

Power Finance Corporation

Energy transition risk looms large, massive growth in renewables, transmission lending needed to counter coal slump

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Climate Risk Horizons' work highlights the systemic risks that disruptive climate change poses to investors, lenders and infrastructure investments. Through a data-driven, research-oriented approach that incorporates a holistic understanding of climate policy, energy infrastructure and regulatory processes, CRH provides advice on risk management strategies to minimise stranded, non-performing assets and economic disruption in the face of climate change.

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SUMMARY

Power Finance Corporation (PFC) and REC (formerly Rural Electrification Corporation), two important public infrastructure financing companies under the Ministry of Power, are the largest lenders to India's power sector. PFC and REC finance capital expenditure and provide liquidity support across the power sector value chain, to generation, transmission and distribution companies. PFC and REC also have the exclusive mandate to carry out various policy reforms in the power sector, making them important stakeholders in India's energy transition.

PFC and REC have played a key role in increasing India's electricity generation capacity over several decades. However, this analysis shows that PFC/REC are failing to adapt sufficiently to the energy transition underway: they have not diversified sufficiently into new energy technologies (wind, solar, battery storage, EV infrastructure) even as their coal power loan book shrinks. Climate Risk Horizon's (CRH) projections suggest that without a massive and rapid shift towards financing of renewable energy and other "transition" sectors, the companies' profitability and share value face a challenging future.

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The steady rise of a cost-competitive renewable energy industry, together with excess coal generation capacity relative to effective demand, has made a significant proportion of India's coal fleet uncompetitive and economically unviable. Concerns around climate change and India's commitment to reduce its carbon intensity of GDP by 2030 have also gained salience in the last five years. In combination, these factors have seen a decline in proposed new coal power projects as India prepares to make the energy transition to a system dominated by non-fossil sources.

This report examines whether PFC and REC, which have dominated lending to coal plants, are set to adapt and profit from the energy transition underway. Through an analysis of loan book and income statements, this report shows that their ability to pivot to renewables will be the key factor in determining future growth.

KEY FINDINGS

PFC/REC GROWTH WILL NOT COME FROM COAL

The share of coal lending to loan book has been declining, down from 71% to 47% for PFC and 45% to 40% for REC, since FY 18. New coal plant construction over the next decade will be marginal at best, given the economics of the sector and the broader climate policy shifts underway. CRH estimates that the growth in conventional generation loan book for both the companies will be negative over the coming years.

PFC AND REC WILL NEED AN ESTIMATED 142% AND 156% CAGR GROWTH IN THEIR RE LOAN BOOK OVER THE NEXT THREE YEARS IN ORDER TO DELIVER A 10% NET PROFIT CAGR

Thus far, PFC/REC have not adapted to the energy transition underway. They have not diversified sufficiently into new energy technologies (renewables, battery storage, EV infrastructure etc) even as the coal generation loan book shrinks. The proportion of RE in PFC's gross loan assets has grown from 4% to just 10% between FY 2018–21; its share in REC's loan book has been stable at 3–4%. These anaemic growth rates will not compensate for the decline in lending for conventional generation. PFC and REC will need an estimated 142% and 156% CAGR growth in their RE loan book over the next three years in order to deliver a 10% net profit CAGR, assuming other factors remain constant. To achieve this loan book growth they may need to disburse approximately ₹4,97,315 CR over the next three years.

IF ACHIEVED, THIS QUANTUM OF LENDING WILL MEET THE DEBT CAPITAL REQUIREMENT OF APPROXIMATELY 89 GW OF SOLAR AND 38 GW OF WIND CAPACITY.

ABSENT COURSE CORRECTION, PFC & REC'S NET PROFIT GROWTH IS EXPECTED TO BE JUST 0.2% AND 2.5% CAGR RESPECTIVELY FROM FY 2022–2025

PFC and REC's share's valuation multiple has shown a downward trend over the past three years. Their stock will need to trade at higher P/E and P/B multiples that are unlikely, to provide an annual share price return of 10% or more, undermining investor confidence.

 Access to low-cost capital via green bonds in international markets will be key for PFC/REC. Continued lending to new coal projects will pose a material risk in this regard, as ESG-aligned investors become wary of greenwashing.

BACKGROUND

PFC and its subsidiary REC are the largest lenders to India's power sector. PFC and REC finance capital expenditure and provide liquidity support across the power sector value chain, to generation, transmission and distribution companies. They also provide fee-based advisory and consulting to various sector participants.

