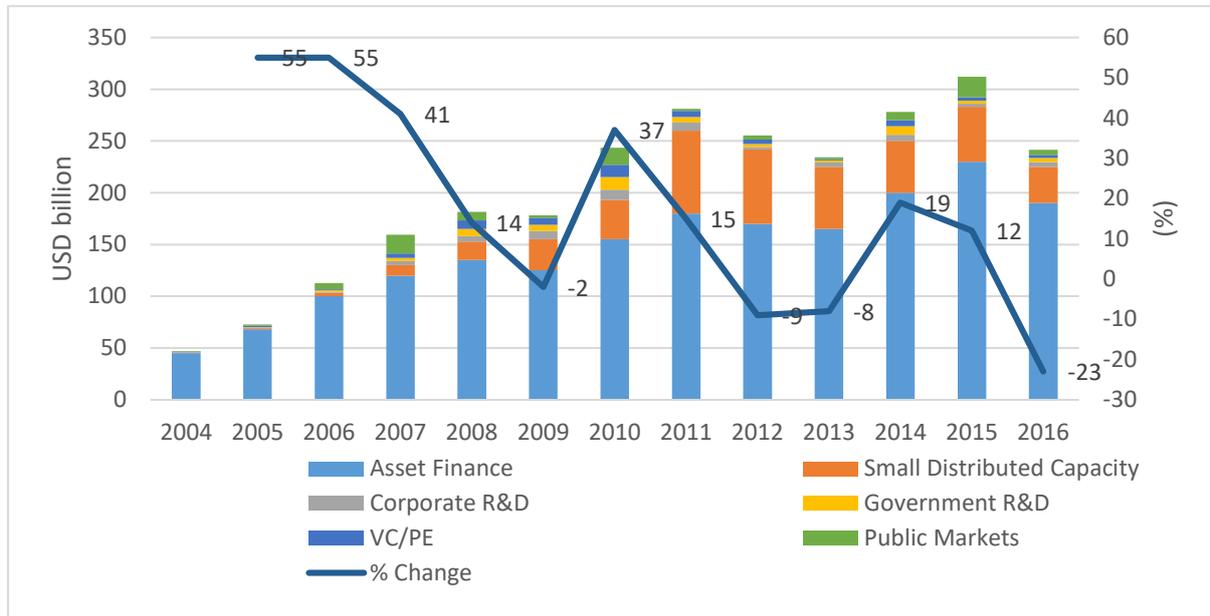
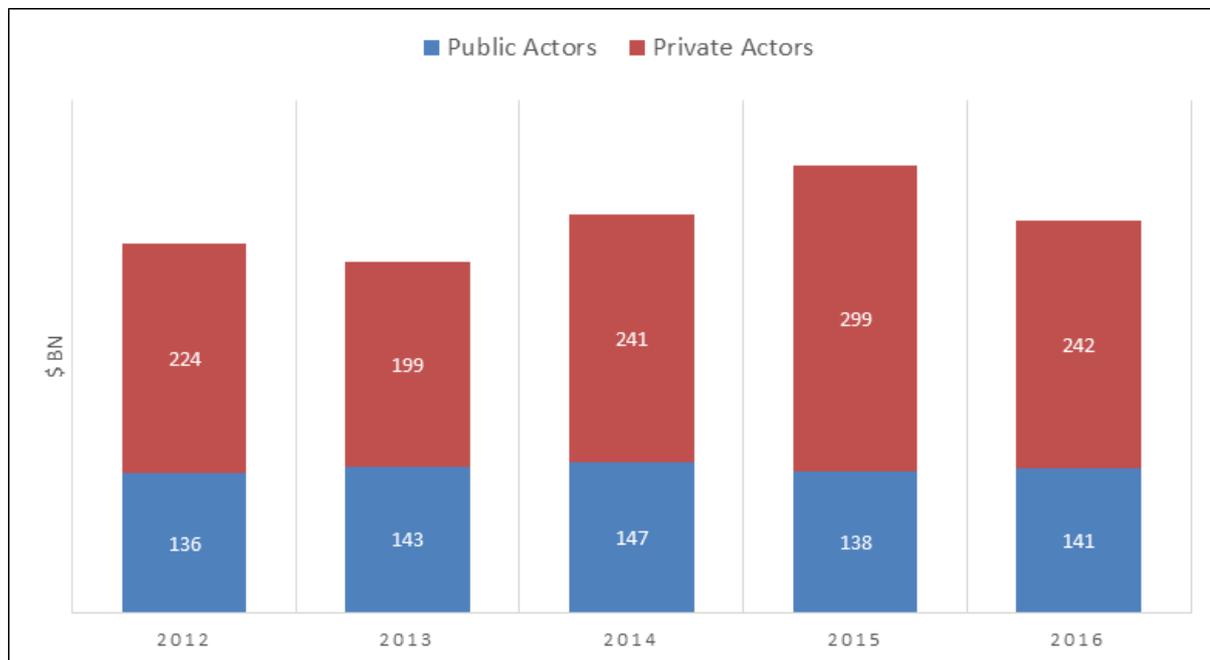


FIGURE 2: CLIMATE FINANCE INFLOWS (USD BN) 2



## 1.3 ANALYSIS OF OTHER INVESTOR CATEGORIES

There are seven broad investor categories that made a significant impact on the climate finance landscape in 2017. Table 1 below outlines these sources and their aggregate contribution to this space. Similarly, Table 2 outlines how the availability of capital for climate finance was mobilised. Table 3 breaks down recipients clarifying whether CF goes through public or private channels. For more details, refer to Appendix A.

**TABLE 1: MAIN SOURCES OF CLIMATE FINANCE**

Sources and Intermediaries	Capital Committed (USD bn)
1. Government Budgets	128
2. Commercial Financial Institutions	62
3. Institutional Investors	2
4. Private Equity, Venture Capital, Infrastructure Funds	1
5. Corporate Actors	37
6. Households	31
7. Project Developers	137

**TABLE 2: CLIMATE FINANCE INSTRUMENTS**

Instruments	Capital Available (USD bn)
Grants	14
Unknown	5
Low-cost Project Debt	42
Project-level Market Rate Debt	142
Project-level Equity	38
Balance Sheet Financing (Equity)	83.5
Balance Sheet Financing (Debt)	83.5

**TABLE 3: RECIPIENTS AND USES OF CLIMATE FINANCE IN 2017**

Recipients	Capital Received (USD bn)
Public	52
Private NGOs and Foundations	2
Unknown	63
Public/Private	4
Private	288

### USES OF CLIMATE FINANCE

Recipients of climate finance fall into two categories: adaptation and mitigation. Table 4 below outlines the major recipients. Mitigation is the largest recipient.

