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From Banks to Capital Markets: Alternative Investment Funds as a Potential Pathway for Refinancing Clean Energy Debt in India

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About CPI

With deep expertise in finance and policy, CPI is an analysis and advisory organization that works to improve the most important energy and land use practices around the world. Our mission is to help governments, businesses, and financial institutions drive economic growth while addressing climate change. CPI has six offices around the world in Brazil, Kenya, India, Indonesia, the United Kingdom, and the United States.

About the U.S. – India Catalytic Solar Finance Program (USICSF)

The U.S. – India Catalytic Solar Finance Program (USICSF) was conceived when Indian Prime Minister Narendra Modi visited the U.S. in June 2016. The aim of the program is to provide an impetus to the Distributable Renewable Energy (DRE) sector in India through development of financial interventions that can mobilize private capital at scale, thus assisting in India's policy targets of achieving 40 GW installed capital in the DRE sector by 2022. The program is a commitment made jointly by US Foundations and the Government of India.

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Executive Summary

Clean energy must play a central role in achieving India’s green growth goals. The IFC estimates India will need \$450 billion to finance its 2030 clean energy targets (IFC 2017). Assuming a typical 70-30 split of financing via debt vs equity, the debt funding requirements translate to \$315 billion through 2030.

While India’s clean energy sector continues to grow and attract significant investment, there can be serious challenges to the growth trajectory if the capital deployed in existing projects is not recycled and if new sources of capital are not included to meet the increased future investment requirements (Pragathi and Veena, 2018). It is, therefore, imperative that operational renewable energy projects access capital markets to recycle capital and attract new investor classes.

This study, produced by Climate Policy Initiative under the US-India Catalytic Solar Finance Program (USICSF), and as a knowledge partner with the Indian Renewable Energy Development Agency (IREDA), looks at various avenues for renewable energy to access capital markets.

We show that shifting project debt to capital markets can be primarily achieved via two pathways:

1. Financial institutions such as banks and NBFCs shift diversified loan portfolios to capital markets by converting pools of regular cash flows into investable financial securities, via a process known as securitization.

2. Alternatively, developers directly go to capital markets, and use the proceeds to retire existing loans.

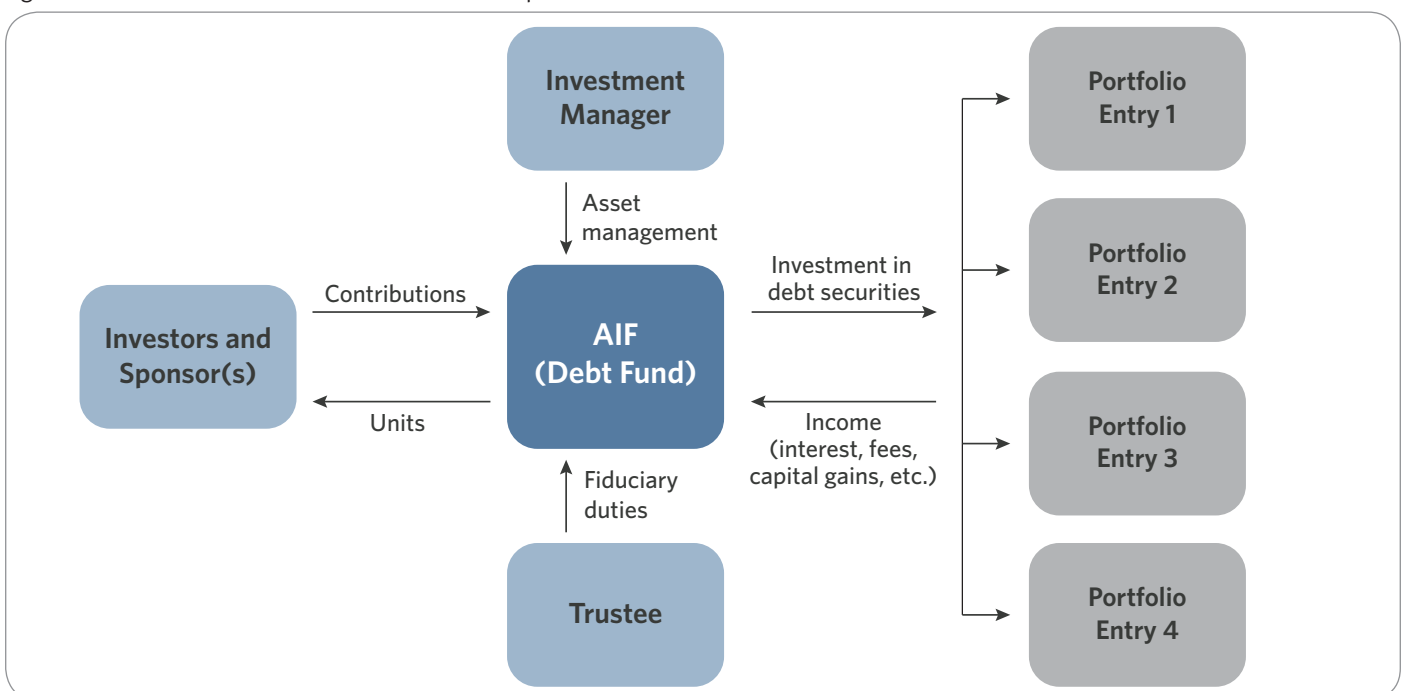
These paths are common in economies with more developed capital markets, however, in India, barring a few sporadic transactions, both pathways are yet to take off in any substantive manner. We therefore suggest specific solutions that would help to address some of the main barriers in the medium and longer term. These include:

- Greater investor protection in case of default to increase demand for the lower-rated securities and help deepen the bond market
- Development of risk-transfer mechanisms, for example Credit Default Swaps (CDS), that would also help increase demand for bonds

In addition, our research shows that Alternative Investment Funds (AIFs) offer the best near and medium-term path to expanding renewable energy access to capital markets while more structural issues are addressed.

AIFs are essentially managed pools of money that can invest in a pre-specified mandate. As the name suggests, AIFs are alternatives and can deploy investment strategies that are beyond the purview of the more commonly deployed pathways such as mutual

Figure ES 1: How an alternative investment fund would operate



funds – e.g. investing in startups/unlisted companies, deploying leverage and complex trading strategies, etc. Through participation of institutional investors, an AIF allows investment in debt securities issued by renewable energy project developers, which are backed by cashflows from stable and operational projects. The proceeds from bond issuances can then be used to retire loans that the developers would have taken from banks/NBFCs.

While AIFs may not fully address the structural issues prevalent in the Indian capital markets, they may partially resolve or help to circumvent some of these barriers, such as, by:

- **Enhancing the credit rating of the structured bond issuance:** In cases where the sponsor of an AIF for renewable energy is able to directly provide a partial credit guarantee, the ratings of the bonds may see an improvement as well, which can attract the interest of institutional investors. This possibility, would for example, be in play if IREDA were to sponsor an AIF. Alternatively, it would be possible to credit enhance at the level of the AIF through other sources of credit enhancements (e.g., balance sheets) available to the sponsor.

- **Creating scale through aggregation of renewable energy projects loans:** A financial institution like IREDA could bundle multiple projects and increase the size of issuance. The same aggregation could also be possible at the level of AIF for upstream investment.
- **Crowding in long-term institutional investors:** AIFs, by regulation, cannot invest more than 25% in a single security; this by definition requires other investors in the project. With an anchor sponsor (e.g. IREDA), however, a project may be able to attract more institutional investors, create better credit enhancement structures, and increase the scale of placement relative to an individual project.