> The energy sector is undergoing significant transition, due to a combination of social, technological, economic and geopolitical factors

Globally, the energy sector is undergoing significant transition, due to a combination of social, technological, economic and geopolitical factors. This transition is manifested in the rapid growth of renewable energy technologies, driven by historic cost declines and the growing desire to switch to clean energy sources to mitigate climate change. While short term disruptions due to supply chain issues and geopolitical shifts such as the Russian invasion of Ukraine might cause marginal delays in the clean

energy rollout, there is little doubt about the medium to long term shift in the energy sector, at both the global and national level. The question that arises then is whether PFC is on track to adapt to, and ultimately profit from, from this shift?

Failure to align strategic direction with changes underway in the energy sector makes PFC vulnerable to transition risks from climate change and India's response to it

> Failure thus far to align the corporation's strategic direction with the changes underway in the energy sector is making PFC vulnerable to the transition risks arising from climate change and India's response to it. PFC has relied greatly on financing conventional generation projects, with a growing but still minuscule RE loan book. Over the coming years, both PFC and REC will need significant growth in RE and related energy transition areas to counter the expected decline in new thermal generation lending, to sustain healthy top and bottom-line growth.

GROWTH WILL NOT COME FROM COAL

Coal funding for new power plants has dried up as banks are not willing to lend to the sector after suffering from record NPAs of ₹1,80,000 CR as of 2018 and taking large haircuts in resolution, exceeding 90% in some cases such as Monnet Power's Angul plant.¹ PFC and REC have been forced to take over stressed assets in partnership with PSUs to avoid low recovery on loans. New lending to coal plants that have commenced construction in the last three years has been dominated by PFC and REC. This has resulted in large exposure to individual accounts which could possibly lead to greater impact if any of those accounts experience stress.

New coal power plants are no longer economically competitive on a pure cost basis. Tariff estimation for new power plants is usually done assuming 85% Plant Load Factor (PLF) whereas the average PLF of India's coal fleet has been around 60% for the last five years or more. Assuming high PLF for new projects leads to underestimation of per unit cost of electricity resulting in the misallocation of capital. Utilisation of thermal assets is likely to decline further over this decade because of significant RE capacity addition (and the fact that RE enjoys must-run status in the merit order). Falling tariffs have made solar and wind the cheapest source of new electricity, however their adoption has been hindered by intermittency and peak availability issues. Large scale energy storage has emerged as a solution for these limitations. In 2021, RenewPower signed a PPA for a hybrid solar and wind project with large storage for round-the-clock supply at ₹2.9/kwh, escalating at 3% annually for the first 15 years. Battery prices have declined significantly over the past decade and are expected to be on a downward trajectory over the coming decade.

It takes a minimum of 5–7 years to construct a coal power plant in India, and often much longer. New wind/solar already enjoys a cost advantage over new coal. This advantage will likely increase by the time any new coal plant commences operation, due to escalation in coal price and rail freight charges. While the RE/battery storage supply chains have faced some inflationary pressures in 2022, these are expected to abate, and could be partially offset by the cost of finance, economies of scale, technological improvements and policy support by governments and financing institutions (domestic and international) to accelerate the energy transition.

Funding new coal plants will also have implications for the distribution utilities which are 30–40% of PFC and REC's loan book. In FY 21, PFC had to provision ₹600 CR for TANGEDCO due to downgrading of its rating based on operational and financial parameters. TANGEDCO is amongst the worst performing utilities in the country partly due to its relatively expensive coal fleet which is sparingly utilised. Additional new coal plants, if constructed, will lock these distribution utilities into buying expensive coal power for decades to come despite poor utilisation levels.

CONTRACTING UNDER-CONSTRUCTION PIPELINE

India had 27.5 GW of thermal power plants under construction, as of April 2022. In the past three years the number of new power plants commencing construction has declined due to factors such as overcapacity in the power sector, cost competitiveness of renewables and growing scepticism among lenders around the financial viability of new coal. This has led to a large number of announced coal projects being shelved or cancelled (326 GW since 2015).²

| Table 1 Coal plants commencing construction per year | | | | | | | |
|--|-----------|--------|---------|---------|---------|---------|---------|
| NEW COAL POWER Construction (MW) | DEVELOPER | SECTOR | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 |
| Buxar TPP | THDC | Centre | | 1,320 | | | |
| Khurja SCTPP | NTPC | Centre | | 1,320 | | | |
| Sagardighi | WBPDCL | State | | | 660 | | |
| Talcher TPP Stage III | NTPC | Centre | | | | | 1,320 |
| TOTAL | | | 0 | 2,640 | 660 | 0 | 1,320 |
| Source CEA Broad Status Reports | | | | | | | |

India's largest coal fleet operator, NTPC, which owns more than 25% of India's coal capacity, had announced in 2020 that it will not build any greenfield coal-fired plants even as it aims to expand its RE portfolio.³ However, after six years of no new coal plant construction, NTPC recently announced that it is planning to award contracts for 4.8 GW of coal expansion at existing (brownfield) coal power plants.⁴

