

Analysis:

# Owners of 50% of India's energy fleet committed to no new coal power generation

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## Key Findings

- Indian coal power generation is at an inflection point: companies and states that collectively own 50% of India's power generation capacity will have no new coal power plants.
- Among states with the highest renewable energy already installed, Rajasthan and Tamil Nadu are comfortably placed to join the 'no new coal' club, which would increase the tally to 65% of all Indian capacity.
- Indian state's commitments to no new coal could bridge the emissions gap between its current Nationally Determined Contributions (NDCs) and the Paris Agreement goal.
- Phasing out coal power is a 'no regrets' policy option for India, and could create an additional GDP PPP growth of 2%, whilst reducing its costly health impacts of air pollution.
- If India commits to no new coal and achieves its 2030 renewable energy target, coal demand in India would have reached its historical peak in 2018.

## No new coal for the majority of India power generation

Since 2019, the biggest power producers of India have been racing to phase out their reliance on coal power generation. Gujarat led the pack in 2019 by being the first to announce that it will not permit developments of new thermal power plants in the state, choosing instead to rely on renewable energy to meet its future power generation demand.<sup>i</sup> Their ‘no new coal power’ announcement was quickly followed by Chhattisgarh, even though the state is home to the country’s third largest coal reserves.<sup>ii</sup> In 2020, Maharashtra<sup>iii</sup> and Karnataka<sup>iv</sup> followed suit, observing that “thermal power sector [is] a dying market”.<sup>v</sup>

Additionally, three of India’s largest power producers: NTPC Ltd,<sup>vi</sup> Tata Power<sup>vii</sup> and JSW Energy,<sup>viii</sup> have all announced an end to greenfield coal power generation projects. All three companies are looking to pivot their business towards renewable energy with a focus on reducing its carbon footprint.

Together these states and companies account for **50%** of India’s existing generation capacity (See Table A1 for breakdown).

India is home to the world’s third largest coal fleet. It also has the second biggest pipeline of coal power projects in the world.<sup>ix</sup> Its growing commitment to no new coal could lead to a dramatic slowdown in global coal capacity growth and a reduction in CO<sub>2</sub> emissions worldwide. For India, its state-led coal phase out can help close the emissions gap between the Paris Agreement and its current NDC emissions reduction pledge.<sup>x</sup>

## No new coal commitments could jump to 65%, if renewable energy leaders follow

India is undergoing a renewable energy revolution.<sup>xi</sup> It has the world’s biggest renewable energy auction market<sup>xii</sup> and five states lead its expansion: Karnataka, Tamil Nadu, Gujarat, Maharashtra and Rajasthan. (See Table 1 below). Together these five states account for 54% of India’s renewable energy fleet.

Of the top five renewable energy states, Tamil Nadu and Rajasthan have yet to announce their coal exit strategy. Both states installed renewable energy capacity already outcompete its coal generation, both states have some of the highest renewable energy potential in India.<sup>xiii</sup>

Table 1. Ranking of top renewable states

Ranking	States	Renewable generation capacity, 2020 (MW)	Renewable generation capacity, 2021 (MW)	Growth YoY (%)
1	Karnataka	18,881	19,107	1%
2	Tamil Nadu	16,530	17,408	5%
3	Gujarat	12,643	15,143	20%
4	Maharashtra	12,813	13,314	4%
5	Rajasthan	9,994	10,616	6%

Source: Renewable energy generation and hydro-electricity generation combined, National power portal, India. <https://npp.gov.in/publishedReports> accessed on 17 April.

Committing to no new coal-fired power generation would be a ‘win-win’ strategy for Tamil Nadu and Rajasthan, as overcapacity already plagues its existing fleet. During 2020, India’s average plant load factor (PLF) fell to 42% which marks a 22% reduction in comparison to 2019.<sup>xiv</sup> As renewable energy continues to grow in India, capacity utilisation for coal generation could drop to 35%-40% by 2022, according to KPMG.<sup>xv</sup> 60% of global coal power plants run at a loss even before the pandemic, according to Carbon Tracker analysis.<sup>xvi</sup> Building new solar and wind energy is already cheaper than 51% of operating coal power in India,<sup>xvii</sup> and new solar will cost less than all operating coal in 2020.<sup>xviii</sup>

Should these two states follow other renewable energy leaders in committing to no new coal, it would mean that **65%** of India’s total capacity will have no new coal from 2021. It would also confirm speculation that India coal generation has already had its peak in 2018 and will not bounce back following the COVID-19 pandemic.<sup>xix</sup>