Climate mitigation refers to any action taken to permanently abolish or reduce long-term risk and hazards of climate change, such as building a renewable energy facility with a carbon neutral profile. Climate adaptation, on the other hand, refers to the ability of a system to adjust to moderate potential damage, to take advantage of opportunities, or to cope with the consequences – for example, building resilient flood management systems.

**TABLE 4: USES OF CLIMATE FINANCE 2017**

Uses	Capital Committed (USD bn)
Adaptation	22
Dual benefits	5
Mitigation	382

## 1.4 COMPLEMENTARY INVESTOR CATEGORIES

Complementary investors play a central role in attracting institutional investment into Nepal’s renewable sector. This category typically includes government-backed funds or funds that are managed by multilateral platforms using pooled government capital.

### DEVELOPMENT FINANCE INSTITUTIONS AND OTHER QUASI-COMMERCIAL INVESTORS

National and international DFIs are specialised development banks or subsidiaries set up to support private sector development in developing countries. They are typically majority-owned by national governments and source their capital from international development funds or benefit from government guarantees. This ensures their creditworthiness, which enables them to raise large amounts of money in international capital markets and provide financing on competitive terms, which in turn allows them to take more risks than institutional investors.

Within this category emerges two types: bilateral and multilateral DFIs. The former are either independent institutions or part of larger bilateral development banks, and the latter refer to the private sector arms of international financial institutions (IFIs) established by more than one country.

TABLE 5: EXAMPLES OF MULTILATERAL AND BILATERAL CLIMATE INVESTORS

DFI	Type
ADB (Asian Development Bank)	Multilateral
BIO (Belgium)	Bilateral
CDC (United Kingdom)	Bilateral
EBRD (European Bank for Reconstruction and Development)	Multilateral
EBROPIC (United States)	Bilateral
EIB (European Investment Bank)	Multilateral
FMO (Netherlands)	Bilateral
IFC (International Finance Corporation)	Multilateral
IFU (Denmark)	Bilateral
FINNFUND (Finland)	Bilateral
KfW/DEG (Germany)	Bilateral
OEEB (Austria)	Bilateral
PROPARCO (France)	Bilateral

### EXAMPLES OF BILATERAL INVESTMENT IN NEPAL

Nepal has attracted DFI investment over the last 10 years primarily in the renewable energy, private equity, and banking sectors. Table 6 outlines some key projects as of January 2018.

TABLE 6: DFI INVESTMENT IN NEPAL

Project	DFI
Dolma Impact Fund	FMO, OEEB, DGGF, FINNFUND
NMB Bank	FMO
Lower Solu Hydropower	FMO
Buddha Air	IFC
Nimbus	IFC
Kabeli A Hydropower Plant	IFC, InfraCo
Country-wide energy efficiency; off-grid supply; healthcare (nationwide public health reform programme)	KfW
Transmission; Loan to the Government of Nepal for Upper Seti (EUR 55)	EIB
Upper Trishuli Hydropower Plant	IFC, Korean South East Power Co
Town Development Fund	KfW, ADB

TABLE 7: MULTILATERAL AND BILATERAL CLIMATE FUNDS WITH NEPAL AS A MANDATE

Fund/Type	Implementing Entity	Financing mechanism	Regions	Funding Level (USD)	Sectors	Target
ADB Climate Change Fund/Multilateral	• Asian Development Bank (ADB)	• Co-financing • Grant • Technical assistance	• Asia	• 50 mn	• Energy • Agriculture • Energy Efficiency • Renewable Energy • Transport	ADB developing member countries
ASEAN Infrastructure Fund/Multilateral	• ADB	• Co-Financing Loan • Technical assistance	• Asia	• 485.3 mn	• Energy • Environment • Rural Infrastructure • Water	Sovereign guaranteed national and sub-regional projects of ASEAN developing member countries
Canada Climate Change/Multilateral	• International Finance Corporation (IFC)	• Loan, equity, Technical Assistance	• Global	• 276.55 mn	• Energy • Environment • Rural Infrastructure • Water	Sovereign guaranteed national and sub-regional projects of ASEAN developing member countries
Canada Climate Fund for the Private Sector in Asia/Multilateral (executed by ADB)	• Asian Development Bank (ADB)	• Concessional financing Grants	• Asia	• 63.22 mn	• All	Low, lower- middle income and small island developing countries
Climate and Development Knowledge Sector/Multilateral	• Co-financing Grant • Technical assistance	• Government of the Netherlands and Government of the United Kingdom	• Latin America • Asia • Africa	• 0.66 mn per project	• Adaptation • Capacity Building	Developing countries
Climate Insurance Fund/Bilateral	• KfW, BlueOrchard	• Insurance	• Global	• 60 mn (seed investment)	• Adaptation • Disaster Risk Reduction	Qualified insurance/reinsurance companies as well as other entities active in the value chain of insurance based in ODA recipient countries
Climate Public Private Partnership/Bilateral	• Donor governments	• Equity Loan Grant	• Asia	• 283 mn	• Adaptation • Mitigation	Objective is to stimulate the development of climate funds and climate-friendly projects expected to play a key role in accelerating growth of investment in renewable energy and other low-carbon solutions
Danish Climate Investment Fund/Bilateral	• Investment Fund for Developing Countries (IFU)	• Co-financing Loan • Technical assistance • Equity	• Developing Countries	• 200 mn	• Energy Efficiency • Renewable Energy	Must be commercially sustainable and employ known climate technology; a Danish company must participate in the project (or it must relate to a Danish economic interest)
GEF Trust Fund/Multilateral	• GEF	• Grant	• Worldwide	• 3000 mn over 2015–2019	• Climate change • Energy Efficiency • Renewable energy	Countries eligible to receive World Bank financing or UNDP technical assistance through its target for resource assignments
Germany's International Climate Initiative/Bilateral	• Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), Germany		• Developing countries	• 1085 mn	• Mitigation • Adaptation	Projects in IKI's four areas of support: mitigation, adaptation, conservation of carbon sinks, and biodiversity