TATA Power announced that it will not build any new coal capacity or acquire any stressed assets in line with its plan to be carbon neutral by 2050.⁵ JSW Energy has also announced it will not build any new coal plant and has decided to spin off its thermal assets into a separate entity to unlock value in the long run, on account of ESG concerns with fossil fuel-based generation.⁶

Barring state generation companies, most private power players have signalled an intent to move away from new coal plant construction

> In recent years, senior government officials in Gujarat, Chhattisgarh, Maharashtra, and in Karnataka have all signalled scepticism over the requirement for and financial viability of new coal power projects. Most private players and financial institutions have strategically decided to not add to their coal-based capacity. The exception remains state generation companies which are relatively insulated from market dynamics and competition.



REPAYMENT IMPACTS ON PFC/REC LOAN BOOKS

Once a project is operational and generating revenue, promoters usually try to capitalise on lower risk profile by refinancing outstanding debt. Banks too prefer to refinance de-risked operational projects rather than greenfield projects. PFC and REC have experienced higher repayments in the past two years as project promoters refinance operational projects. REC experienced a reduction in its loan book since FY 21.

As a result of these factors, and the inevitable energy transition India and the world has embarked on, PFC's and REC's coal plant related disbursement will continue to decline as India's under construction plants get commissioned. In such a scenario, coal plant related investments will be a decreasing fraction of current disbursements.

SEGMENT-WISE OUTLOOK FOR DISBURSEMENTS

CONVENTIONAL GENERATION

PFC and REC's conventional generation lending primarily depends on under construction coal plants. Under construction capacity between FY 23–25 is estimated by subtracting year wise capacity addition expected as per CEA's Broad Status Report from the under construction capacity as of FY 22 and adding NTPC's new coal plant construction expected over the next three years. It is important to note that not all of this 4.8 GW might commence construction on this schedule.

Table 2 | Estimated under construction capacity (MW)

| FY 2023 | FY 2023 | FY 2024 | | | |
|---|---------|---------|--|--|--|
| 24,385 | 18,175 | 5,355 | | | |
| Source CEA Broad Status Reports, CRH analysis | | | | | |

FY 23–FY 25 disbursement is estimated proportionately from total under construction capacity in FY 22 and PFC and REC's disbursements in the same year.

| Table 3 Coal plants under construction in FY 2022 | | | | |
|---|----------|--|--|--|
| SECTOR | CAP (MW) | | | |
| Central | 11,920 | | | |
| State | 15,630 | | | |
| TOTAL | 27,550 | | | |
| Source CEA Broad Status Reports | | | | |

| Table 4 Conventional generation disbursement in FY 2022 | | | | | |
|---|----------|--|--|--|--|
| | INR (CR) | | | | |
| PFC | 12,009 | | | | |
| REC | 19,907 | | | | |
| Source PFC and REC Investor Presentation | | | | | |

Table 5 | Estimated conventional generation disbursement and loanbook (INR, CR)

| CONVENTIONAL GEN. DISBURSEMENT (INR, CR) | FY 2023-E | FY 2024-E | FY 2025-E |
|---|-----------|-----------|-----------|
| PFC | 9,221 | 6,872 | 2,025 |
| REC | 17,620 | 13,133 | 3,869 |
| | | | |

| CONVENTIONAL GEN. LOANBOOK (INR, CR) | FY 2021 | FY 2022 | FY 2023-E | FY 2024-E | FY 2025-E | |
|---|----------|----------|-----------|-----------|-----------|--|
| PFC | 1,89,578 | 1,75,434 | 1,63,603 | 1,45,935 | 1,26,069 | |
| ΥοΥ% | | -7% | -7% | -11% | -14% | |
| REC | 1,55,297 | 1,52,720 | 1,53,541 | 1,49,784 | 1,37,177 | |
| ΥοΥ% | | -2% | 1% | -2% | -8% | |
| | | | | | | |

Source | PFC and REC Investor Presentation, CRH analysis

PFC/REC's conventional thermal power generation loan book faces a significant decline. Can lending to other sectors compensate for the decline of coal?

HYDRO POWER

In theory, India has significant hydropower potential that remains untapped because of environmental and regulatory challenges as well as legal and financial issues. India's installed hydro capacity has grown at less than 1% CAGR over the last 5 years.