Further, AIFs appear to be the most flexible of similar instruments (e.g., INVITs and IDFs) and, therefore, are likely to be more successful in taking renewable projects to capital markets.

This study recommends that potential sponsors work toward a next step of a demonstration AIF focused on renewable energy debt. Such a project – particularly if offered by a public agency like IREDA – could provide useful demonstration effects, and create track record to build investor confidence about the economic viability of clean energy projects, offering potential for further replication of this model.

TABLE OF CONTENTS

1. INTRODUCTION	4
2. SCALING UP CLEAN ENERGY VIA DEBT CAPITAL MARKETS	6
2.1 IMPORTANCE OF CAPITAL MARKETS	6
2.2 POSSIBLE PATHWAYS FOR RENEWABLE ENERGY TO ACCESS CAPITAL MARKETS	6
2.3 BARRIERS TO ACCESSING CAPITAL MARKETS	8
2.4 SOLUTIONS FOR IMPROVING ACCESS TO CAPITAL MARKETS	9
3. AIFs CAN BE AN ATTRACTIVE CHANNEL FOR SCALING UP CLEAN ENERGY VIA CAPITAL MARKETS	11
3.1 WHAT ARE AIFs?	11
3.2 KEY FEATURES OF AIFs	11
3.3 PROPOSED STRUCTURE OF THE AIF	12
3.4 BENEFITS OF AN AIF	13
3.5 COMPARISON OF AIF WITH OTHER INVESTMENT VEHICLES IN THE MARKET	14
4. CONCLUSION	17
5. SOURCES	18
6. ANNEXURE	20
6.1 BARRIER ANALYSIS: SUMMARY OF RESEARCH FINDINGS	20
6.2 LIST OF PRIMARY RESEARCH INTERVIEWEES:	22
6.3 MINUTES FROM THE AIF SESSION AT RE-INVEST IN DELHI	23

1. Introduction

India has committed to ambitious action on climate change, pledging to achieve 40% of the country's electricity generation capacity by 2030 through renewable sources. The Indian government has also set a near-term target of achieving 175 GW of renewable energy capacity by 2022, a significant increase from the current level of 70 GW (MNRE, 2018), requiring an additional \$100 billion in financing. These figures will increase to \$450 billion through 2030 (International Finance Corporation, 2017).

There can be several reasons why investments in low-carbon technologies and business models may not scale-up at the required pace without policy and financing interventions (IRENA, 2016). These reasons may be categorized into one or more among the following:

- (a) A **policy framework** that is not conducive to the growth of the sector.
- (b) Lack of **risk mitigation mechanisms** that address barriers preventing mobilization of commercial capital.
- (c) Lack of **structured finance tools** that can attract large scale funding from capital markets.

While the first two aspects usually deal with creating a conducive enabling environment, the last aspect usually focuses on consolidating and scaling up the sector once the initial momentum has been built.

In India, most debt financing comes from banks and NBFCs. For instance, in FY 2017, the corporate sector in India borrowed 2.7 times more from banks than it did from capital markets (Crisil 2018). In the more developed markets, banks play an important role in providing debt, but only during the origination phase of projects. Once the projects are operational and cash-flows get stabilized, the banks shift their loan books to capital markets through structured finance mechanisms (e.g. via issuance of securitized bonds). This ensures capital is continually recycled and that the unlocked bank capital can be lent afresh to new projects.

In the Indian context, however, such a phenomenon is largely missing due to a generally under-developed bond market. As a result, capital once lent out gets stuck till it is paid back, which is not desirable given that payback periods for renewable energy projects are often long (typically exceeding 15 years). Thus, it is imperative that effective structured finance mechanisms and

capital market tools be developed to ensure capital recycling in order to facilitate successful scaling up of the Indian clean energy sector.

The report, produced under the US-India Catalytic Solar Finance Program (USICSF), focuses on our efforts on project debt refinancing, using AIF as a potential demonstrative activity that can set a precedent for future such transactions. The AIF under consideration may be floated by Indian Renewable Energy Development Agency (IREDA). CPI is the knowledge partner of IREDA and has therefore undertaken this exercise.

In this report, given the massive capital requirements for meeting policy targets, we have emphasized the need to recycle debt finance. We show that, although structural issues in the Indian corporate bond market may limit the potential, even within the existing framework opportunities may exist that need to be explored. We believe AIFs are a class of investment vehicles that can be used by potential sponsors to test out existing opportunities as well as circumvent some of the issues.

We conducted 15 primary research interviews with a number of stakeholders, including banks/NBFCs, developers, merchant bankers and industry experts to develop a nuanced understanding of barriers preventing capital recycling and access to capital markets. In addition, CPI co-hosted a session at RE-INVEST, held at New Delhi in October 2018, to seek private sector feedback on reasons behind limited capital recycling and to understand the potential for a clean-energy focused AIF to be floated by an NBFC (e.g. IREDA). More details on discussions during the workshop can be found in Annex 5.3. These findings were further supported by extensive secondary research.

We have provided detailed descriptions on barriers to accessing capital markets and the long-term solutions to overcoming them in Section 2. Details on what AIFs are, along with their key features are provided in Section 3.1 and Section 3.2, respectively. We then describe the structure of a debt fund (set up as an AIF), which can be sponsored by a financial institution such as IREDA, and can be used for capital recycling. Although most issues relating to accessing capital markets are structural in nature, the sponsor may be able to partially resolve or circumvent some of these barriers through such an AIF. These have been explained in Section 3.3. Besides overcoming specific barriers, an AIF may also fit in with the strategic objectives of both the financial institute

and developers. We present these in Section 3.4. AIFs also tend to offer the most flexibility when compared with other investment vehicles, such as IDFs and InvITs (Section 3.5). This flexibility renders AIFs with the capability to adapt to investment opportunities, mandates and needs of a multitude of stakeholders.

If IREDA were to successfully set up an AIF, it could play a lead role in market-making and in showcasing demonstration. Our aim, through this report, is to disseminate key information that can be leveraged by other financial institutions who may emulate and set up similar funds so that a greater amount of capital flows into India's renewable energy sector.

2. Scaling up clean energy via debt capital markets

Given the massive investment requirements to scale up renewable energy in India, capital recycling is the need of the hour. In this section, we discuss the role of capital markets in the growth of an economy, what the primary pathways for accessing debt capital markets are and what barriers financial institutions and developers face in accessing capital markets for debt in India. Thereafter, we provide brief descriptions of possible solutions that could overcome these barriers.

2.1 Importance of capital markets

A capital market is a financial market where debt and equity securities can be issued and traded. Such markets involve the participation of a wide range of retail and institutional investors, who can invest through pension funds, insurance companies, mutual funds, and other investment routes.

On the debt side, bonds, debentures and asset-backed securities (ABS) such as collateral debt obligations and mortgage-backed securities, are the most common securities traded in capital markets.

Bank lending is generally considered outside the purview of capital markets, since bank loans are not securitized and tradable, and therefore involve very limited institutional investor participation. Moreover, banks are subject to different regulations compared to capital markets; in the Indian context, banks and NBFCs come under the purview of the Reserve Bank of India (RBI) while capital markets are regulated by Securities and Exchange Board of India (SEBI).

Capital markets involve the participation of a wide range of retail and institutional investors, who can invest through pension funds, insurance companies, mutual funds and other investment vehicles.

