INDIA
2017

COAL VS RENEWABLES

FINANCE ANALYSIS

CFA
Centre for Financial Accountability

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Centre for Financial Accountability
R-21, South Extension Part II, New Delhi : 110 049

Contact : +91-11-49123696

info@cenfa.org

www.cenfa.org

METHODOLOGY

We examined 78 project finance deals comprising a loan component, across 72 coal-fired power and renewable energy projects, with a financial close date from 1st January, 2017 to 31st December, 2017.

Deals were identified via investigation of subscription-based financial databases provided by Bloomberg Professional, IJGlobal, Thomson Reuters and market disclosures.

Only project finance lending was included. Corporate lending was excluded from the study. Where the source of funds was unknown, lending was excluded. All dollar amounts are reported in US Dollars (USD) unless stated otherwise. All lending occured in either Indian Rupees (INR) or USD and where aggregation of lending across these currencies occured, the US Federal Reserve exchange rate was used. Lending amounts are as at the date of financial close and aggregated figures were reached by adding these amounts.

CONTENT

1. INTRODUCTION

There is a strong push for renewable energy in India with coal's future prospects arguably on the decline, as India's draft 2016 National Electricity Plan called for rising demand to be met with 275 GW of total renewable energy capacity by 2027 and for no coal plants beyond those already under construction.[1]

India's clean energy transition continues to accelerate, with the country adding more than thrice the capacity in power generation for 2017 through renewables - as compared to coal-fired thermal power.

Year	*Capacity Addition (GW)*	*Contribution by coal (MW) and relative %*	*Contribution by renewables (MW) and relative %*
2017	**19.39** (approx.)	**4.004 • (21%)**	**12,829 • (66%)**

Source: CleanTechnica.com

Nevertheless, at present, finance for coal-fired power continues in India, increasingly buoyed by finance from government-owned banks in the projects profiled in this study.

This analysis identified and reviewed project finance lending to 72 energy projects, comprising coal- fired power stations and renewable energy generation facilities in India that reached financial close in 2017.

These projects attracted total lending of ₹83,680 crores (US$12.85 billion)

While this analysis is not intended to be exhaustive, it provides a snapshot of which financial institutions are lending to these projects.

[1] 2016 Draft National Energy plan

Summary

- 12 coal-fired generation projects with a combined capacity of 17GW were profiled in this study. These projects obtained loans of **₹ 60,767 cr (US$9.35 bn)** (**73%** of all lending reviewed).

- 60 renewable projects with a combined capacity of 4.5GW obtained loans of just **₹22,913 cr (US$3.50 bn)** (**27%** of the lending reviewed).

- Of the top ten lenders, renewables projects had a mix of commercial and government-owned bank participation, while the coal-fired power projects profiled were primarily funded by government-owned entities.

- Both finance to coal-fired power projects and renewable energy projects are concentrated in a few states. In states such as Chhattisgarh and Madhya Pradesh, the lending to coal power was over three times the lending to renewables.

- In 2017, most of the lending in the coal-fired power sector was for existing projects while the lending to renewables was predominantly for new projects.