The growth prospects of large hydro projects greatly differ from other renewable sources of generation such as wind and solar. Substantial growth in disbursement related to large hydro projects is unlikely because of unresolved structural challenges such as land acquisition, cost overruns, inaccurate geographical assessments.

| Table 6 Hydropower capacity, all India | | | | | | | | |
|--|---------|---------|---------|---------|---------|---------|---------|--|
| | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 | |
| Hydro power capacity (MW) | 42,783 | 44,478 | 45,293 | 45,399 | 45,699 | 46,209 | 46,722 | |
| Hydro power cap. addition (MW) | 1,521 | 1,695 | 815 | 106 | 300 | 510 | 513 | |
| Source National Power Portal | | | | | | | | |

RENEWABLE ENERGY

The RE segment has the highest growth potential because of India's ambitious 2030 RE target and longer term net zero by 2070 ambition. India will need an additional 360 GW of wind and solar installations by 2030 to reach its 450 GW capacity target. India's RE capacity addition in calendar year 2022 was close to 15.8 GW⁷ which needs to be scaled three times to 45 GW of annual additions to achieve the 2030 RE target which translates into a yearly investment requirement of ₹2,23,200 CR. PFC and REC have recognised RE as a major growth driver and have modified their RE lending policy and product offering accordingly. However, the pace of growth of PFC's RE lending portfolio remains inadequate, both from the point of meeting India's goals, as well as from the point of compensating for PFC's declining coal portfolio.

TRANSMISSION

PFC and REC's transmission loan book has grown modestly over the last three years at around 10% CAGR. Strong growth in RE capacity will drive growth for transmission networks to evacuate renewable energy at both inter and intra state level. The present inter-regional transmission capacity of 1,12,250 MW is likely to grow to 1,50,000 MW in 2030 including additions from inter-regional transmission corridors planned and under implementation. Increasing share of variable RE will also require investments in modernisation and upgradation of the grid for safety and reliability. The investment requirement in Inter-State Transmission System (ISTS) for integrating 500 GW of RE capacity by 2023 is estimated to be ₹2,44,200 CR.⁸

DISTRIBUTION

Distribution segment has contributed the most towards loan book growth of PFC and REC in the past five years. Atmanirbhar DISCOM liquidity package has contributed significantly towards PFC's and REC's distribution loan book growth between FY 20–22. In June 2021, the Cabinet Committee on Economic Affairs (CCEA) approved a five-year-long reforms-based and results-linked Revamped Distribution Sector Scheme worth ₹3,03,000 CR out of which the government's budgetary support is ₹97,000 CR. The scheme aims to improve operational efficiencies and financial sustainability of DISCOMs by providing reform-linked financial assistance for strengthening of supply infrastructure.

LOAN BOOK COMPOSITION

PFC's loan book composition has been changing over the past four years. Conventional generation loan book which primarily comprises loans to coalfired power plants has peaked and is declining. During FY 18–22 period, the share of conventional generation in the loan book declined from 71% to 47% and distribution went from 24% to 38%. The growth in PFC's loan book over the recent past has been led mainly by distribution, with RE lending also growing.

| Table 7 PFC asset composition | | | | | | | |
|---------------------------------|----------|----------|----------|----------|----------|--|--|
| | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 | | |
| GROSS LOAN ASSETS | 2,79,329 | 3,14,667 | 3,44,905 | 3,70,771 | 3,73,134 | | |
| Conventional % | 71% | 62% | 58% | 51% | 47% | | |
| RE % | 4% | 9% | 11% | 10% | 10% | | |
| Transmission % | 8% | 8% | 8% | 8% | 8% | | |
| Distribution % | 16% | 20% | 22% | 30% | 34% | | |
| Others % | 1% | 1% | 1% | 1% | 1% | | |

REC's loan book composition has remained relatively stable over the past five years. REC's conventional generation loan book continues to grow modestly; its share in total loan book has declined marginally from 45% in FY 2018 to 40% in FY 2022. RE and transmission loan book hasn't grown significantly and its share in total loan book remains stable. Distribution has been the fastest growing segment that has driven loan book growth in the past—its share in total loan book increased from 30% in FY 2018 to 40% in FY 2022. Table 8 | REC asset composition

| | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
|-------------------|----------|----------|----------|----------|----------|
| GROSS LOAN ASSETS | 2,39,449 | 2,81,210 | 3,22,425 | 3,77,418 | 3,85,371 |
| Conventional % | 45% | 43% | 43% | 41% | 40% |
| RE % | 3% | 5% | 5% | 4% | 3% |
| Transmission % | 19% | 19% | 18% | 16% | 17% |
| Distribution % | 30% | 33% | 33% | 38% | 40% |
| Others % | 2% | 1% | 0% | 0% | 1% |

FLAT NET PROFIT AND STOCK RETURN IMPLICATIONS

PFC and REC's net profit is expected to grow at 0.22% and 2.46% CAGR respectively from FY 2022–FY 2025 due to slowdown in loan book growth and lower yields. The valuation multiples of PFC and REC's stocks have shown a downward trend over the past three years. Their stock will need to trade at higher P/E and P/B multiples that are unlikely to provide an annual share price return of 10% or more.