Green Climate Fund/Multilateral	• COP (UNFCCC) and Green Climate Fund Board	• Grant, Concessional loan, Guarantees, Equity	• Worldwide	• 100 (bn)	• Adaptation • Mitigation • REDD • Technology transfer • Capacity Building	All developing country parties to the UNFCCC
IFC Partial Credit Guarantees/Multilateral	• IFC	• Loan Guarantee	• Worldwide	• N/A	• Adaptation • Mitigation	In accordance with IFC investment guidelines
IFC Risk Sharing Facility/Multilateral	• IFC	• RSF	• Worldwide	• N/A	• Adaptation • Mitigation	In accordance with IFC investment guidelines
International Climate Initiative (Germany)/Bilateral	• BMUB, Germany	• Grant Loan	• Worldwide	• 138 mn p.a.	• Adaptation • Mitigation	Climate and biodiversity projects in developing countries and countries in transition
Japan's Fast Start Finance/Bilateral	• Japanese Ministry of Finance	• Grant Loan ODA Guarantees	• Worldwide. Approximately 50% of Japan's grant aid is focused on adaptation in LDCs	• 15 bn (11 bn public, 4 mn private)	• Agriculture • Energy Efficiency • Renewable Energy	Developing countries that have entered direct bilateral discussions with the Japanese government; some private sector actors may also be considered
KfW Development and Climate Finance/Bilateral	• KfW	• Grant Loan ODA Structured financing	• Worldwide	• Varying, dependent on project	• Energy • Agriculture • Water • Technology	Public and private entities
Korea Green Growth Trust Fund/Multilateral	• World Bank	• Grant Technical assistance	• Worldwide	• 40 mn (additional funding pending approval)	• Energy • Environment • ICT • Water	IBRD/IDA country members
Least Developed Countries Fund/Multilateral	• GEF	• Grant	• Worldwide	• 32 mn	• All	All LDC parties to UNFCCC
MDB Pilot Project for Climate Resilience/Multilateral	• MDB Climate Investment Funds (CIF)	• Grant • Loan • ODA	• MDB countries	• 1 bn	• Climate Resilience • Energy • Infrastructure • Low-Carbon • Sustainable Land Management • Water	MDB eligibility, in the following countries: Bangladesh; Bolivia; Cambodia; Mozambique; Nepal; Niger; Yemen; Zambia
Nordic Climate Facility/Multilateral	• NEFCO	• Co-financing	• Africa • Asia	• 289–578k	• Energy • Sanitation • Water	Applicant must be an active institution holding a registered place of operations in Scandinavia; average turnover of the applicant must be at least double the NFC funding requested
Nordic Environment Finance Corporation Carbon Finance and Funds/Multilateral	• NEFCO	• Grant • Technical Assistance	• Eastern Europe • China • South Asia • SE Asia	• 190 mn	• Energy Efficiency • Fuel Switching • Renewable Energy	Projects should be within the requirements of COP 21
Public-Private Infrastructure Advisory Facility/Multilateral	• World Bank	• Grant Technical assistance	• Worldwide	• 15 mn	• Adaptation • Capacity Building	Developing or transitioning economies in the OECD

US Global Climate Change Initiative/ Bilateral	• USAID	• Grant • Loan • Guarantee	• Developing Countries	• 350 mn p.a.	• Clean Energy • Sustainable Landscape • Resilience	Developing Countries
World Bank Carbon Funds and Facilities	• World Bank	• Carbon finance	• Worldwide	• 2.5 mn	• Energy, Energy Efficiency, Agriculture	World Bank/IDA Countries

### QUASI COMMERCIAL

Quasi commercial investors roughly hold the same level of risk as DFIs, although some of them may enjoy a lower return.

### HIGH NET WORTH INDIVIDUALS (HNWI)

While investing in conservation and environmental development projects has long been the province of DFIs, High Net Worth Individuals (HNIs) represented USD 60 tn of investable wealth in 2015.

A joint report by Credit Suisse, McKinsey, and the World Wildlife Fund suggested that private capital could fill as much as a USD 422 bn annual gap in funding needed to protect vital ecosystems around the world. The push towards filling this gap has already begun on some level. For example, in 2015, 12 individual investors committed USD 15.8 bn to purchase “Nature Conservation Notes” through Credit Suisse, the first major bank to have offered non-institutional clients a conservation investment product that targeted market-rate returns.

### FUNDS OF FUNDS

Referred to as a multi manager investment, a fund of funds (FoF) is an investment strategy in which a fund invests in other types of funds. This strategy promotes investment in a portfolio that contains different underlying assets instead of investment directly in bonds, stocks, and other types of securities.

FoFs that invest in renewable energy developments include:

- SARONA (Canada)
- DGGF (Netherlands)
- CDC IMPACT (United Kingdom)
- GEEREF (multilateral, advised by the European Investment Bank Group)

### CONCESSIONAL FINANCE

Concessional finance refers to capital that is extended on terms more generous than market loans or investments – in some cases, it is offered as grants to realise otherwise unviable projects for commercial investors.

### CLIMATE FINANCE

In the aftermath of COP 21 in November 2015, the trend towards promoting climate finance has been overwhelming for both mitigation and adaptation efforts, particularly in developing countries. Led by the UNFCCC, the largest concessional climate fund is the Green Climate Fund (GCF), launched after COP 21 in 2015, which received commitments of USD 100 bn per year until 2020 from several developed countries upon signing COP 21 in Paris.

In addition to GCF, there are over 20 major multilateral funds dedicated to climate change action, nine of which focus exclusively on

mitigation, six on adaptation, and seven on both. In total, these funds account for roughly USD 30 bn.

**CONCESSIONAL FINANCE IN NEPAL**

In theory, Nepal should be well-positioned to receive funding from GCF: it is a developing country highly susceptible to climate disasters (droughts, flooding, GLOF) and has enormous renewable energy potential. To date, however, no Nepali institution has been granted accreditation. To facilitate access to funds, the GCF designates one ministry from each LDC responsible for managing applications, known as the National Designated Authority, represented by an individual at the Ministry of Finance. In order to implement a project in any country, a buy-in is required from the domestic bureaucracy.

Nepal’s National Designated Authority resides with the Ministry of Finance, and the current NDA is a Joint Secretary at the MoF. The NDA’s role is instrumental in coordinating with stakeholders interested in accessing GCF funds, and in the selection process when providing his letter of consent to initiate the process of accreditation.

The GCF mobilises its capital using four instruments: equity, concessional debt, guarantees, and grants. The government has selected organisations in each category to become accredited entities. As of April 2018, the Town Development Fund of Nepal (TDF) as well

as the Nepal Investment Bank Limited (NIBL) are confirmed to have cleared the initial process of accreditation. They have secured a buy-in from the National Designated Authority to Nepal and await further information. If successful, once an accredited entity of the GCF, they will have the rights to directly source capital from the fund. Other organisations seeking accreditation on the public side include the Alternative Energy Promotion Centre (AEPC) and the National Trust for Nature Conservation (NTNC). Their progress is listed in Table 8.