Capital markets play an important role in the overall growth of an economy and help channel savings into productive investments (World Bank, 2017). Compared to traditional bank lending, the capital market distinguishes itself in the following ways:

- Capital markets bring about efficiency into the financial markets through:

- » Greater liquidity and trading volumes ensure better price discovery of investment securities.
- » A wider base of investors and fund seekers ensures there's no artificial shortage of supply and demand.
- » Through regulatory guidelines, institutions are required to disclose and withhold certain information publicly. This helps reduce information asymmetry.

- Capital markets are an important source of alternative and additional capital to bank lending. In a fast-growing and a huge economy like India, capital is needed on a colossal scale and at a cheaper cost, and banks alone do not have the capacity to fulfill this mandate.
- Depending on the needs and mandates of investors and fund raisers, capital markets offer much more customizations and flexibility in terms of the riskiness, tenure and the liquidity of the investment securities. Certain investments that might be deemed as too risky to be funded by the banks can be done so through capital markets.

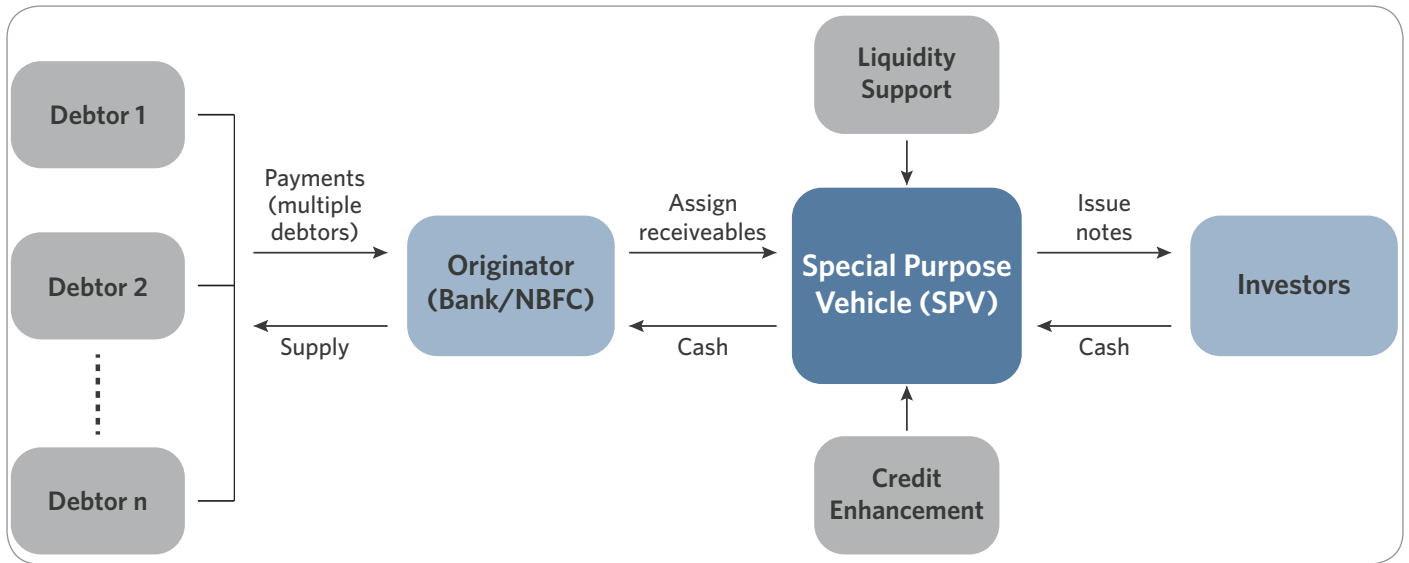
2.2 Possible pathways for renewable energy to access capital markets

There are primarily two routes through which debt financing for renewable energy projects can be shifted to capital markets after the project becomes operational. Both these routes help the lending institute free up locked capital that can thereafter be lent afresh and involve the participation of institutional/retail investors that ensures incremental capital flows into the sector. These two routes are:

(a) The lender shifts loans to third party investors via asset-backed securities through securitization

Securitization is the process of packaging multiple debt contracts into a single financial instrument and then selling their related cash flows to third party investors through asset-backed securities. This is illustrated in Figure 1.

Figure 1: Securitization Process



Bundling several projects into a single structure ensures diversification (thus lowering expected risk) and helps the originator realize pricing gains and create balance sheet space for further lending to the sector. Further, securitization may also have other benefits, depending on the situation and strategic objectives of the financial institution:

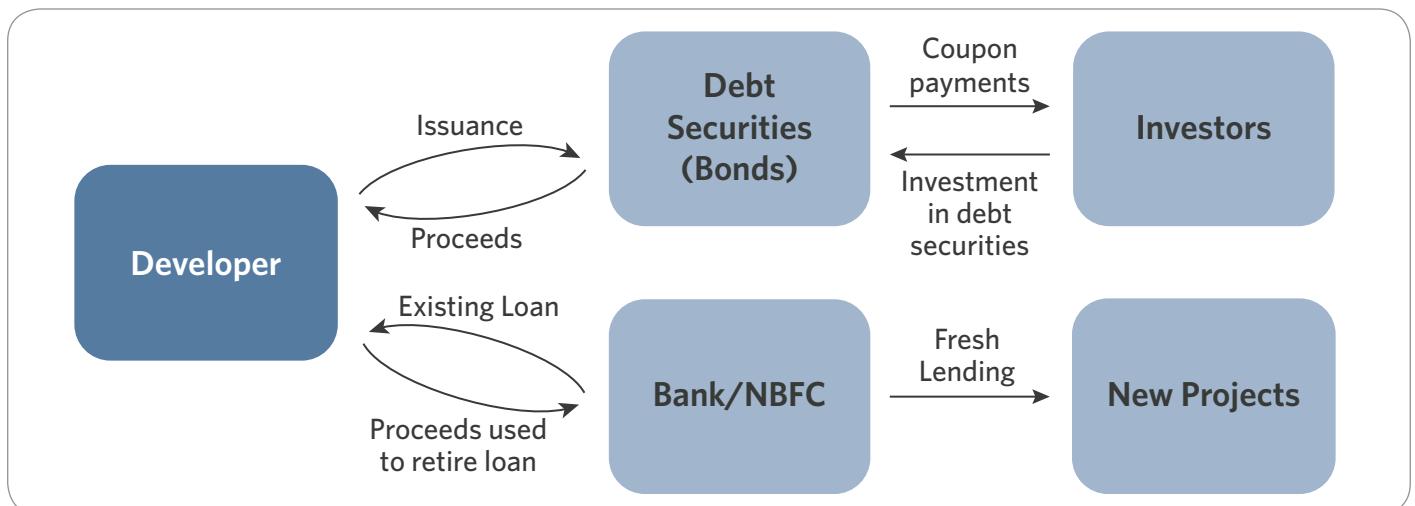
- Securitization can create more room for the originator to lend to existing entities, which otherwise might not be possible due to concentration risk limits set by RBI. As per RBI regulations, a financial institution cannot lend more than 20% of the total capital to a single borrower in the infrastructure space (RBI, 2015).
- Careful selection of loan portfolios for securitization can improve certain metrics, such as Capital Adequacy Ratio (CRAR) and leverage (or debt/equity).

(b) Developers directly go to capital markets and use the proceeds to retire existing loans

In this pathway, developers issue debt securities to retire their existing loans, after a project becomes operational and revenue generating, assuming banks/ NBFCs provide debt at the time of origination. This is illustrated in Figure 2. After the project becomes operational, it is deemed less risky by investors and would therefore attract financing at a lower cost.