PFC

Table 9 | PFC FY 2025 market price and implied P/E and P/BV for required annual return

| PFC FY 2025 MARKET PRICE AND IMPLIED P/E FOR REQUIRED ANNUAL RETURN | | | | | | | |
|---|------|----------------|-----|----------------|------|--|--|
| 10% CAGR | | 15% CAGR | | 20% CAGR | | | |
| Market price ₹ | P/E | Market price ₹ | P/E | Market price ₹ | P/E | | |
| 150 | 4.11 | 171 | 4.7 | 194 | 5.34 | | |

| PFC FY 2025 MARKET PRICE AND IMPLIED P/BV FOR REQUIRED ANNUAL RETURN | | | | | | | |
|--|------|----------------|------------|----------------|----------|--|--|
| 10% CAGR 15% CAGR | | 20% CAGR | | | | | |
| Market price ₹ | P/BV | Market price ₹ | P/BV | Market price ₹ | P/BV | | |
| 150 | 0.54 | 171 | 0.61 | 194 | 0.7 | | |
| | | | | | | | |
| VALUATION RATIO | | | MARCH 2022 | MARCH 2021 | MAR 2020 | | |
| P/E | | | 2.97 | 3.56 | 4.29 | | |
| P/B | | | 0.5 | 0.57 | 0.54 | | |

| REC FY 2025 MARKET PRICE AND IMPLIED P/E OR REQUIRED ANNUAL RETURN | | | | | | | |
|--|-------------------|--------------------|------------------|----------------|----------|--|--|
| 10% CAGR | | 15% CAGR | | 20% CAGR | | | |
| Market price ₹ | P/E | Market price ₹ | P/E | Market price ₹ | P/E | | |
| 123 | 2.23 | 140 | 2.55 | 159 | 2.9 | | |
| | | | | | | | |
| REC FY 2025 MAF | KET PRICE AND IMI | PLIED P/BV FOR REQ | UIRED ANNUAL RET | URN | | | |
| 10% CAGR | | 15% CAGR | | 20% CAGR | | | |
| Market price ₹ | P/BV | Market price ₹ | P/BV | Market price ₹ | P/BV | | |
| 123 | 0.37 | 140 | 0.42 | 159 | 0.48 | | |
| | | | | | | | |
| VALUATION RATIO | | | MARCH 2022 | MARCH 2021 | MAR 2020 | | |
| P/E | | | 1.81 | 3.1 | 3.59 | | |
| P/B | | | 0.48 | 0.6 | 0.5 | | |

Table 10 | REC FY 2025 market price and implied P/E and P/BV for required annual return

NET INTEREST MARGINS EXPECTED TO DECLINE

PFC and REC have reduced their lending rates in the past year to remain competitive with banks and benefit power sector participants. New loans will be disbursed at the reduced rates and within three years all previous loans are expected to be repriced as per the revised rates. The move is partly enabled by continuous efforts to bring down the cost of funds, particularly given the RBI's rate hikes. NIMs are also likely to be squeezed by lending towards discom liquidity infusion (low yielding compared to capex related disbursements), lower yield on RE loans and declining conventional generation loan book (which has the highest yield).

| Table 11 PFC lending rates | | | |
|--------------------------------------|---------------------------|--------------|--|
| PFC LENDING RATES | CENTRAL & STATE SECTOR A+ | | |
| SECTOR | APRIL 2021 | JANUARY 2022 | |
| Conventional | 10.75 | 10.25 | |
| Non-conventional (wind and solar) | 9.5 | 8.75 | |
| Transmission | 9.5 | 9 | |
| Distribution | 9.75 | 9.25 | |
| Source PFC Interest Rates Circular | | | |

. . ..

PFC and REC's loan book growth for the past two years has been primarily supported by the Atmanirbhar liquidity infusion scheme that concluded in FY 22. The largest segment (conventional generation) will shrink with no new coal plants being constructed. PFC has grown its RE loan book from 4% to 10% of total in the past 4 years whereas REC's RE loan book has remained a mere 3–4% of its total loan book over the past 4 years. Since FY 2020, PFC's RE loan book growth has slowed down and REC's RE loan book has declined due to slowdown in disbursements and higher repayments. Transmission segment's share has remained stable and has not been a growth driver for PFC and REC.

In order to diversify PFC has sanctioned loans in emerging areas such as EV and storage and also forayed into opportunities beyond power infrastructure to areas such as irrigation, metro rail, water treatment, etc. Similarly, REC has also started lending to upcoming sectors such as e-mobility, solar cell and manufacturing and plans to explore opportunities in the non-power infrastructure segment. However, as of now these new avenues do not contribute significantly to their overall profitability.