In addition to the role played by the MoF, the United Nations Development Programme (UNDP) is providing capacity assistance to all local applicants as well as the NDA, and is registered as an International Access Accredited Entity.

**TABLE 8: STATUS OF LOCAL ENTITIES SEEKING GCF ACCREDITATION**

GCF Instrument	Local Organisation	Status
Equity and Concessional debt	Nepal Investment Bank Limited (NIBL)	Due to present information for next stage
	Town Development Fund (TDF)	Due to present information for next stage
Grant and Guarantees	Alternative Energy Promotion Centre (AEPC)	Application with GCF
	National Trust for Nature Conservation	Application with GCF

## 1.5 INSTRUMENTS AND MODALITIES PRACTISED TO CATALYSE INSTITUTIONAL INVESTMENT

---

Typically, there are four instruments used through different modalities and at various stages of the financing cycle: grants, concessional loans, guarantees, and equity investments.

These instruments are designed to “unlock” or crowd in finance for green projects. They are needed to (1) render investments attractive to previously untapped sources of finance (such as institutional investors); and (2) free up resources for traditional sources of climate finance, particularly those on bank balance sheets. This section briefly outlines each instrument before looking at how they are “instrumentalised”.

### INSTRUMENTS

#### GRANTS

Resources channelled to fund investments without the expectation that the money be repaid.

#### CONCESSIONAL LENDING (SOFT LENDING)

Up-front transfer of resources from one party to another with the agreement that the money will be repaid on conditions more favourable than market terms.

#### GUARANTEES

Some investments have inadequate risk-adjusted returns to investors or governments and fail to attract capital through debt on terms that could ensure the feasibility of a project. Guarantee instruments are commitments in which a guarantor, in exchange for a fee, undertakes to fulfil the obligations of a borrower to a lender in the event of non-performance or default of its obligations by the borrower.

#### EQUITY INVESTMENTS

Equity is an investment in a project or asset to leverage debt and achieve better returns. Some projects have significant risks and financial requirements that investors are not necessarily willing to take. In such cases, it is possible to make equity investments, which directly inject capital to grow the operations of a project or a firm. This allows investors to leverage further resources as they mitigate risk for other investors.

#### MODALITIES

How the instruments in the previous section exercised in practice? The following modalities are used non-exclusively by the Green Climate Fund.

#### LOANS

##### ADAPTABLE PROGRAMME LOANS (APL)

A form of concessional lending that provides phased support for long-term development programmes with a long-term perspective in specific sectors.

##### DEVELOPMENT POLICY LOANS (DPL)

A form of concessional lending that provides non-earmarked financing aimed at helping a borrower achieve programmatic results (such as controlling emissions or increasing climate resilience) through a programme of policy and institutional actions.

##### SECTOR INVESTMENT LOANS (SIL)

A form of concessional lending that brings sector expenditures, policies, and performance in line with the country’s priorities and helps



borrowers develop the institutional capacity to plan, implement, and monitor expenditures or the investment programme.

### **DEBT SWAPS**

Debt swaps occur when an existing debt stock or stream of debt service payments is converted into another obligation or asset type. Usually, a debt swap involves the voluntary exchange of a debt instrument by a creditor with its debtor for cash, another asset, or a new obligation with different repayment terms.

### **OPPORTUNITIES**

Debt swaps have been used for environmental funding through debt-for-nature operations. Such swaps often involve a third party, such as a non-governmental organisation (NGO), which buys the debt for payment in local currency. In exchange, the debtor agrees to fund certain environmental activities. Another swap modality may involve the creditor and debtor swapping bilateral debt. In these cases, the creditor cancels all or a portion of the debt and the debtor agrees to use the cancellation amount to fund environmental activities that are mutually agreed upon.

### **PERFORMANCE-BASED PAYMENTS**

Performance-based payments refer to a grant or concessional loan that is disbursed in tranches against the verified fulfilment of predefined targets that are sometimes classified against quantified emission reductions in a proposed project or programme. Payment depends on measurable actions being undertaken. This kind of financing is aimed at rewarding innovation and successful implementation of a project with clear climate benefits. In many instances, carbon credits or units may be seen as a special type of performance-based payment.

Performance-based finance can be used to promote policy reforms, build capacity, and undertake investment projects.

### **PUBLIC-PRIVATE PARTNERSHIPS (PPP)**

A PPP is a contractual agreement between a public agency and a private sector entity. Through this agreement, the skills and assets of the two sectors are shared to deliver a service or facility. In addition to sharing resources, each party shares the potential risks and rewards of the delivery of the service or facility.

While attempts to mitigate the consequences of climate change will continue to be carried out by governments, the scale of the challenge means that governments cannot act alone as they may not have the adequate funds, skills, or capacity. Also, some interventions may require long periods of implementation if they are delivered as public-only projects. Since public finance will be limited, multiple sources of finance, including private sector finance, can be combined in different ways to provide sustainable solutions. Such hybrid financing schemes are also more appropriate as projects become more complex and not viable purely on private financing structures, which make an innovative partnership between the two sectors desirable.

PPP models could potentially address challenges in adaptation and mitigation efforts in sectors such as housing, communication, infrastructure, health, agriculture, water, and sanitation.

### **ADVANCED MARKET COMMITMENTS**

An advanced market commitment is a mechanism that generates incentives for private sector engagement by ensuring viable market demand. Thus, an advance market commitment

could be aimed at creating a market for future technologies relevant to developing countries that are large and credible enough to stimulate private investment in research and development and manufacturing capacity. In the context of climate change, the end goal would be to accelerate the availability and introduction of climate-friendly technologies to developing countries.

To date, this type of mechanism has been mostly used in the public health sector to encourage the research, development, and production of vaccines against diseases that affect people in developing countries. The principles can be applied to other types of technologies, such as low carbon energy, and could represent an important tool for funding low carbon technology development and transfer.

### **FIRST LOSS RESERVE (FLR)**

In addition to subsidising the cost of loans, guarantees, or equity investments, concessional resources can also be used as risk buffers to cover first losses in waterfall payment mechanisms that assign the payment of revenues to senior risk tranches held by development finance institutions and private investors. Under such a structure, different risk tranches of capital are created, where the first loss may be covered by concessional sources and upper tiers by development finance and commercial investors.

A FLR repayment mechanism assigns the first payment of revenues to the senior tranches and the last to the first-loss tranche. The use of concessional resources under this structure allows additional commercial funds to be leveraged on a large scale for development purposes. The risk buffers of the higher-risk

tranches also provide significant comfort to more risk-adverse investors.