The proceeds acquired by the developer from the bond issuance can be used to retire loans. From a bank’s perspective, such a move will help release the locked capital and would provide the institution bandwidth to lend afresh to new projects. Individual developers have legal difficulty in securitizing PPA backed cash flows that are uncertain in nature.

Figure 2: Illustration of how developers directly go to capital markets and use the proceeds to retire existing loans



Investors can participate by either directly subscribing to such bonds or indirectly through subscribing to certain funds or investment vehicles that may invest in these securities. Mutual funds, AIFs, Infrastructure InvITs and IDFs are some of the commonly available investment routes through which investors can participate in such debt securities. In either case, a new source of investment is financing the project, thus widening the investor base and helping in garnering incremental capital to the sector.

2.3 Barriers to accessing capital markets

As highlighted in section 2.2, there are primarily two pathways through which debt capital can be recycled through the access of capital markets:

Pathway I: A financial institution (bank/NBFC) originates securitization and places securitized bonds with institutional investors.

Pathway II: Developers issue bonds to refinance loans taken up from banks (i.e. use the proceeds from bond issuances to pay back loans to banks/NBFCs, who in turn can lend this capital afresh).

However, neither of the pathways have resulted in any material movement of project debt to capital markets. We now describe in detail the barriers prevalent in the Indian financial system that prevent or limit capital recycling through either of these pathways.

We conducted 15 primary research interviews with stakeholders, including banks/NBFCs, developers, merchant bankers and industry experts to develop a nuanced understanding of barriers preventing capital recycling and access to capital markets. In addition, CPI co-hosted a session at RE-INVEST, held at New Delhi in October 2018, to seek private sector feedback on reasons behind limited capital recycling and to understand the potential for a clean-energy focused AIF to be floated by an NBFC (e.g. IREDA). This was further supported by extensive secondary research. For the purposes of this discussion, we focused our efforts on debt.

Based on our research, we have identified the following issues limiting debt capital recycling in the renewable energy sector in India:

1. Credit ratings of renewable energy projects rarely achieve AA or higher rating, while most of bond trading takes place for AA or higher rated bonds:

India's bond market is primarily concentrated at trading for highly rated securities. For instance, more than 90% of bond trading in FY 17/18 took place for AA and AAA rated securities (SEBI 2018). However, renewable energy projects rarely attain a credit rating of anything above BBB (or at best A), thus falling outside the band of favored credit ratings (ICRA 2017).

2. Under-developed credit guarantee market in India:

Credit guarantees may be deployed to enhance credit ratings to AA or above. However, credit enhancement mechanisms haven't picked up in India because:

(i) Existing mechanisms do not provide an economic value proposition. Pricing of such guarantees remains expensive, typically in the range of 200 to 300 basis points of the exposure (IREDA Credit Enhancement Scheme). The benefit arising due to lower yield offerings because of higher credit ratings is offset by the cost of the guarantee.

(ii) There are very few credit guarantee facilities in the market and the level of guarantees offered by them is inadequate to raise the ratings by more than 2 or 3 notches - often not enough for projects to acquire AA rating. This is because RBI limits the extent of credit enhancement to 20% of the bond issue size when the guarantor is a bank.

Thus, the time, effort and cost incurred by developers does not justify the use of existing guarantee mechanisms.

3. Tenure of bonds/Limited supply of long-term capital:

The Indian bond market is generally of shorter duration; bonds longer than 5 years are more difficult to place. Given that most renewable energy projects have a tenure of at least 15 years, developers are exposed to refinancing risk. This further discourages investor participation.

Important institutional investors in India that could be the sources of long-term debt financing- such as Indian pension funds and insurance companies aren't allowed to invest in debt securities rated below AA by their respective regulators (PFRDA 2017). This further squeezes the supply of long-term capital (IRDA Master Circular).

4. Lack of scale:

Most developers do not yet have the scale to issue bonds that would meet the minimum ticket size supported by Indian markets. For smaller ticket sizes, the transaction costs, as a proportion of issue size, are too high and result in the transaction becoming economically unfeasible. This is exemplified by the fact that in the last two years, only four developers in India have accessed capital markets for raising debt (Mercom India 2018).

5. Nature of the banking industry:

In India, despite efforts by RBI to bring more financial discipline/prudence, the bank market is still relationship driven, and, therefore, does not efficiently price risk. There is often no significant incentive for developers to access capital markets since the same (or a different) bank is ready to refinance the loans at more attractive terms once the projects become operational and generate revenues.

2.4 Solutions for improving access to capital markets

While these barriers are significant and will take long-term structural interventions to fix, based on our research (e.g., based on best practices¹) and findings from the RE-INVEST meeting, we provide a summary of potential solutions, some of which are already under development.

¹ In general, the proposed solutions are on lines similar to those that have been/are being carried out in more developed markets. For instance, in South Korea, market reforms had been carried out on the following themes to shore up the bond market, especially the medium and lower rated corporate bonds (Corporate Debt Market in Korea, 2016): i) Greater investor protection upon default (Creditor rights and corporate bond market, 2015); ii) Reduced reliance on credit ratings and instead a greater reliance on thorough credit analyses; iii) Policy support for Small/Medium-sized Entities (SMEs) to issue corporate debt, through aggregation mechanisms such as Primary Collateral Debt Obligations (or P-COBs) and government funded partial credit guarantees, such as Korea Credit Guarantee Fund.

A brief summary of the issues along with their corresponding solutions is provided in Table 1. In our research, we found that the issues preventing capital recycling are interdependent and therefore a one-to-one mapping of solutions to specific issues was not feasible. For instance, timely resolution of distressed/defaulted assets (Point a) will provide information on recovery rates, that can be used by guarantors to better price their products, thus addressing issues 1 and 2. Availability of historical information and a reasonable assurance of timely recovery through the IBC bill can

invigorate risk-transfer mechanisms such as the CDS market (Point b), which in turn may attract institutional investor and other capital as well for the lower-rated bonds, thus addressing issue 3.

These are described in further detail below:

1. Deepen the corporate bond market

To deepen the overall corporate bond market and invigorate the market for lower-rated securities, structural reforms need to be carried out (Corporate Bond Market in India, August 2016). These include:

1. Greater investor protection in case of default: The pricing for lower-rated securities is predicated on the assumption that debt investors will be able to liquidate the assets in case of defaults. However, in India, bankruptcy and liquidation proceedings can often take years, which is why investors refrain

Table 1: Issues limiting debt capital recycling, along with solutions

ISSUE/BARRIER	SOLUTION(S)
1. Credit ratings of renewable energy projects rarely achieve AA or higher rating, while most of bond trading takes place for AA or higher rated bonds.	1. Structural and behavioral reforms to deepen the overall corporate bond market. Such measures may include: a) Greater Investor protection in case of default b) Development of risk-transfer mechanisms, for e.g. the Credit Default Swaps (CDS):
2. Under-developed credit guarantee market	
3. Tenure of bonds/Limited supply of long-term capital	
4. Lack of scale	2. Develop replicable aggregation platforms, such as AIFs
5. Nature of the banking industry discourages shifting to capital markets.	3. More efficient pricing of risk in bank lending practices and development of Asset-Based Security market would encourage shifting to capital markets.

from investing in securities that are anything but the highest rated.

The Insolvency and Bankruptcy Code (IBC), passed in 2016, is a step in the right direction (Ministry of Corporate Affairs 2016). The government and the regulators need to ensure that the initial success of the law is carried over in the long-term as well through continued resolution of cases under IBC. In this context, timely resolution of stressed assets would shore up the demand for the lower-rated securities and help deepen the bond market.