MISSING THE RENEWABLE ENERGY BUS?

Achieving India's RE targets requires significant amounts of financing. And yet, the country's largest power sector lender is not a significant lender to the RE industry. It is no exaggeration to say that the Indian RE sector and PFC need each other to grow.

The country's largest power sector lender, is not a significant lender to the RE industry, despite the need for significant capital to meet national capacity targets

PFC/REC have not been able to seize the renewable financing opportunity so far as their RE loan book has grown at 8.3% and -8.11% CAGR respectively between FY 19–22, lower than the pace of India's capacity

addition. PFC's annual report states that its renewables loan book has grown at 32% CAGR in the last 5 years but the growth is largely due to reclassification of large hydro projects from conventional to renewable category FY 20 onwards.

| Table 12 PFC and REC gross renewable loans assets and India's installed RE capacity | | | | | | | |
|---|---------|---------|---------|---------|--|--|--|
| GROSS RENEWABLE ASSETS (INR, CR) | FY 2019 | FY 2020 | FY 2021 | FY 2022 | | | |
| PFC (excluding hydro) | 15,390 | 19,411 | 20,741 | 20,167 | | | |
| REC | 12,895 | 16,078 | 16,505 | 11,849 | | | |
| | | | | | | | |
| INDIA'S INSTALLED RE CAPACITY (GW) | FY 2019 | FY 2020 | FY 2021 | FY 2022 | | | |
| Renewable energy (solar and wind) | 64 | 72 | 79 | 94 | | | |
| | | | | | | | |
| YOY GROWTH % | | FY 2020 | FY 2021 | FY 2022 | | | |
| PFC (excluding hydro) gross renewable assets YoY% | | 26% | 7% | -3% | | | |
| REC gross renewable assets YoY% | | 25% | 3% | -28% | | | |
| India's Installed RE capacity YoY% | | 13% | 10% | 19% | | | |
| Source PFC and REC investor presentation, CRH analysis, CEA Installed Capacity Report | | | | | | | |





Figure 1 | Sources of debt new-build renewable energy projects in India (2019-2021)

Source | BloombergNEF | www.assets.bbhub.io/professional/sites/24/BloombergNEF-Financing-India%E2%80%99s-2030-Renewables-Ambition-2022.pdf

Note | Chart shows deals captured in the BNEF database by date of financing. NBEFC–Non-banking Finance Company IDF–Infrastructure Debt Fund

PFC and REC are estimated to need 142% and 156% CAGR growth in their RE loan book over the next 3 years for a 10% CAGR growth in net profit, assuming other factors remain constant. To achieve this loan book growth they will need to disburse approximately ₹4,97,315 CR over the next three years, an amount sufficient to meet the debt capital requirement of approximately 89 GW of solar and 38 GW of onshore wind capacity.

Boosting lending to the RE sector will not be easy. PFC/REC's tepid entry into the RE finance space even as the sector itself was seeing record growth means that it is now facing competition from banks and other NBFCs. As the sector has emerged as an investable option, banks have seized the opportunity and changed the competitive landscape. Banks are better placed than NBFCs to offer loans at competitive rates as they have access to low-cost Current and Savings Account (CASA) deposits as a source of finance. PFC and REC will have to provide loans to the RE sector at competitive rates in order to ensure healthy growth of their RE loan book.

REPUTATIONAL RISK IN INTERNATIONAL CAPITAL MARKETS FROM ONGOING COAL LENDING

PFC and REC have been increasingly relying on foreign currency borrowings to diversify their source of borrowing and lower cost of funds. They have leveraged green bonds to tap international finance at lower rates. In 2021, PFC raised 300 million Eurobonds of 7-year duration at a yield of 1.841, the lowest by an Indian issuer in Euro markets. However, given increasing scrutiny of the green bond market to guard against greenwashing, PFC might have trouble repeating this success if it continues to finance new coal projects.

Precedent in the international green bonds market suggest continued coal financing will negatively affect their prospects of successfully raising funds through green bonds and the wider ESG-aligned capital pool. French Asset manager Amundi eventually divested State Bank of India's green bonds from its Planet Emerging Green One fund on account of SBI's proposed loan for the Carmichael coal mine in Australia.⁹ AXA Investment management and NN Investment partners have also divested SBI's green bonds in response to the proposed coal finance,¹⁰ while equity shareholders such as Blackrock and Norway's Storebrand ASA also objected to SBI's loan.¹¹ As global scrutiny of new fossil fuel investments grows, the contagion risk for financiers of conventional assets will increase.