### **CHALLENGES**

To be effective, these instruments require sponsors with substantial resources, financial expertise, and a committed green agenda. In addition, the costs and complexity entailed should be contained to make the instrument competitive with investment alternatives and with the cost of the risks they manage. Moreover, unless first-loss protection mechanisms and their underlying objectives appeal to investors and the banking sector, they will not create liquidity on the banks' balance sheets. Nor will they mobilise resources at scale for green infrastructure investments.

First-loss reserve protection mechanisms can create a moral hazard by attracting developers and banks with very risky projects and may conflict with other direct risk mitigation instruments, such as traditional forms of insurance.

Proponents of this instrument should also be wary of timing. First loss protection mechanisms need to be established while there is urgent need and high demand. Moreover, unless specific strategies are adopted to direct the use of proceeds, there is a risk that banks may reallocate capital to a wide range of investment outcomes. Some could lead to funding GHG emitting projects, while others may be unrelated, such as sponsoring hospital construction.

### **OPPORTUNITIES**

First-loss protection mechanisms encourage capital release, in which capital previously committed to commercial or regulatory reasons becomes available for new uses. According to CPI, they can be applied through two different

mechanisms: project finance solutions can be used as an alternative to bank loans (such as project bonds) or as dedicated investment vehicles such as collateralised debt obligations (CLOs).

First loss protection mechanisms, as described above, are a means of dealing with barriers associated with low credit worthiness. As Wilkins puts it, a scholar that focuses on infrastructure in developing markets, “they can overcome the absence of liquid, investment grade asset-backed securities and a small secondary market”.

#### **REGIONAL EXAMPLES OF CREDIT ENHANCEMENT MECHANISMS**

Traditionally, the types of institutions that would sponsor FLR-type instruments includes development banks and institutions whose agenda includes capital release into financial systems (for example, the IMF, ECB, and the US Federal Reserve). The case below highlights involvement from the Asian Development Bank in India.

## 1.6 GREEN BONDS

---

Green bonds are an evolving solution which will continue to underpin institutional investor willingness to commit to climate-related investments. By definition, these are bonds that are ring-fenced to fund eligible climate change mitigation projects with a focus on renewables, energy efficiency, and transport. It is a growing investment opportunity and funding tool for sustainable infrastructure in OECD and non-OECD countries.

As of July 2016, the market had some USD 130 bn of debt. This is just 0.15% of the total global fixed income market. However, the market is growing fast, with an expected \$150 bn extra issuances since 2016.

Several green bond indexes exist today. S&P and Moody's have developed green bond ratings methodologies and public bodies are seeking ways to encourage the development of the market.

Moreover, asset managers, including Blackrock, have developed a set of green bond principles that include specifics for the use of proceeds, project evaluation, and impact reporting. Harmonisation and increased standards will be required to make this work. Asset owners, investors, issuers and rating agencies have adopted the principles, as have public entities like the People's Bank of China.

According to Blackrock, asset owners appear to have an appetite for green bonds, especially for issuers who provide thorough impact reporting and have the environmental benefits of their projects rated by outside sources. However, the market cannot yet accommodate large-scale

portfolio allocations. Cheaper and wider-spread green bond funding is needed to drive more investment. Governments will have a role to play to facilitate climate finance.

### CHALLENGES

Green bonds will play a significant role in financing the estimated \$90 tn of global infrastructure needed by 2030 to limit climate change. However, there has been little action from investors despite commitments to dive into this market. According to the OECD, pension fund allocations were stuck around 3.5% of assets in 2011–2015.

As a relatively new instrument in the market, the following challenges have been flagged:

- Regulatory uncertainties and political and currency risks in emerging markets may limit the future of green bonds.
- Keeping integrity in the absence of international regulations.
- Additionality is a big credibility test for the market. The purpose of the green bond market is to mobilise capital to address climate change. There is a gap between the providers of capital and the issuers who take the money but are just refinancing existing projects or doing projects that would have happened anyway.
- Underlying assets being financed through green bonds are mostly renewable energy or energy efficiency projects. There is a need to broaden the range of corporates coming to the market and to open the focus beyond just climate change.

## OPPORTUNITIES

In light of some of these challenges, tax incentives and public guarantees could help entice private capital. Examples include using development banks and export credit guarantees to lower financing costs and reduce risk. Creative finance to boost pools of capital is another option.

One suggestion by Blackrock is that a supranational organisation could pool EM bank loans to multiple renewable projects across different countries. This would mitigate project- and country-specific risks, which are major concerns for many investors. A second step would be to create different credit tranches. The supranational organisation would own a junior tranche that would absorb potential first losses – effectively a first-loss cushion for private holders of senior tranches.

## GREEN BONDS IN NEPAL?

### DOMESTIC MARKET

In Nepal, only two types of bonds are available – corporate debentures issued by commercial banks and government bonds (for example, the Development Bond, National Savings Bond and Citizens Savings Bond). IFC and ADB have planned to issue a local currency bond, but that has not yet happened.

The stock market and bond market is not very liquid, and there are limited fixed income securities, as described above. The depth of instruments available in the stock market is low.

An investor can only go long on stocks. There is no short selling, and nor is there a market for options.

The last year has seen fixed deposit rates in Nepal hit highs of ~11–13%. This is in stark contrast to the low interest rate environment a few years ago. The interest rate for borrowing is based on a bank's cost of funds, and with fluctuations in fixed and saving deposit rates, a borrower's cost of borrowing becomes volatile. With no option of fixed interest rate for the tenure of their projects, renewable energy developers face a lot of uncertainty. Hence, a green bond market dedicated to renewables would make sense in Nepal's context.

### INTERNATIONAL MARKET

One hurdle preventing Nepal from benefitting from the international bond market is that the country does not yet hold a sovereign rating, and therefore cannot credibly issue a sovereign bond. However, even if it could, interviews the Dolma team held over the last year with institutional investors reveal that they are mandated to only consider BBB-, or investment grade, investments.

Though untested, there is potential for Nepal to benefit from the issuance of international bonds linked to a YieldCo domiciled abroad but with the capital being raised for projects in Nepal. If the project was insured by the World Bank's AAA credit rating through a MIGA product, purchased at the fund or company level, corporate entities in Nepal could benefit.



## 1.7 BLENDED FINANCE

---

Blended finance instruments play a crucial role in realising projects in emerging and frontier markets by offering investors products that address the otherwise unavoidable risks inherent in untested markets. This section will draw on findings from the Consultation Paper of the Blended Finance Taskforce to paint a picture of the blended finance market today.

According to the Blended Finance Taskforce, blended finance is best described as:

“The strategic use of public or philanthropic development capital for the mobilisation of additional external private commercial finance for SDG-related investments”.