2. Development of risk-transfer mechanisms, for e.g. the Credit Default Swaps (CDS):

CDSs are financial instruments that typically insure investors against payment defaults in the underlying asset such as bonds (Investopedia). CDS market can assuage the concerns of investors by providing downside protection in case of defaults. While CDSs have been allowed in India since 2011, they have not been very successful yet and there is total lack of liquidity in the CDS market.

3. Credit guarantors need to reduce reliance on using credit ratings as a proxy for assessing risk: This is because credit ratings often inaccurately capture the level of risk for renewable energy projects. In general, historical data on default/delayed payments needs to be better captured to help realize more accurate credit guarantee (or enhancement) pricing. This would lead to a more efficient guarantee pricing (ADB, August 2018).

2. Develop and promote aggregation mechanisms to address issues related to scale

Single project sizes in renewable energy are typically small and are not able to directly access capital markets. To address the issue of scale, aggregation mechanisms (such as AIFs) must be developed and encouraged. This

would allow cash flows backed from PPAs of small and medium sized renewable energy business off-takers to access capital markets. Additionally, credit guarantees offering protection to investors in case of default/delays would instill greater trust in debt securities issued by these enterprises.

3. Incentivize banks to shift loan books to capital markets, instead of refinancing existing projects

Commercial bank lending practices in India lack objectivity and loans are sanctioned based on the perceived ability of the lendee to pay back loans. In addition, because banks are not able to offload loan books to capital markets, they tend to hold loan portfolio till maturity.

As a result, banks are very conservative in their lending practices and sanction loans primarily to relationship-based and trusted entities. For renewable energy projects, once the projects become operational, the entities can refinance loans from the same banks at a lower cost.

Thus, the capital in the banking sector stays within the banking sector and doesn't move on to capital markets to include newer sources of capital – which eventually limits the ability to fund renewable energy at a macro level.

A vibrant Asset-Backed Securitization (ABS) market will nudge the banks to offload loan books to capital markets and realize pricing gains upfront, instead of holding loan books till maturity.

3. AIFs can be an attractive channel for scaling up clean energy via capital markets

In this chapter, we first provide a description of AIFs along with their key features (Section 3.1 and Section 3.2, respectively). We then describe the structure of a debt fund (set up as an AIF) that can be sponsored by a financial institute (e.g. IREDA), which could then be used for shifting renewable project loans to capital markets. Although most issues relating to accessing capital markets are structural in nature, the sponsor may be able to partially resolve or circumvent some of these barriers through such an AIF (see Section 3.3).

Besides overcoming some specific barriers, an AIF may also fit in with the strategic objectives of both the financial institute and developers, which have been explained in Section 3.4. AIFs also tend to offer the most flexibility (in terms of sponsors, instruments and usage of capital pooled in the AIF when compared with other investment vehicles, such as IDFs and InvITs (Section 3.5). This flexibility renders AIFs with the capability to adapt to investment opportunities, mandates and needs of a multitude of stakeholders.

3.1 What are AIFs?

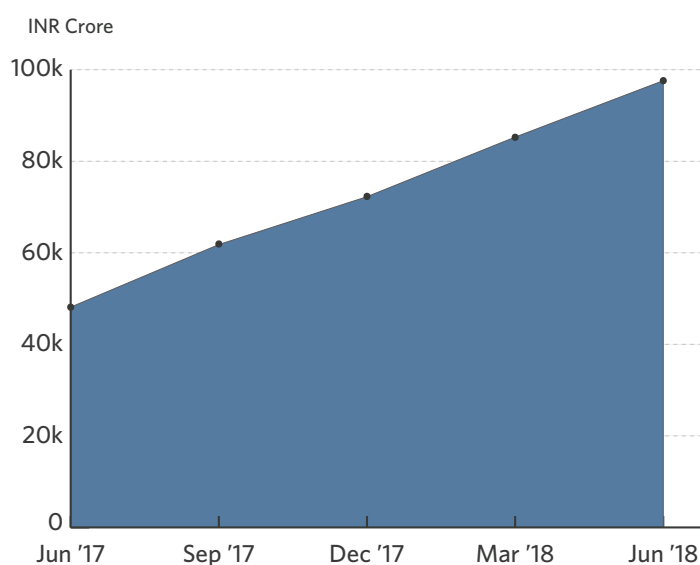
AIFs are essentially managed pools of money that can invest in a pre-specified mandate. As the name suggests, they are alternatives to more mainstream investments and can deploy strategies or invest in securities that are beyond the purview of the more commonly deployed funds such as mutual funds (e.g. investing in startups/unlisted companies, deploying leverage and complex trading strategies, and also focusing on a specific sector with social and economic benefits such as renewable energy (SEBI AIF Regulations).

Given the ability of AIFs to adapt to the needs and mandates of various stakeholders (see Section 3.5), they have generally been a success in India, attracting total capital worth INR 97,600 Crore (\$14 billion) through June 2018. Moreover, these figures are growing rapidly. For instance, the corresponding figure at the end of March 2018 was INR 85,300 Crore (\$12 billion) (SEBI AIF Statistics 2018).

There are 3 categories of AIFs:

1. Category I: These invest in start-up or early stage ventures, social ventures, small and medium enterprises, infrastructure, or other sectors or areas

Figure 3: Cumulative AIF listings from June 2017-18



which the government or regulators consider as socially or economically desirable. These include venture capital funds (Including Angel Funds), SME Funds, Social Venture Funds, and Infrastructure funds.

2. Category II: These are funds that are not included in either Category I or Category III. These include real estate funds, private equity funds, funds for distressed assets etc.
3. Category III: These funds typically deploy complex trading strategies or use of leverage. These include hedge funds, PIPE Funds, etc.

3.2 Key features of AIFs

AIFs come under the purview of SEBI. A complete list of the regulations guiding an AIF can be found on the SEBI website.² We have extracted some of the key features of an AIF that are pertinent to the current discussion (Table 2):

2 See <https://www.sebi.gov.in/legal/regulations/apr-2017/sebi-alternative-investment-funds-regulations-2012-last-amended-on-march-6-2017-34694.html>