## A coal phase out will benefit India’s economy and its people

Phasing out coal power is a ‘no regrets’ policy option for India.<sup>xx</sup> In addition to the climate benefits of reducing global emissions, analysis shows that the economic co-benefits of a coal exit could lead to a 2% net increase in India’s annual GDP PPP until 2050.<sup>xxi</sup> Air pollution already accounts for 1.7 million premature deaths in India, equivalent to 18% of all deaths in 2019.<sup>xxii</sup> The ongoing coal-related health crisis has led to a total loss of USD 36.8 billion, or 1.36% of India’s gross domestic product in 2019.<sup>xxiii</sup>

Reducing India’s energy reliance on coal will make it more competitive in the global market. Decarbonising the global economy is a USD 5.1 trillion investment opportunity.<sup>xxiv</sup> If India wants to capture investor interest, it will need to illustrate a decisive coal-phase out plan. India’s biggest investors - Amazon,<sup>xxv</sup> Facebook<sup>xxvi</sup> and Google<sup>xxvii</sup> - have all committed to net-zero targets or carbon neutrality. The pledge to source green energy applies to each

company's global operations, creating a race between countries to provide corporations with the easiest environment for sourcing renewable energy.

IRENA's REmap scenario for India (where approximately 940 GW of solar is installed to replace coal by 2050) will provide more than 3.2 million jobs in 2050.<sup>xxviii</sup> More importantly, investments in renewable energy have the potential create employment in rural areas,<sup>xxix</sup> and provide access to reliable and affordable electricity to millions of people in India.<sup>xxx</sup>

## **Appendix**

Table A1. Generation capacity of Indian states and companies.

<b>Category</b>	<b>States/Companies</b>	<b>Generation capacity (MW)</b>
States that have committed to no new coal	Maharashtra	42,887
	Gujarat	39,226
	Karnataka	29,492
	Chhattisgarh	24,381
Companies that have committed to no new coal	JSW energy	2,757
	Tata Power	6,737
	NTPC	46,877
Potential new announcements of no new coal	Rajasthan	22,639
	Tamil Nadu	34,247

Source: National power portal, India. <https://npp.gov.in/publishedReports> accessed on 17 April.

<sup>i</sup> <https://www.thehindubusinessline.com/news/national/gujarat-says-no-to-new-thermal-plants/article29362509.ece>.

<sup>ii</sup> <https://qz.com/india/1709483/after-gujarat-indias-chhattisgarh-wont-build-coal-power-plants/>.

<sup>iii</sup> <https://energy.economictimes.indiatimes.com/news/power/maharashtra-no-new-thermal-power-units-in-state-says-raut/77795901>

<sup>iv</sup> <https://www.energyinfrapost.com/karnataka-not-to-invest-in-thermal-power-plants-going-forward-kpcl-md/>

<sup>v</sup> <https://www.energyinfrapost.com/karnataka-not-to-invest-in-thermal-power-plants-going-forward-kpcl-md/>

<sup>vi</sup> <https://www.livemint.com/industry/energy/ntpc-says-no-to-greenfield-coal-fuelled-power-projects-11600959893677.html>