Developments in this space are of crucial importance in the context of Nepal’s renewable energy sector, and, indeed, in attracting equity capital to the country. Over the last year, Dolma has reviewed a number of instruments that can be used to mitigate so-called perceived risks.

### INVESTOR PERCEIVED RISKS

The perceived risks investors see in investing in Nepal is well documented in previous reports in this series. Here, we intend to simply review these to set the tone for a discussion on the products available in the next section, how they can or have been catalysed, and the structures used. According to the Blended Finance Taskforce, “The use of blended finance vehicles and instruments like guarantees, technical assistance grants, currency hedging and risk insurance are gaining traction with

private investors”. And developers can use a small amount of development capital to mitigate against a range of risks, as seen in Table 9. This could be enough to tip the scales, enabling investment in new asset classes like infrastructure debt or equity in emerging markets.

### GLOBAL PERSPECTIVE

Climatescope, a country-by-country assessment (funded by DFID and Bloomberg New Energy Finance) evaluates the landscape of climate-related investments worldwide on an annual basis. Figure 3 puts frontier and emerging markets in geographical perspective, in this particular case highlighting off-taker risk. Generally, countries facing higher risks are more likely to see blended finance instruments applied.

The majority of blended finance will be needed to make economic infrastructure sustainable, land use more sustainable, and social infrastructure in developing countries more investable. The UN estimates that at least USD 90–100 tn is needed to achieve the SDGs, the largest share in the so-called Global South. By de-risking these investments, blended finance would allow the private sector to participate, capturing over US\$ 1 tn in additional annual investment potential.<sup>11</sup>

MACRO	CREDIT/COMMERCIAL	TECHNICAL	FINANCE	INFRA SPECIFIC						
	Country risk	Currency risk	Credit risk	Liquidity risk	Demand risk	Execution risk	Operation risk	Access to cap	Lack of pipeline	Offtake risk
Guarantees			█	█		█	█	█		
Insurance	█			█		█	█	█		
Hedging		█			█					
Subordinated Debt			█	█		█	█	█	█	
Securitisation			█	█						
Contractual Mechanisms					█					█
Results based incentives							█			
Grants								█	█	

FIGURE 3: PERCEIVED RISKS IN EMERGING/FRONTIER MARKETS

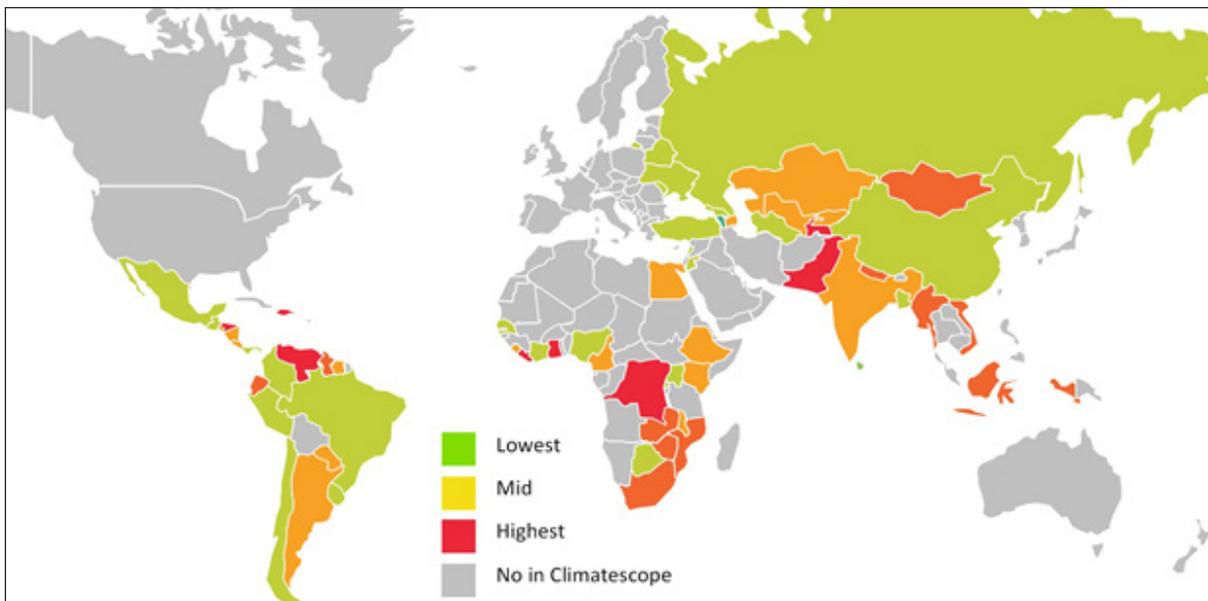


TABLE 9: BLENDED FINANCE INSTRUMENTS 11

Instrument	Description	Risks mitigated	Example provider
Guarantee	A form of credit enhancement. Provides protection to one party if the other party fails to perform. Guarantees are provided by a third party that steps into the shoes of the defaulting party so that the innocent party does not suffer a loss. Guarantees are one of the most catalytic forms of blending. Forms of guarantees include first loss, partial risk, or credit guarantees and trade finance guarantees.	Access to capital; credit/ counterparty risk; off-take risk; construction/ completion/technical risk; demand risk	
Insurance	Provides protection by promising to compensate for a specified loss or damage in return for payment of a specified premium. One of the most common types of insurance is political risk insurance. Insurance provides a more stable environment for investments in developing countries. Along with guarantees, they are one of the most catalytic forms of blending.	Political risk; construction risk; operation and output risks; upstream resource related risks; access to capital	
Hedging	Reduces the risk of adverse current price movements in an asset and its associated earnings stream. Currency hedging reduces or eliminates exposure to the movement of foreign currencies, addressing one of the key risks of investing in emerging markets.	Currency/ Commodity risk	
Subordinated/ Junior Debt	Subordinated or junior debt protects senior investors by taking first losses on the value of the security, i.e. if something goes wrong, the most junior/subordinated tranche will be paid out last.  First loss capital takes a position that will stunt the first economic loss if the assets below it lose value or are foreclosed on	Multiple risks including off-take, construction, and reputational risks; access to capital	
Securitisation	The process of transforming a pool of illiquid assets into tradable financial instruments.	Liquidity/ time horizon; scale; counterparty/off-take and credit risk	
Results based incentives	Instruments that provide incentives and disincentives to achieve desired outcomes or results, including social impact bonds and performance-based contracts. This type of financing is aimed at rewarding innovation and successful implementation of a project with clear climate benefits.	Operation and output risks	
Contractual mechanisms	Various contractual and project finance arrangements to support the development of bankable infrastructure projects including public and private off-take agreements, subsidies such as feed-in-tariffs, and tax credits. These mechanisms involve an agreement between producers and buyers of a resource to purchase or sell portions of future production. These agreements are to secure financing for a production facility or buy the equipment needed to extract a resource.	Demand risk; financing risk (demonstrate bank revenue stream)	