Table 2: Key Features of an AIF

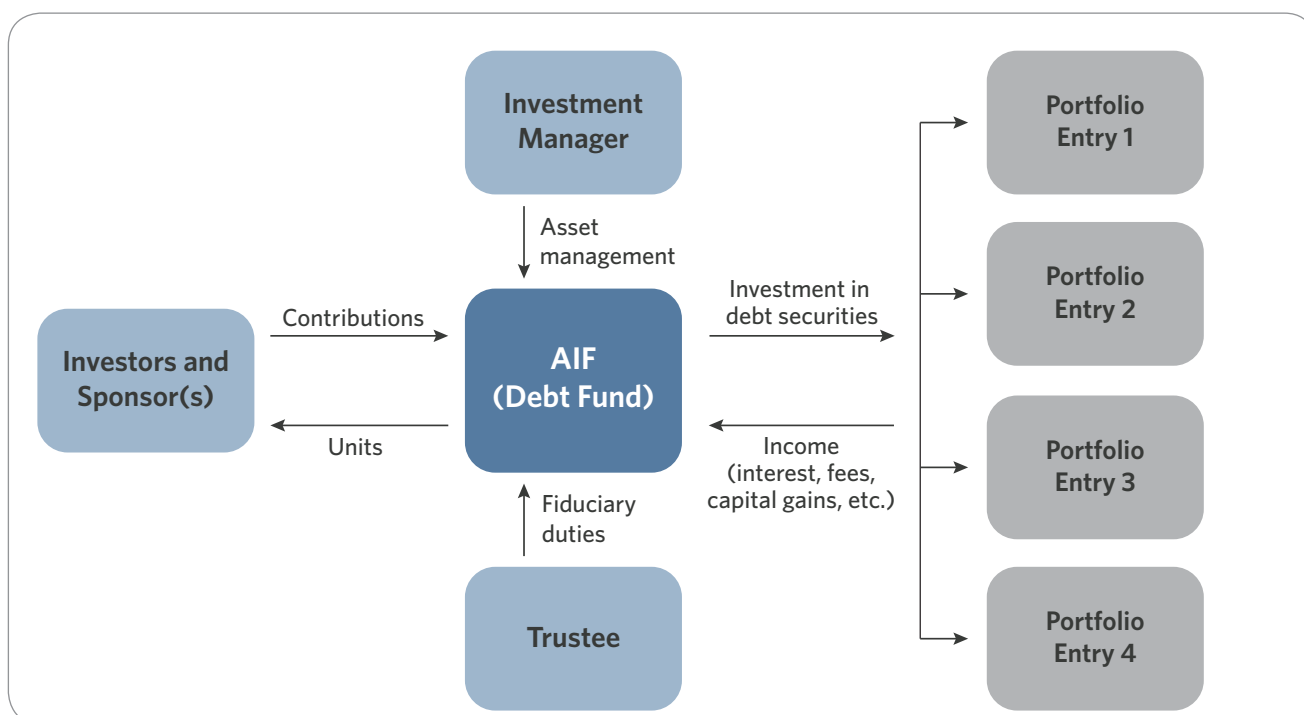
CRITERION	FEATURE
Sponsor commitment:	The sponsor shall have a continuing interest in the AIF of not less than two and half percent of the total fund size or INR 5 crore rupees (~\$750,000), whichever is lower.
Legal structure:	The AIF must be in the form of a trust, company, limited liability partnership, or a body corporate.
Placement:	Funds can only be raised by investors through private placement i.e., they are not directly placed in public markets.
Investment restrictions:	The fund cannot invest more than 25% of the investable funds in a single investee company.
Open/close ended:	The fund has to be close-ended i.e., no changes in fund size and issued shares are possible after the AIF is floated.
Listing:	AIF units may be listed on a stock exchange, subject to a minimum tradable lot of INR 1 crore (~\$150,000).
Maximum number of investors:	An AIF cannot have more than 1000 investors per scheme.
Minimum investment:	Minimum Investment by an investor is INR 1 crore (~\$150,000).

3.3 Proposed structure of the AIF

An AIF focused on renewable energy debt would first need a sponsor or originator. This sponsor could be an entity such as IREDA, that has lent out to project developers and is looking to recycle capital. Such an AIF would be either a Category I debt infrastructure fund or a Category II debt fund. The mechanics of this investment vehicle are illustrated in Figure 4.

The AIF would invest in debt securities (say bonds) issued by developers backed by cashflows from stable and operational projects. Ideally the sponsor is the same entity as the one who had provided loan financing for these projects, prior to their construction. Once a project becomes operational, fears of any construction related risks subside. This makes the project less risky, which should result in a higher credit rating along with lower cost of financing.

Figure 4: Mechanics of the Proposed AIF



The proceeds from bond issuances can be used by developers to retire existing debt taken up from the originating institution (e.g., IREDA) prior to the inception of the projects, thus freeing up capital for the financing institution, which can be lent afresh to new projects.

3.4 Benefits of an AIF

Our aim, through this report, is to disseminate key information that can be leveraged by other financial institutions who may emulate and set up AIFs so that a greater amount of capital flows into India's renewable energy sector. There can be several benefits to the sponsor, developers, and to the broader market that can be achieved by floating an AIF. These have been described in greater detail below:

3.4.1 BENEFITS TO THE DEVELOPER

For renewable energy project developers, an AIF would more specifically enable fixed cost debt, and could possibly lower the cost of capital since operational projects are deemed to be less risky than projects that are yet to begin construction.

Further, renewable energy projects are typically financed in the debt/equity ratio of 70:30. Once the projects become operational and are refinanced through bonds, the developer may be able to recover the entire capital outstanding at the time of issuance. This can help developer unlock equity, which can be thereafter infused into new projects. Such a route also provides an assured exit option for equity investors, thereby encouraging more investments into the sector.

3.4.2 BENEFITS TO THE SPONSOR

Additional specific benefits to IREDA as a sponsor of a renewable energy focused AIF include:

1. An AIF allows IREDA to recycle capital, ultimately enabling the agency to lend more to existing high-credit quality clients:

As per RBI regulations, a financial institution cannot lend more than 20% of its total lent capital to a single borrower. Given the expansion plans of some of the renewable energy developers in India, there would be increased demand for IREDA lending, and IREDA may face single borrower limits with some major developers. The proceeds from issuance of bonds (in which the AIF would invest) can be used to pay back the loans taken from IREDA and free up space for additional lending by IREDA without breaching single borrower limits.

2. IREDA gets a management fee, while developers save on transaction costs:

Some of the bigger developers in India have already raised capital from the market through bond issuance in order to pay back existing loans. By refinancing through an AIF, the developers partially save on the transaction costs related to issuance and book building, while IREDA gets an annual management fee (typically 1-1.5%) – this is a win-win situation for both the developer and IREDA.

3. Ensuring client loyalty:

For developers who are able to refinance at lower rates, the AIF option provides an incentive for them to stick around with IREDA if they are reasonably assured they would be able to refinance at a lower rate in the future. In addition, this investment route provides an opportunity for some of the smaller developers, who otherwise might not have the capacity and scale to do bond issuances in absence of such an AIF, to refinance.

3.4.3 MARKET MAKING BENEFITS

For the potential sponsor of a renewable energy debt focused AIF (i.e. IREDA), an added incentive is of market making. For IREDA specifically, this may be attractive, given IREDA's key role as the APEX financial institution for renewable energy in India.

As highlighted earlier in Section 2, most of the issues related to difficulty in recycling capital are structural in nature, and thus AIFs are not a panacea to overcome the existing barriers. However, the proposed set up may partially resolve or help to circumvent some of these barriers, by achieving the following:

- **Enhancing the credit rating of renewable energy bonds:** In case the sponsor of the fund, typically a financial institute, is able to provide a credit guarantee, the ratings of the bonds may see an improvement as well, which can attract the interest of institutional investors. This may not always be possible if a developer issues bonds in isolation. The AIF could also be credit enhanced at the Fund level.
- **Crowding in long-term institutional investors:** AIFs, by regulation, cannot invest more than 25% in a single security; therefore, by definition, the successful launch of AIFs can also crowd-in new sources of capital into existing projects.

- Addressing issues of scale:** Since a fund or the financial institution can aggregate multiple projects, this may help resolve the issue of lack of scale for bonds issued by individual developers in isolation. Further, once an AIF hits the markets, establishes track record, and instills confidence in investors about the economic viability of clean energy projects, there could be replication from other banks and financial institutions. Initial success of an AIF demonstration fund can thus gradually increase the risk appetite of investors as well, and help more developers refinance and access capital markets.

3.5 Comparison of AIF with other investment vehicles in the market

We have provided a brief comparison of the key regulatory guidelines of AIFs vis-a-vis those of other investment vehicles in the infrastructure sector -- IDFs and InvITs. An IDF can be registered as a trust in the form of a Mutual Fund (or IDF-MF), or as a company in the form of an NBFC (RBI IDF FAQ). The IDF-MF is regulated by SEBI, while the IDF-NBFC comes under the purview of the RBI (SEBI MF Regulations). In general, AIFs possess the most flexible structure and mandate minimal eligibility criteria and commitment from sponsors. This is summarized in Table 3.