- <sup>vii</sup> <https://energy.economictimes.indiatimes.com/news/power/tata-power-to-focus-on-clean-energy-wont-build-new-coal-fired-plants-report/69005159>
- <sup>viii</sup> <https://energy.economictimes.indiatimes.com/news/coal/india-sees-consecutive-year-on-year-decline-in-coal-funding-report/79385890>
- <sup>ix</sup> <https://www.carbonbrief.org/mapped-worlds-coal-power-plants>
- <sup>x</sup> <https://www.carbonbrief.org/guest-post-why-coal-phaseout-is-a-no-regret-plan-for-tackling-climate-change>
- <sup>xi</sup> <https://foreignpolicy.com/2020/10/22/green-india-energy-climate/#:~:text=India%20has%20set%20its%20own,and%20is%20exceeding%20even%20them.&text=An%20Modi%20has%20further%20raised,renewable%20energy%20capacity%20by%202030.>
- <sup>xii</sup> <https://energy.economictimes.indiatimes.com/news/renewable/india-becomes-largest-renewable-energy-auctions-market-in-the-world/66822794#:~:text=India%20becomes%20largest%20renewable%20energy%20auctions%20market%20in%20the%20world,-India%20has%20secured&text=New%20Delhi%3A%20India%20has%20become,destination%20attracting%20clean%20energy%20investments.>
- <sup>xiii</sup> <https://climatetrends.in/wp-content/uploads/2019/12/Winds-of-Change-No-New-Coal-States-of-India-Dec-2019-.pdf>
- <sup>xiv</sup> <https://www.financialexpress.com/industry/coal-fired-power-plf-touch-all-time-low-of-42-in-april/1963141/>
- <sup>xv</sup> <https://economictimes.indiatimes.com/industry/energy/power/coal-fired-plants-may-have-to-scale-down-utilisation-to-35-by-2022-kpmg/articleshow/72200926.cms?from=mdr>
- <sup>xvi</sup> <https://carbontracker.org/powering-down-coal-the-economic-global-coal-phase-out-stronger-than-ever/>
- <sup>xvii</sup> <https://carbontracker.org/post-covid-economic-stimulus-risks-locking-in-future-for-costly-coal/>
- <sup>xviii</sup> <https://carbontracker.org/reports/how-to-waste-over-half-a-trillion-dollars/>
- <sup>xix</sup> <https://ember-climate.org/wp-content/uploads/2021/02/India-Peaking-Coal-Ember.pdf>
- <sup>xx</sup> <https://www.carbonbrief.org/guest-post-why-coal-phaseout-is-a-no-regret-plan-for-tackling-climate-change>
- <sup>xxi</sup> [https://www.nature.com/articles/s41558-020-0728-x.epdf?author\\_access\\_token=Y-7RdWj6l2QpeHkz2GACV9RgN0jAjWel9jnR3ZoTv0Oye1ly4Qo4VflhkjfpSrR3w55MEio82q9Xu\\_1A-kOtSWtzZeRRi6HLYsdFkkm\\_NCJ3m-GMnttSGKcAEhxl5FjYuMfCsuaQu\\_Ld-p2G\\_oULw%3D%3D](https://www.nature.com/articles/s41558-020-0728-x.epdf?author_access_token=Y-7RdWj6l2QpeHkz2GACV9RgN0jAjWel9jnR3ZoTv0Oye1ly4Qo4VflhkjfpSrR3w55MEio82q9Xu_1A-kOtSWtzZeRRi6HLYsdFkkm_NCJ3m-GMnttSGKcAEhxl5FjYuMfCsuaQu_Ld-p2G_oULw%3D%3D)
- <sup>xxii</sup> <https://www.theguardian.com/world/2020/dec/23/pollution-killed-nearly-17-million-people-in-india-in-2019-study#:~:text=Pollution%20accounted%20for%20nearly%201.7,the%20country%27s%20toxic%20urban%20air.>
- <sup>xxiii</sup> <https://www.theguardian.com/world/2020/dec/23/pollution-killed-nearly-17-million-people-in-india-in-2019-study#:~:text=Pollution%20accounted%20for%20nearly%201.7,the%20country%27s%20toxic%20urban%20air.>
- <sup>xxiv</sup> [https://www.aigcc.net/wp-content/uploads/2021/03/March-2021\\_-Asia%E2%80%99s-Net-Zero-Energy-Investment-Potential-English.pdf](https://www.aigcc.net/wp-content/uploads/2021/03/March-2021_-Asia%E2%80%99s-Net-Zero-Energy-Investment-Potential-English.pdf)
- <sup>xxv</sup> <https://www.aboutamazon.com/news/sustainability/we-are-all-in-on-the-climate-pledge-net-zero-carbon-by-2040>
- <sup>xxvi</sup> <https://sustainability.fb.com/our-climate-commitment/#:~:text=What%20is%20Net%20Zero%3F,and%20support%20carbon%20removal%20solutions.>
- <sup>xxvii</sup> <https://techcrunch.com/2020/09/14/google-claims-net-zero-carbon-footprint-over-its-entire-lifetime-aims-to-only-use-carbon-free-energy-by-2030/>
- <sup>xxviii</sup> [https://www.cobenefits.info/wp-content/uploads/2020/12/COBENEFITS\\_INDIA\\_POLICY\\_REPORT.pdf](https://www.cobenefits.info/wp-content/uploads/2020/12/COBENEFITS_INDIA_POLICY_REPORT.pdf)
- <sup>xxix</sup> <https://www.ief.org/industry/renewable-energy.aspx>
- <sup>xxx</sup> <https://www.financialexpress.com/economy/fighting-energy-poverty-why-reliable-affordable-electricity-is-key-to-indias-economic-growth/2146368/>