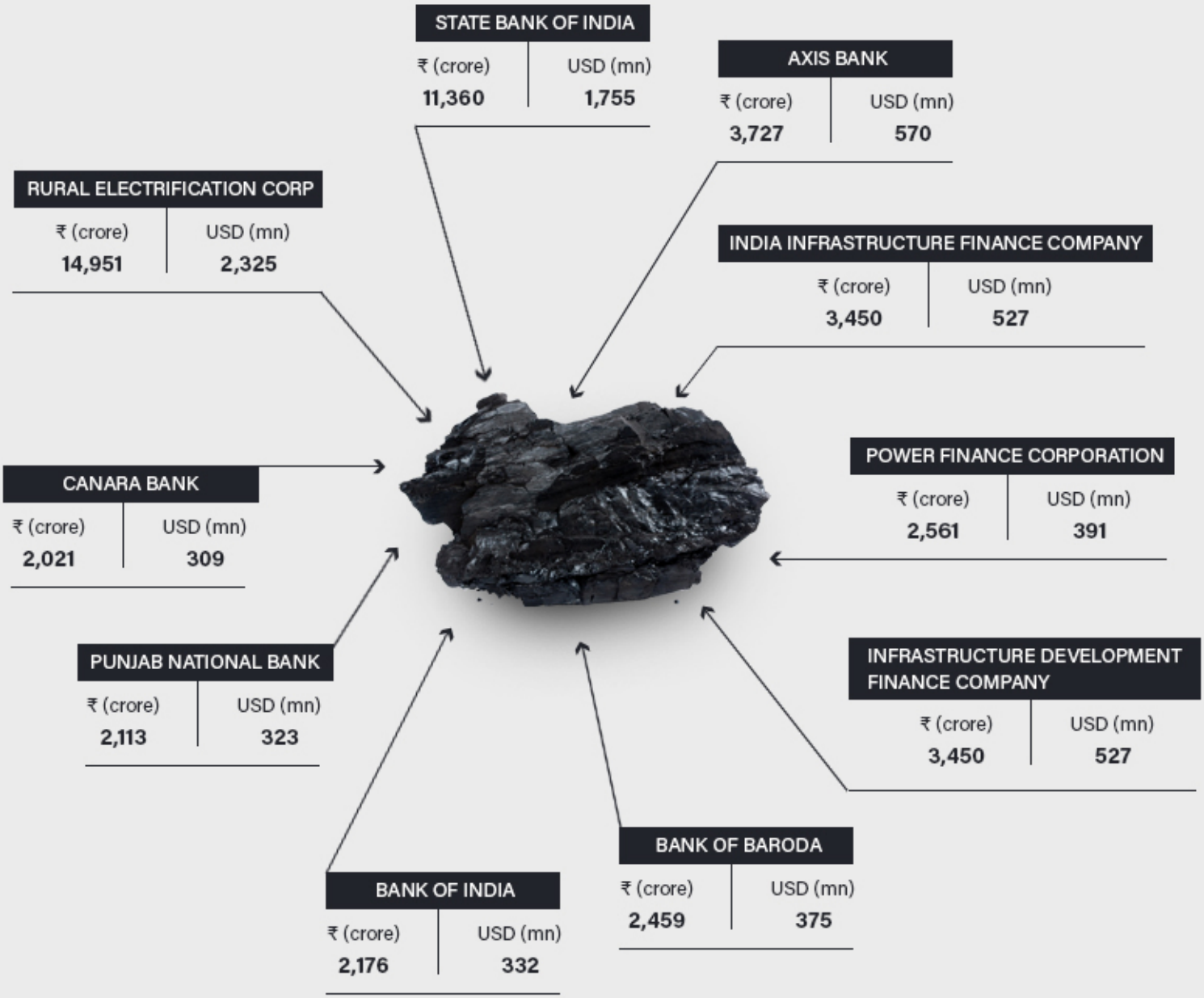
2. WHO IS LENDING TO COAL-FIRED POWER?

This analysis identified project finance lending of ₹60,767 crores (US$9.35 billion) to 12 coal-fired power projects with a combined capacity of 17GW, from 38 different lenders.

2017

TOP 10

PROJECT FINANCE LENDERS TO COAL-FIRED POWER IN INDIA



Eight out of the top 10 lenders were majority-owned by governments, providing US$4.5 billion in finance to those 12 projects alone.
The finding that the Indian government has to prop up the coal power industry is supported by the 2018 report of Coal Swarm, Sierra Club and Greenpeace, which stated "All of the 6,920 MW that entered construction in 2017 was sponsored by state-owned entities with public funding." [2]

2.1 Most of these deals refinanced existing projects

Only a minority of lending to the coal-fired power projects, ₹17,224 cr (US$2.68 billion) (28%), involved the establishment of new credit, typically intended to fund new projects. The majority of coal-fired power finance, ₹43,544 crores (US$6.67 billion) (72%), was 'refinancing' whereby lenders renew existing debt for projects that have typically already been built or are under construction.