In the context of lower loan book yield and slow growth prospects in the immediate future, It is imperative for PFC and REC to support NIM and net profit growth by accessing low cost ESG aligned finance. Financing new coal power plants can impact PFC and REC's green bonds and add to ESG risk.

NEED FOR CLIMATE RISK GOVERNANCE AND MANAGEMENT

Lending Institutions are exposed to climate risks through credit and equity holdings in their borrowers, customers and counterparties. PFC and REC being the largest lenders in India's fossil fuel dominated electricity sector need to identify and assess materiality of risks posed by climate change. PFC and REC's climate risk primarily stems from lending to various participants in India's electricity value chain who are exposed to risk from the ongoing energy transition.

It is imperative for senior management to set the tone on climate risk governance and establish a board committee dedicated to the issue. PFC and REC need to integrate climate-related considerations in their overall business strategy because the electricity sector's decarbonisation presents both significant material risks and immense growth opportunities. Climate risk should be embedded in the overall risk management framework including capital allocation, loan sanction and portfolio monitoring.

PFC/REC being the largest electricity sector lenders need to identify and assess materiality of risks posed by climate change and the energy transition

> Adopting guidelines such as Task Force on Climate-Related Financial Disclosures (TCFD) will enable PFC and REC to set up the organisational framework to understand and respond to climate risks and opportunities. Given the imminent decline in its historic growth drivers (coal), PFC must expand into energy storage, green hydrogen, EV infrastructure and other clean energy growth sectors, both for its own good and to help achieve the country's goals.

| Table 13 | PFC loan | book | growth | YoY |
|----------|----------|------|--------|-----|
|----------|----------|------|--------|-----|

| | FY 2020 | FY 2021 | FY 2022 | FY 2023-E | FY 2024-E | FY 2025-E |
|---------------------------------|---------|---------|---------|-----------|-----------|-----------|
| Conventional | 3% | -5% | -7% | -7% | -11% | -14% |
| Hydro | 29% | -5% | -1% | 5% | 5% | 5% |
| RE excl. hydro | 26% | 7% | -3% | 20% | 20% | 20% |
| Trasmission | 14% | 1% | 4% | 10% | 10% | 10% |
| Distribution | 20% | 48% | 14% | 25% | 25% | 25% |
| TOTAL | 10% | 7% | 1º/o | 8% | 8% | 9% |
| | | | | | | |
| Interest income/avg. gross loan | 9.69% | 10.10% | 9.87% | 9.80% | 9.75% | 9.70% |
| Intrerest/avg. borrowings | 7.55% | 7.38% | 6.99% | 7.30% | 7.50% | 7.50% |
| | | | | | | |
| Table 14 PFC income statement | nt | | | | | |
| PARTICULARS (INR, CR) | FY 2020 | FY 2021 | FY 2022 | FY 2023-E | FY 2024-E | FY 2025-E |
| Interest income | 31,950 | 36,146 | 36,701 | 37,932 | 40,638 | 43,918 |
| (-) Interest expense | 21,853 | 23,194 | 22,671 | 24,650 | 27,417 | 29,783 |
| Net interest income | 10,097 | 12,951 | 14,030 | 13,282 | 13,221 | 14,135 |
| Other Income | 1,421 | 1,622 | 1,890 | 1,984 | 2,084 | 2,188 |
| Total income | 11,518 | 14,573 | 15,920 | 15,267 | 15,305 | 16,323 |
| (-) Operating expense | 2,334 | 869 | 1,470 | 1,195 | 1,190 | 1,272 |
| % of NII | 23% | 7% | 10% | 9% | 9% | 9% |
| Operating profit | 9,184 | 13,704 | 14,450 | 14,071 | 14,115 | 15,051 |
| (-) Provisions | 991 | 3,496 | 2,222 | 1,759 | 1,680 | 1,776 |
| Provision % of operating profit | 11% | 26% | 15% | 13% | 12% | 12% |
| Profit before tax | 8,193 | 10,207 | 12,228 | 12,313 | 12,435 | 13,275 |
| (-) Tax | 2,537 | 1,763 | 2,206 | 2,955 | 2,984 | 3,186 |
| Tax rate% | 31% | 17% | 18% | 24% | 24% | 24% |
| Profit after tax | 5,655 | 8,444 | 10,022 | 9,358 | 9,451 | 10,089 |
| NET PROFIT CAGR FY 2022-25 | 0.22% | | | | | |