Table 3: A quick comparison of AIF with other infrastructure focused investment vehicles. Green denotes criteria where AIFs more flexibility compared to others, while red denotes those criteria where others offer more malleability compared to AIFs; orange denotes criteria where no clear conclusion is possible.

CRITERION	AIF	IDF		INVIT	CONCLUSION (IF APPLICABLE)
		IDF-NBFC	IDF-MF		
Type of capital raise (Equity or debt)	Can be both equity or debt; proposed fund focuses on debt.	Debt		Equity/hybrid	AIFs allow both debt as well as equity.
Sponsor qualification	No specific requirements for the sponsor	Only those NBFCs meeting the following criteria may sponsor an IDF-NBFC: i) The sponsor should be registered as an Infrastructure Finance Company (IFC). ii) Should have a minimum Net Owned Funds (NOF) of INR 300 crore. iii) The sponsor must maintain minimum Capital Adequacy Ratios (CRAR) and Net Owned Funds (NOF) prescribed for IFCs.	IDF-MF can be either be set up by: 1) An existing MF scheme; or 2) A bank or an NBFC meeting the following qualification criteria: i) Has been in the business of infrastructure finance for more than 5 years. ii) Should have a minimum Net Owned Funds (NOF) of INR 300 crore and Capital to Risk Weighted Assets (CRAR) of 15%; iii) Net NPAs should be less than 3% of net advances	1) Sponsor's net worth should be at least INR 100 crore (~\$15 million). 2) The sponsor should have a minimum experience of at least 5 years and should have completed at least 2 projects.	AIFs possess the least number of sponsor qualification criteria
Sponsor commitment:	The sponsor shall have a continuing interest in the AIF of not less than two and half percent of the corpus or INR 5 crore rupees (~\$750,000), whichever is lower.	The sponsor of an IDF would need to capitalize 30 to 49% equity of the value of the assets under IDF.		1) The sponsor must mandatorily invest 15% of the Invit units. 2) Minimum lock-in period of sponsors: 3 years from the date of listing	Generally speaking, the guidelines of an AIF require the least level of sponsor commitment, compared to those for InvITs and IDFs.

CRITERION	AIF	IDF		INVIT	CONCLUSION (IF APPLICABLE)
		IDF-NBFC	IDF-MF		
Placement/ Listing:	Funds can only be raised by investors through private placement.	IDFs can be placed both publicly as well as privately.		Funds can be raised by both private and public placement.	IDFs and InvITs may be publicly listed but AIFs are not usually listed.
Investment restrictions:	The fund cannot invest more than 25% of the investable funds in a single investee company.	IDF-NBFCs can invest only in projects that have completed at least one year of commercial operations. These can be i) PPP (Public-Private Partnership) ii) Non-PPP projects without a project authority, in sectors where there is no Project Authority.	1) IDF-MF needs to invest at least 90% of its assets in debt securities of infrastructure companies or SPVs (Special Purpose Vehicles) across all infrastructure sectors. 2) No IDF shall invest more than 30% of its net assets in the debt securities or assets of any single infrastructure company or project or SPV. 3) The investment in debt securities that are below investment grade or are unrated, shall not exceed 30% of the net assets.	1) An InvIT may only invest in infrastructure projects or in companies with more than 90% of its assets consisting of infrastructure projects. 2) An InvIT may only invest in entities (Hold cos) in which the InvIT holds at least 51% equity share capital. 3) More than 80% of the value of the InvIT Assets shall be invested in operational and revenue generating projects.	Compared to IDFs and InvITs, AIFs do not impose too many restrictions on the kind of investments the vehicle could invest in.
Minimum issuance size:	No regulatory restrictions on the minimum issuance size.	No regulatory restrictions on the minimum issuance size; however, anchor investors need to put in at least INR 25 crores before allotment to other potential investors.		1) Minimum size of issuance should be at least INR 250 crore (\$~35 million). 2) Minimum value of the assets comprising initial portfolio of assets of the InvIT should be at least INR 500 crore (~\$70 million).	AIFs are more conducive to funds of smaller aggregate sizes.
Open/close ended:	The fund has to be close-ended.	Closed-ended funds.		InvITs are open-ended.	AIFs being closed ended do not offer continuous price discovery in the markets.

CRITERION	AIF	IDF		INVIT	CONCLUSION (IF APPLICABLE)
		IDF-NBFC	IDF-MF		
Listing:	AIF units may be listed on a stock exchange, subject to a minimum tradable lot of INR 1 crore (~\$150,000).	Units of IDF have to be listed on a recognized stock exchange.		InvITs have to be mandatorily listed.	An AIF may or may not be listed; InvITs and IDFs have to be mandatorily listed.
Dividend distribution policy:	No specific distribution policy mandated by SEBI.	No specific distribution policy mandated by RBI or SEBI.		1) An InvIT is required to distribute at least 90% of the net distributable cash flows to its unitholders. 2) Dividends need to be distributed twice a year for publicly listed InvITs and once for privately listed InvITs.	An AIF's dividend policy is moldable depending on investor needs.
Minimum investment:	Minimum Investment by an investor is INR 1 crore (~\$150,000).	Minimum investment into an IDF would be INR 1 crore (~\$150,000).		1) For public placement, the minimum investment shall be INR 10 lakh (~\$15,000). 2) For private placement, the minimum investment shall be INR 1 crore (~\$150,000).	Generally speaking, all the three investment vehicles have similar minimum investment criteria.

4. Conclusion

To reach its near-term as well as long-term renewable energy targets, India needs significant capital investment. Getting to this scale will almost certainly require continual engagement with capital markets to effectively recycle capital from project finance.

In this context, this paper explores recycling project debt to capital markets. While we are aware that the key barrier to recycling capital is the shallow bond markets in India, and that long-term structural fixes are underway, we explore near-term solutions that would enable this capital recycling for renewable projects.

We find that AIFs are an attractive near-term solution, given that they not only address many of the barriers but also are the most flexible. A comparison between different investment vehicles in India highlights that the regulations for AIFs are generally the least restrictive compared with similar instruments. As highlighted earlier, given the structural issues in India's bond

markets, opportunities to access capital markets will be limited. Given the current scenario, an AIF can, thus, be an ideal platform to facilitate transactions, whenever such opportunities exist, without imposing additional restrictions, such as huge sponsor commitments, the minimum number of months for which projects must be operational, whether the projects have to be mandatorily PPP (Public-Private Partnership), among others.

A successful placement of a clean-energy focused AIF could have demonstration effects and set a precedent for future such launches. Initial success of an AIF can gradually increase the risk appetite of investors as well, and help more developers refinance and access capital markets, thus assisting in achieving India's clean energy capital requirements till 2030 and beyond.