2.2 These projects are concentrated in a few states

The deals that attracted the most lending in 2017 were all coal-fired power projects.
The **TOP 5** are listed below in order of amount of lending received:

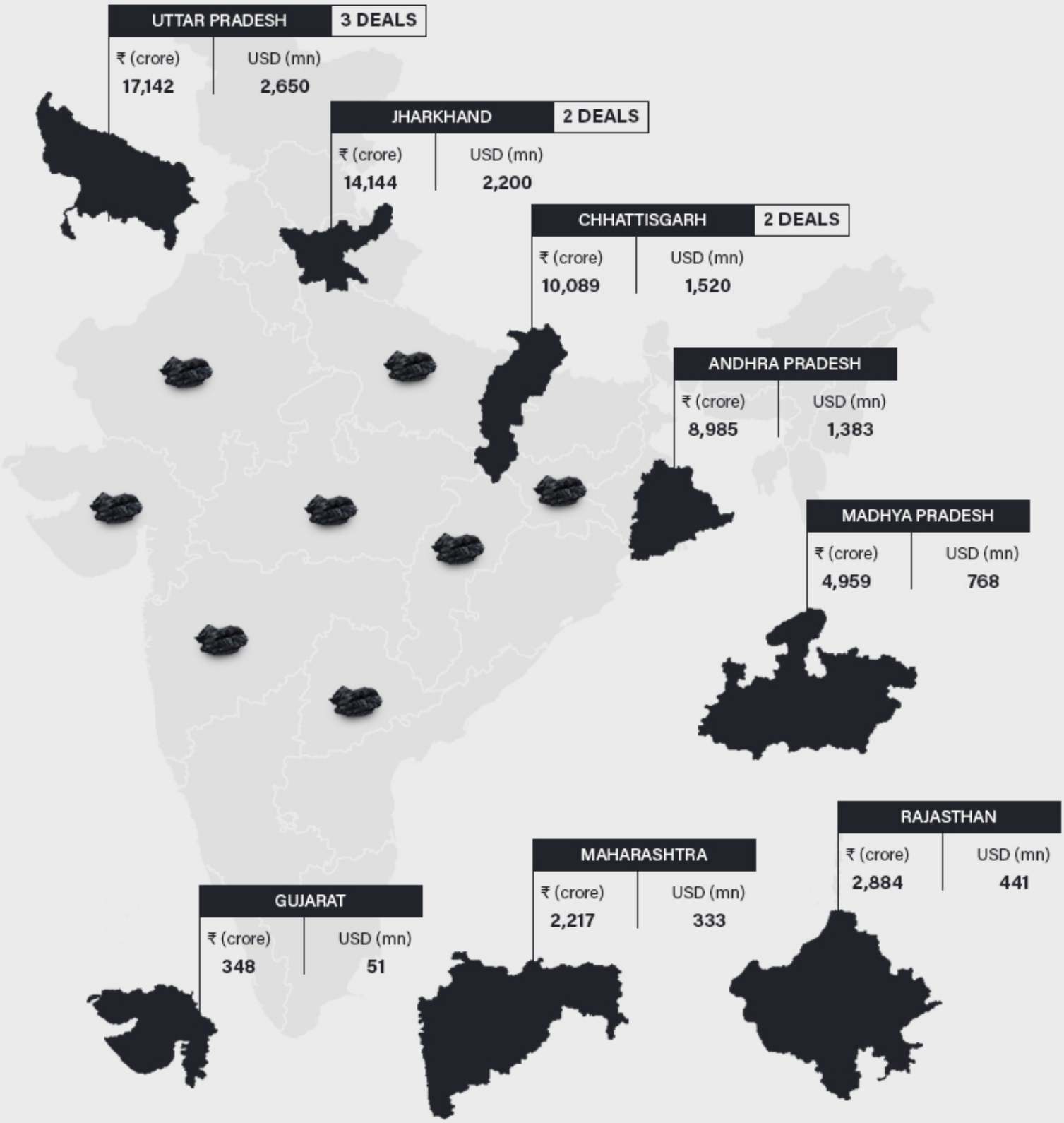
1. **PATRATU COAL-FIRED POWER PROJECT** (2400MW)
   Jharkhand
2. **LALITPUR COAL FIRED POWER STATION** (1980MW)
   Uttar Pradesh
3. **RAIKHEDA POWER STATION** (1370MW)
   Chhttisgarh
4. **PAVALAVASA COAL POWER PLANT** (1040MW)
   Andhra Pradesh
5. **ANUPPUR THERMAL POWER PROJECT** (1200MW)
   Madhya Pradesh

[2]