Grants	Capital paid without any expected repayment or compensation over a fixed period of time. This could involve money for TA or project preparation to make a project bankable. Grants can be important for pipeline development, especially in less mature sectors and riskier geographies, allowing significant crowding in of private capital.	Access to capital; high transaction costs; operational risks; lack of bankable pipeline; lack of local intermediaries; lack of capacity	
--------	---	---	---

## BLENDING FINANCE INSTRUMENTS

A number of blended finance tools are available today, including guarantees, insurance, currency hedging, grants, and subordinate/first loss debt and equity. According to the Blended Finance Taskforce, each instrument mobilises a different amount of private capital relative to the public or philanthropic funds used to provide the instrument, which means some instruments are more catalytic.

## BLENDING STRUCTURES

Although the concept of blended finance may remain a new concept for investors and its application may be questioned, Figure 4 shows how blended finance typically works using common investment structures. In these structures, institutions most commonly invest or participate in equity, loans, or bonds.

Transactions incorporating blended finance into their structures are aligned to alternative asset

classes such as infrastructure, private equity, and illiquid credit that are familiar to institutional investors. To date, the asset classes relevant to blended finance are estimated to make up around USD 6 tn of alternative investment portfolios around the world.

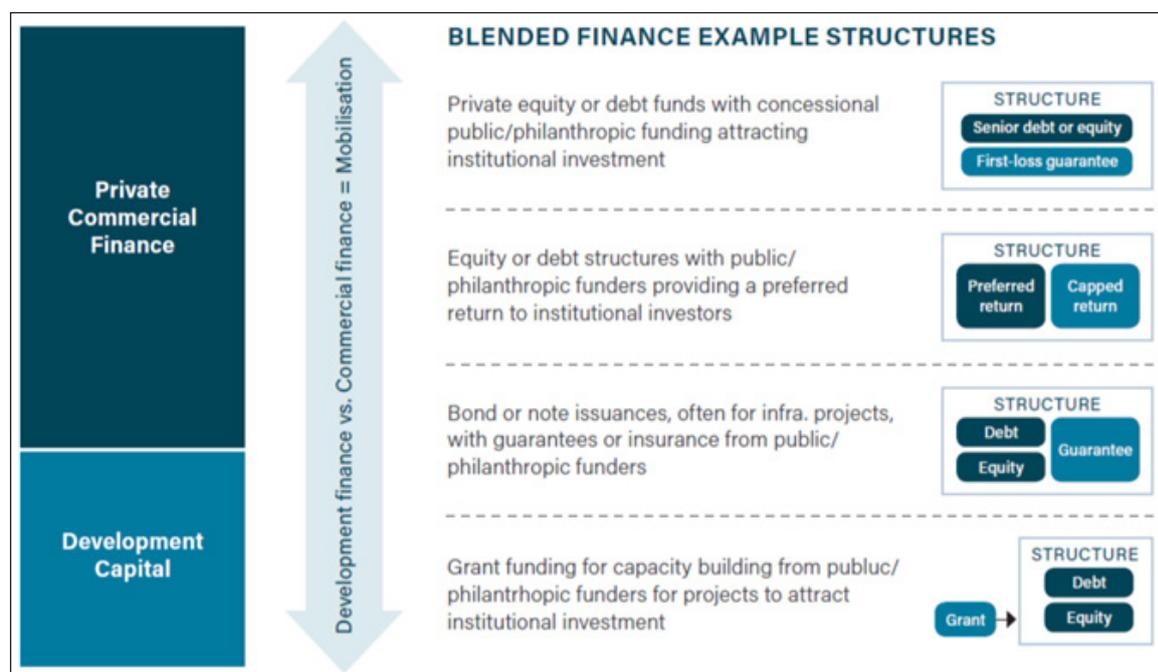
Blending can also occur at different levels – directly into a project, as part of a specific fund, or as part of a facility. It can also take place at the market level. The concept of blending has been around for longer than the term itself – for instance, PPPs may be seen as a form of blending.

According to the Blended Finance Taskforce, “The clean energy finance space also has good examples, with carbon credits, feed-in-tariffs and other renewable energy subsidies providing a decade of learning in programmatic blending at the market level.”

TABLE 10: BLENDING FINANCE AT DIFFERENT LEVELS

Project level	Public and private capital blended within a single project or company's financial structure	Example: Elazig Turkey, Lake Turkana Wind Project, & Green, SPCG
Fund level	Public and private investors pool resources to be invested in multiple projects for companies	Example: Climate Investor One (CIO), Danish Climate Investment Fund (KIF), &Green
Fund-of-funds	Funds that in turn invest in other funds	Example: GEEREF I & II, Sarona
Facility (institutional level)	A long-term or permanent institution is set up or modified to blend finance, thereby mainstreaming the use of blended finance	Example: IFC Managed Co-Lending Portfolio Programme (MCPP), GuarantCo
Market level	Market mechanisms which blend public subsidies to encourage private investment	Example: UK and German FiT schemes, Fannie Mae/ Freddie Mac
Project prep support	Public support for project preparation and intermediaries has also been used to mobilise private investment by addressing specific barriers, especially information gaps	Example: ACEF, Aligned Intermediary, CPI's the Lab

FIGURE 4 BLENDED FINANCE STRUCTURES



## CONCLUDING REMARKS

The positive momentum building around the blended finance market allows countries like Nepal to reap the benefits in the coming years. However, significant reform is required in the domestic institutional environment to attract investors. While interest for international products is growing from the supply side (investor), the demand side (host governments) will become increasingly competitive for capital.