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6. Annexure

6.1 Barrier analysis: Summary of research findings

In our findings from research and through hosting the AIF session at RE-INVEST in October 2018, we garnered the following conclusions on the barriers to capital recycling, both from the originator’s and investor’s perspectives:

PATHWAY	ORIGINATOR’S PERSPECTIVE	INVESTOR’S PERSPECTIVE
Pathway I (Financial institution originates securitization)	<p>Although securitization volumes are growing in India for sectors such as car loans and microfinance (MFI) loans, securitization for Renewable Energy (RE) sector isn’t taking place because:</p> <ul style="list-style-type: none"> i) The tenure for RE projects is much longer compared to home or micro-finance loans. The investor base for bonds in India isn’t suitable for subscribing to bonds with a tenure of more than 5 years. ii) In case the securities are to be tranching, the lower rated securities are difficult to place, given the shallow market for securities rated below AA. iii) In case of a sector such as auto or MFI loans, packaging the securities results in pricing gains due to diversification. However, for RE sector, diversification is limited, since given the large scale of the projects, not many projects can be bundled together. 	<ul style="list-style-type: none"> 1.1 Important institutional investors (such as pension funds and insurance companies) aren’t allowed (by regulation) to invest in debt securities rated below AA. 1.2 In certain instances, even the sponsor of the securities needs to possess a credit rating of AA or above. This further narrows the universe of potential investors. 1.3 The big pension funds and insurance companies in India view corporate bonds as risky and prefer to invest in government securities.
Pathway II: (Developer issues bonds to refinance and retire existing loans)	<p>Developers are either unable to or not keen to refinance loans through bond issuances because of the following reasons:</p> <ul style="list-style-type: none"> i) Only a handful of developers have the scale and ticket sizes to get bonds placed in the market. The transaction costs, as a proportion of issue size, are too high for smaller issuances and result in the transaction becoming economically unfeasible. Just to emphasize, only 4 developers in India have been able to access capital markets in the last two years. (Mercom India 2018) <p>The average size of corporate bond issuance in India during 2017 was INR 220 crore for the private placement route. (SEBI Corporate Bond Issuance 2018) In public placements, the issue size is even larger.</p> <ul style="list-style-type: none"> ii) Within these handful of developers, not many have credit ratings close to AA. Even the top developers usually aren’t rated higher than BBB. iii) Credit enhancements or guarantees can be deployed, but enhancements are still relatively new in the Indian context and have worked out very selectively. 	<ul style="list-style-type: none"> 2. Investors are generally skeptical about the infrastructure sector in India, given its turbulent history. Thus, investors are very selective and shall only invest primarily in the top-rated securities. More than 90% of trading is for debt securities rated AA or above. 3. Within infrastructure and the renewable energy sector, investors are willing to subscribe to bonds issued by only those developers that are backed by strong promoters (such as Tata or Hero), or backed by global equity investors (for instance, Renew backed by Goldman). Corporate guarantees on bonds provide more assurance and even help raise the ratings. <p>This leaves only a handful of developers capable of successfully issuing and placing corporate bonds.</p>

PATHWAY	ORIGINATOR'S PERSPECTIVE	INVESTOR'S PERSPECTIVE
<p>Pathway II continued:</p>	<p>iv) Given the generally underdeveloped bond market in India, price discovery is inefficient. The effective yield can come out to be more than the loan rate. Thus, there is no real economic incentive to refinance through bonds</p> <p>v) Given the nature of capital markets in India, it is more difficult to acquire a longer tenure financing through a bond issuance as compared to a bank loan. Developers prefer longer-term debt.</p> <p>vi) Certain developers are not keen to refinance loans through bond issuances because:</p> <ul style="list-style-type: none"> • After a project becomes operational, the same (or a different) bank can refinance loans at a lower interest rate, which is often lower than what the bond yields would be. • Developers are more comfortable with a relationship- based arrangement with banks. In case of unforeseen events leading to cash crunch, banks are likely to stick with the developer and come up with a restructured loan agreement. This is not the case with bonds, and any missed payment constitutes as a default and could lead to bankruptcy proceedings. 	

6.2 List of primary research interviewees:

CPI interviewed and sought the feedback from the following entities on why the corporate bond market remains underdeveloped in India, the reasons behind limited capital recycling and what the potential solutions to overcome the identified issues are.

ENTITY NAME	TYPE
Piramal Capital Housing Finance	Institutional Investor
Cleanmax Solar	Developer
Climate Bonds Initiative	Knowledge/Research Organization
IDFC	Investment Bank
IL&FS	Investment Bank/Institutional Investor
CLP India	Developer
Yes Bank	Bank
Synergy Consulting	Financial Consultant
India Ratings	Credit Ratings
SBI Caps	Investment Bank
Axis Bank (Structured Finance)	Bank
ICICI Securities	Securities
L&T Infra Finance	NBFC
Tata Cleantech	NBFC

6.3 Minutes from the AIF Session at RE-INVEST in Delhi

HOSTED BY CPI, IREDA AND US DEPARTMENT OF STATE (MODERATED BY DR. GIREESH SHRIMALI)

On October 3, CPI co-hosted a session at RE-INVEST, held at Delhi, India to seek private sector feedback on reasons behind limited capital recycling and to understand the potential for a clean-energy focused AIF to be floated by an NBFC such as IREDA. The discussion was followed by a Q&A session.

Questions & Answers

1. What is the developers' take on such an AIF?
 - Developers generally welcomed such a move.
 - Hemant from CLP suggested that because of the previous bond issuances, they were able to focus more on developing projects, rather than on raising finance. IREDA's AIF may help the smaller developers refinance (who otherwise might not have the capacity to issue and place bonds), which is overall good for the market.
 - Bloom Energy and 8 Minutes Energy concur and expressed interest in the concept, and would wait and watch out for further developments.
2. Would investors be interested in such an AIF? If so then what kind of returns are they looking out for, what kind of assurances (in terms of underlying security or an event of default) would pacify their concerns?

Jayen Shah (ex-IDFC):

- Getting the appropriate credit rating is a big hurdle.
- Moreover, liquidity is a big concern for bonds with tenure of more than 10 years.
- Mutual funds will only invest when they perceive that the sponsor has the ability to refinance debt after 3 or 4 years (assuming a 5 year tenure)
- Credit rating is also a big issue since infrastructure in India rarely gets a higher than BBB rating.
- Anything below AA and/or with a tenure of more than 5 years might not be feasible since investors will demand more than 10% returns, which might not be economically viable.
- AIF does provide some downside protection,

since it cannot invest more than 25% in a single investee company. Thus, there is an inherent (although limited) diversification.

I-Squared Capital:

- Foreign currency hedging is a big risk, therefore the focus should be on raising capital domestically.
- A structural change in AIF may help overcome the refinancing risk.
- Currently an AIF can only raise capital through issuance of units. If it is able to raise capital directly through capital markets (of longer tenure), then the issue of duration or refinance risk can be addressed.

Yes Bank:

- Agree with most of what has been said till now; however, 8% return (as mentioned on the slide) may not be high enough to attract investors

Response by Mr. Chintan Shah (IREDA):

- Agreed that 8% may not be high enough; perhaps 9-9.5% is what IREDA is targeting.
 - The projects chosen would be gold-plated - strong payment record, meeting environmental limits, committed promoters etc - and they might be able to attract investors at this rate.
3. What is the likely credit rating with and without credit enhancement? And what is the quantum of credit enhancement that would be required? What have we learnt from other instruments (IDFs, InvITs etc)

India Ratings:

- Even the best rated projects will not have a AA rating.
- A credit guarantee of 28-35% can be expected to raise the ratings to AA.
- In terms of structuring and investor expectations, road InvITs can be mimicked.

CARE Ratings:

- The level of credit enhancement would depend on how the transaction is structured
- Refinancing risk would also have to be taken into account.

Response by Mr. Chintan Shah (IREDA):

- Given that only the best projects would be chosen, these projects may attract A rating, even without credit enhancement
- The projects would have an in-built DSRA.

- Solid Payment record of 3-4 years provides further assurance.