Christine Shearer, Neha Mathew-Shah, Lauri Myllyvirta, Aiqun Yu, and Ted Nace, *Boom and Bust 2018 : Tracking the Global Coal Plant Pipeline, pg. 9*
https://endcoal.org/wp-content/uploads/2018/03/BoomAndBust_2018_r6.pdf

The coal-fired projects that received project finance lending were located in the following **08 STATES** (of 29 states in India):

TOTAL FINANCE LENDING
₹ 60,767 | US$9,346



2.3 Some of these projects were met with local protest

Some of the power projects that these banks are invested in are the subject of some controversy. Raikheda Power Station in Chhattisgarh funded by State Bank of India, Axis Bank, India Infrastructure Finance Company, Bank of Baroda, Bank of India, Punjab National Bank and Canara Bank, was protested by farmers when the land was acquired, because of fears of pollution.[3]

There were also accusations that the GMR group had been favoured by the Chhattisgarh government in its land acquisition for a railway line which would be used to transport coal.[4]

The JSW Barmer power station in Rajasthan, funded by State Bank of India, Bank of Baroda, Bank of India, Punjab National Bank and Canara Bank, was similarly met with opposition fromfarmers and there were allegations that farmers did not provide informed consent to the sale of the land.[5]

3

http://twocircles.net/2009mar09/chhattisgarh_farmers_protest_rs_55_bn_power_project.html#.VAPbH7ywKcI

4

https://timesofindia.indiatimes.com/city/raipur/BJP-MLA-says-Chhattisgarh-govt-favouring-GMR-group-wit h-land-acquisition-for-rail-line/articleshow/17614180.cms

5

www.indiaenvironmentportal.org.in/content/19910/barmer-farmers-protest-jindal-power-project/

2.4 Were these loans to stressed or stranded assets?

Indian banks, especially the public-sector banks have been reporting very high levels of NPAs, especially recently, after the Reserve Bank of India (RBI) made the bad debt recognition norms stricter. Over the past 4 years, India's Public-Sector Banks (PSBs) have written off bad debts worth ₹ 2,72 trillion (US$ 40 bn).[6] RBI projects Gross Non-Performing Assets (GNPAs) of the Indian PSB to reach a massive 15.3% by September 2018.[7] India's largest bank, State Bank of India (SBI), reported its biggest ever quarterly loss in March 2018, on the back of a rise in GNPAs to ₹ 2.23 trillion (US$ 33 bn).[8][9]

A large source of bad debts in the Indian Banking system is the Power sector. In September 2017, Power sector accounted for ₹ 11.7 trillion, or 15.0% of the total credit of 77.9 trillion.[10][11] However, in terms of stressed loans, Power sector accounted for 36.8% of the overall stressed loans in India.[12][13] Out of SBI's ₹ 258 bn (US$ 3.8 bn) assets under watchlist, Power sector loans account for nearly ₹ 106 bn (US$ 1.56 bn), or nearly 40.8%.

6

https://www.financialexpress.com/industry/banking-finance/npa-in-india-psbs-failing-to-recover-bad-loans-uco-bank-tops-chart-check-full-list/1135559/

7

https://rbi.org.in/Scripts/PublicationReportDetails.aspx?UrlPage=&ID=887

8 9

https://www.bloombergquint.com/quarterly-earnings/2018/05/22/q4-results-sbi-reports-second-consecutive-quarterly-loss-as-provisions-rise

10 11

https://www.businesstoday.in/sectors/banks/banks-bad-loans-debts-38-npas-power-sector-report/story/274137.html
https://dbie.rbi.org.in/DBIE/dbie.rbi?site=publications#!12

12 13

https://in.reuters.com/article/india-economy-banks/india-mulls-company-to-deal-with-banks-stressed-assets-idINKCN1J41M7
https://www.businesstoday.in/sectors/banks/banks-bad-loans-debts-38-npas-power-sector-report/story/274137.html

Despite the high incidence of bad loans, Indian banks are still lending to the Power sector – some of them even stressed assets. Out of the 12 power plants that received funding in 2017, at least 2 were stressed and 1 (Raikheda Power Station) was even highlighted as stressed in the Parliamentary Committee findings.