| REC LOANBOOK GROWTH (YOY) | FY 2020 | FY 2021 | FY 2022 | FY 2023-E | FY 2024-E | FY 2025-E | |
|---|---------|---------|---------|-----------|-----------|-----------|--|
| Conventional Generation | 14% | 11% | -2% | 1% | -2% | -8% | |
| RE | 25% | 3% | -28% | 15% | 15% | 15% | |
| Trasmission | 15% | 3% | 6% | 10% | 10% | 10% | |
| Distribution | 15% | 35% | 7% | 20% | 20% | 20% | |
| TOTAL | 15% | 17%o | 2% | 10% | 10% | 9% | |
| | | | | | | | |
| Interest income/average gross loan | 9.83% | 9.91% | 10.01% | 9.90% | 9.80% | 9.70% | |
| Intrerest expense/average borrowings | 7.31% | 7.13% | 6.65% | 6.95% | 7.10% | 7.20% | |
| | | | | | | | |
| Table 16 REC income stateme | ent | | | | | | |
| PARTICULARS (INR, CR) | FY 2020 | FY 2021 | FY 2022 | FY 2023-E | FY 2024-E | FY 2025-E | |
| Interest income | 29,663 | 34,683 | 38,186 | 40,134 | 43,758 | 47,399 | |
| (-) Interest expense | 18,997 | 21,489 | 22,053 | 24,536 | 27,257 | 30,250 | |
| Net interest income | 10,666 | 13,194 | 16,134 | 15,598 | 16,501 | 17,149 | |
| Other Income | 166 | 727 | 697 | 732 | 769 | 807 | |
| Total income | 10,832 | 13,921 | 16,831 | 16,330 | 17,269 | 17,956 | |
| (-) Operating expense | 2,959 | 746 | 933 | 936 | 990 | 1,029 | |
| % of NII | 28.00% | 6.00% | 6.00% | 6.00% | 6.00% | 6.00% | |
| Operating profit | 7,873 | 13,175 | 15,898 | 15,394 | 16,279 | 16,928 | |
| (-) Provisions | 890 | 2,420 | 3,473 | 2,771 | 2,768 | 2,708 | |
| Provision % of operating profit | 11.00% | 18.00% | 22.00% | 18.00% | 17.00% | 16.00% | |
| Profit before tax | 6,983 | 10,756 | 12,425 | 12,623 | 13,512 | 14,219 | |
| (-) Tax | 2,097 | 2,394 | 2,379 | 3,030 | 3,243 | 3,413 | |
| Tax rate% | 30.00% | 22.00% | 19.00% | 24.00% | 24.00% | 24.00% | |
| Profit after tax | 4,886 | 8,362 | 10,046 | 9,594 | 10,269 | 10,807 | |
| NET PROFIT CAGR FY 2022-25 | 2.46% | | | | | | |
| | | | | | | | |

Table 15 | REC financial summary

CONCLUSION

Conventional generation is the largest segment in PFC and REC's loan book. The electricity generation system as currently structured offers the highest yields to conventional generation assets. These lucrative yields will be a thing of the past as disbursements come to a halt and repayment reduces the loan book size. With the decline in new coal power construction, PFC and REC are faced with the eventual loss of what has been the most remunerative segment of their portfolio. The two companies have not increased their RE portfolio or other energy transition sectors to compensate for the decline in new conventional generation.



PFC has performed better than REC in growing its RE loan book though the share of RE to total loan assets is still small. Disbursement growth in FY 21 and FY 22 were largely supported by the Atmanirbhar liquidity infusion scheme which concluded in FY 22. PFC and REC will have to aggressively look for new funding opportunities in RE and related segments along with continued focus on transmission and distribution for healthy growth in its loan book.

PFC and REC will have to aggressively look for new funding opportunities in RE and related segments along with continued focus on transmission and distribution for healthy growth in its loan book

> It will also need to continue to lower the cost of funds available to it. Continued access to the international green bond market will be key. This access could be jeopardised if PFC continues to finance new coal projects.

> Yields on RE loans, short term loans and transmission disbursements are lower than loans to conventional generation. PFC and REC's reduction in lending rates over the past years will put pressure on Net Interest Margin, bringing further urgency to the need for new growth opportunities.

> PFC and REC's net profit is expected to grow at a mere 0.22% and 2.46% respectively over the next three years despite pre-pandemic level growth in RE, transmission and distribution loan book.

A 10% growth in share price over the next five years to 2027 would require valuation multiples that seem improbable given declining P/E and P/B multiples for PFC and REC over the last three years and a projected net profit CAGR of less than 3% over the next three years.

PFC and REC are expected to need 142% and 156% CAGR growth in RE loan book for 10% CAGR growth in net profit. To achieve this loan book growth, they may need to disburse approximately ₹4,97,315 CR over the next three years. This disbursement amount can finance 89 GW of solar and 38 GW of wind capacity and would go a substantial way to helping India meet its renewable energy targets.

ENDNOTES

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Power Finance Corporation

Energy transition risk looms large, massive growth in renewables, transmission lending needed to counter coal slump



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