Dolma's research finds that countries successful in tapping this market were willing to make bold moves within their own domestic political economies. One example is Colombia's Infrastructure Bank (FDN), which catalysed the domestic infrastructure market after selling equity stakes to IFC and the Development Bank of Latin America. Another example is India, which enforced positive institutional and policy settings, and Mexico, which has seen a dramatic scaling up of its wind industry after the government passed a law that required 35% of the country's energy to come from renewables by 2040.<sup>11</sup>

Nepal could follow this path by creating its own government-backed instruments and enacting

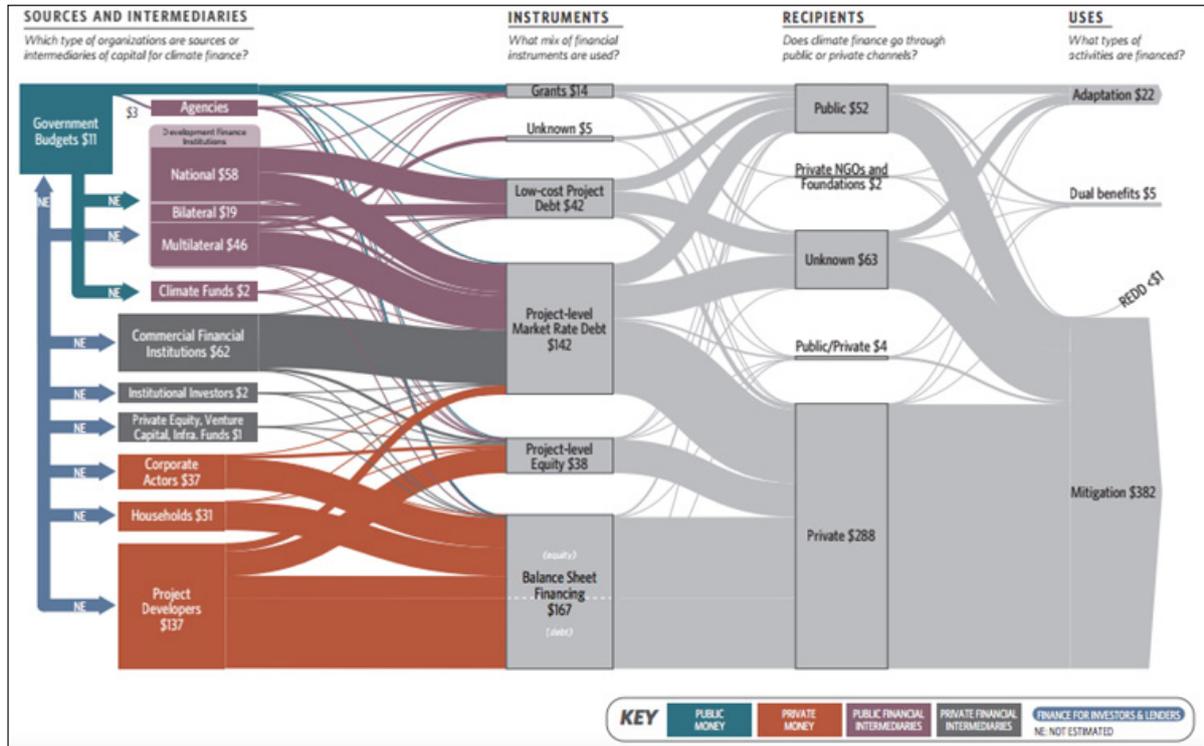
regulatory reform. Dolma finds that at least two blended finance instruments are required today for institutional investors to begin considering Nepal as an investment option: political risk insurance and a currency hedge. Should the government issue a sovereign bond, thereby generating a sovereign rating from international rating agencies, developers crowding in international investment would have one fewer cost to fret over. The same applies should Nepal Rastra Bank create a Nepalese rupee hedging fund backed by its foreign reserves and potentially donors to ease investor concerns over the future of the pegged currency.

As blended finance models begin to scale alongside other mechanisms, such as green bonds and One Belt One Road (OBOR) initiatives, capital may not be the constraining factor. Countries which have put the right institutions and vehicles in place have been successful in attracting financing because they have the right enabling environment to support the development of a pipeline of investible projects. Large capital flows will systematically go towards those developing countries generating high quality assets, but institutional policy settings need to be welcoming.

## 1.8 APPENDICES

### APPENDIX A

FIGURE 5: CLIMATE FINANCE LANDSCAPE 2017Z





## 1.9 REFERENCES

---

Frankfurt School - UNEP (2017). Global Trends in Renewable Energy Investment. [online] Available at: [http://fs-unep-centre.org/sites/default/files/publications/globaltrendsinrenewableenergyinvestment2016lowres\\_0.pdf](http://fs-unep-centre.org/sites/default/files/publications/globaltrendsinrenewableenergyinvestment2016lowres_0.pdf) [Accessed 3 Jan. 2018].

Climate Policy Initiative (2017). Global Landscape of Climate Finance. [online] Available at: <https://climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2017/> [Accessed 3 Jan. 2018].

BNEF (2017). Bloomberg New Energy Finance, Levelized Cost of Electricity Market Outlooks, H1 2015, H2 2015, H1 2016 and H2 2016. [online] Available at: <https://about.bnef.com/new-energy-outlook/> [Accessed 3 Jan. 2018].

Capgemini (2015). World Wealth Report 2015. [online] Available at: <https://www.capgemini.com/consulting/resources/world-wealth-report-2015/> [Accessed 3 Jan. 2018].

Boll, H. (2017). Climate Funds Update: Where the (public) money is - ndci.global. [online] ndci.global. Available at: <http://ndci.global/climate-funds-update-where-the-public-money-is/> [Accessed 3 Jan. 2018].

Wilkins, M. 2012. "Evaluating Investor Risk in Infrastructure Projects." Presented at: OECD Expert Meeting – Session IV – Mobilising Private Investment in Low-Carbon, Climate-Resilient Infrastructure. Paris, 2012

Bloomberg New Energy Finance. (2018). Clean Energy Investment 2016 | Bloomberg New Energy Finance. [online] Available at: <https://about.bnef.com/clean-energy-investment/> [Accessed 3 Jan. 2018].

Blackrock (2016). Adapting Portfolios to Climate Change; implications and strategies for all investors. [online] Blackrock.com. Available at: <https://www.blackrock.com/investing/literature/whitepaper/bii-climate-change-2016-us.pdf> [Accessed 3 Jan. 2018].

OECD (2015). Annual Survey of Large Pension Funds and Public Pension Reserve Funds: Report on Pension Funds. [online] Available at: <http://www.oecd.org/daf/fin/private-pensions/2015-Large-Pension-Funds-Survey.pdf> [Accessed 3 Jan. 2018].

Climatescope 2017. (2018). How to mitigate Renewables Risk in Emerging Markets – Climatescope 2017. [online] Available at: <http://global-climatescope.org/en/insights/risk-management/> [Accessed 3 Apr. 2018]

Blended Finance Taskforce. (2018). Better Finance Better World: Consultation Paper on the Blended Finance Taskforce. [pdf] Available at <http://businesscommission.org/our-work/new-consultation-paper-better-finance-better-world> [Accessed 2 April. 2018]