The two units of the Raikheda plant, promoted by the GMR group, were commissioned in June 2015 and March 2016.[14] However, non-signing of long terms PPAs and FSAs, the plant was stranded. Eventually lenders to Raikheda plant converted their debt into Equity.[15] Despite this chequered history, the plant managed to source refinancing loans from the leading banks, including SBI. The project received an overall refinancing of ₹ 88.45 bn (US$ 1.3 bn), of which nearly ₹ 5 bn was from SBI and its subsidiaries and nearly ₹ 68 bn from other public sector financing institutions.
It is clear that banks, especially the PSBs need to be more careful in their lending to the thermal power sector.

14

http://www.gmrgroup.in/energy-gmr-chhattisgarh-power-project.aspx

15

https://www.thehindubusinessline.com/companies/nlc-eyes-stake-in-gmr-chhattisgarh/article9672330.ece

3. WHO'S LENDING TO RENEWABLES?

This analysis included lending to renewable energy generation projects, encompassing hydroelectric, geothermal, wave, wind and solar power projects. However, of these different energy sources, only lending to wind and solar projects was identified in the review.

The analysis identified lending to 41 solar power projects and 19 wind power projects. The majority of the lending profiled, approximately 68%, was directed to solar power, with the remainder to wind power. Most of this finance (76%) was 'primary finance' rather than refinancing an existing project. This indicates a vast growth in new renewable power projects in 2017.

2017

TOP 10

PROJECT FINANCE LENDERS TO RENEWABLE POWER IN INDIA

L&T FINANCE HOLDINGS

₹ (crore)	USD (mn)
2,280	352

STATE BANK OF INDIA

₹ (crore)	USD (mn)
2,162	323

INFRASTRUCTURE DEVELOPMENT FINANCE COMPANY

₹ (crore)	USD (mn)
3,375	520

INDIAN RENEWABLE ENERGY DEVELOPMENT AGENCY

₹ (crore)	USD (mn)
1,826	279

BANK OF BARODA

₹ (crore)	USD (mn)
741	109

YES BANK

₹ (crore)	USD (mn)
1,685	261

UNION BANK OF INDIA

₹ (crore)	USD (mn)
899	137

INDUSIND BANK

₹ (crore)	USD (mn)
1,557	240

PTC INDIA FINANCIAL SERVICES

₹ (crore)	USD (mn)
902	138

INDIA INFRADEBT

₹ (crore)	USD (mn)
1,367	211

In contrast to coal lending, half of the top 10 lenders to renewable power projects were commercial banks, as opposed to majority government-owned banks.

3.1 TOP 5 renewable projects

The 5 renewable power projects that attracted the most lending in 2017 are a combination of wind and solar power projects, ranked below according to the value of loans attracted.

1 **KARNATAKA SOLAR FARM** (180MW)
Karnataka

2 **AMIDYALA WIND PROJECT** (227MW)
Andhra Pradesh

3 **BHADLA SOLAR PROJECT** (260MW)
Rajasthan

4 **ANDHRA PRADESH WIND FARM** (101MW)
Andhra Pradesh

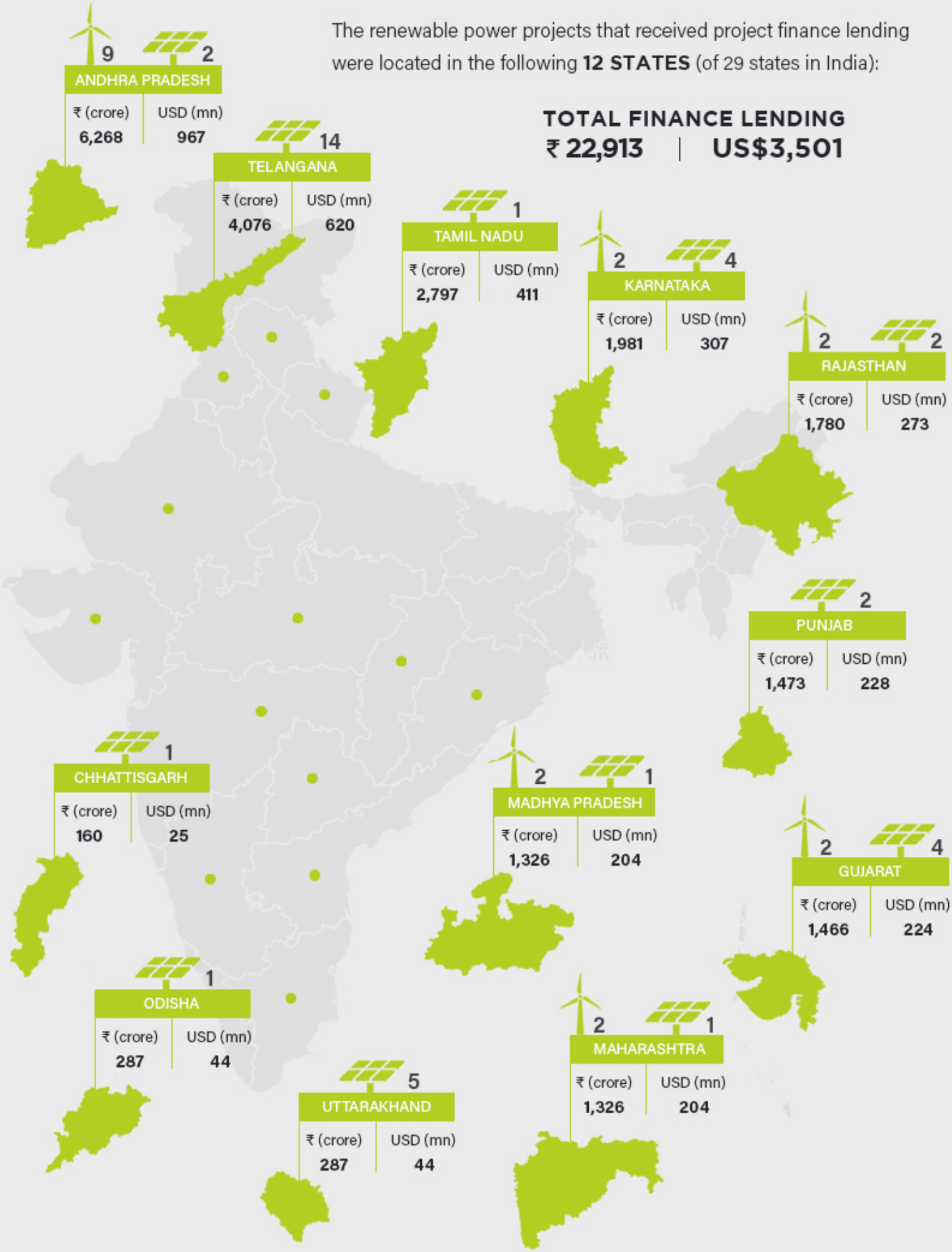
5 **KARNATAKA SOLAR FARM** (180MW)
Karnataka

3.2 These projects are concentrated in a few states

Only 12 out of India's 29 states attracted renewable project finance in 2017, with 5 states attracting three-quarters of all lending to renewable project finance:
Andhra Pradesh, Telangana, Tamil Nadu, Karnataka and Rajasthan.

The renewable power projects that received project finance lending were located in the following **12 STATES** (of 29 states in India):

TOTAL FINANCE LENDING
₹ 22,913 | US$3,501



4. LENDING BY STATE

COAL vs RENEWABLES

	₹ (crore)	₹ (crore)
ANDHRA PRADESH	8,985	6,268
CHHATTISGARH	10,089	160
GUJARAT	348	1,466
JHARKHAND	14,144	0
KARNATAKA	0	1,981
MADHYA PRADESH	4,959	1,326
MAHARASHTRA	2,217	1,123
ODISHA	0	175
PUNJAB	0	1,473
RAJASTHAN	2,884	1,780
TAMIL NADU	0	2,797
TELANGANA	0	4,076
UTTAR PRADESH	17,142	0
UTTARAKHAND	0	287

All of the lending identified was concentrated in 14 states. Of these, only two attracted no renewables lending; Jharkhand and Uttar Pradesh. States with significant renewables lending such as Karnataka, Punjab, Tamil Nadu and Telangana had no coal lending. Projects in Uttarkhand and Odisha received minimal lending overall, with no loans to coal-fired power projects and little to renewables.

In states such as Gujarat, renewables lending outpaced coal lending more than four-fold. In most other states with both coal lending and renewable energy lending, coal lending was higher than renewable lending. Chhattisgarh provides an extreme example, where coal-fired power projects attracted almost 10 times that of renewables projects in 2017.