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Ministry of Power
Government of India

Azadi Ka Amrit Mahotsav

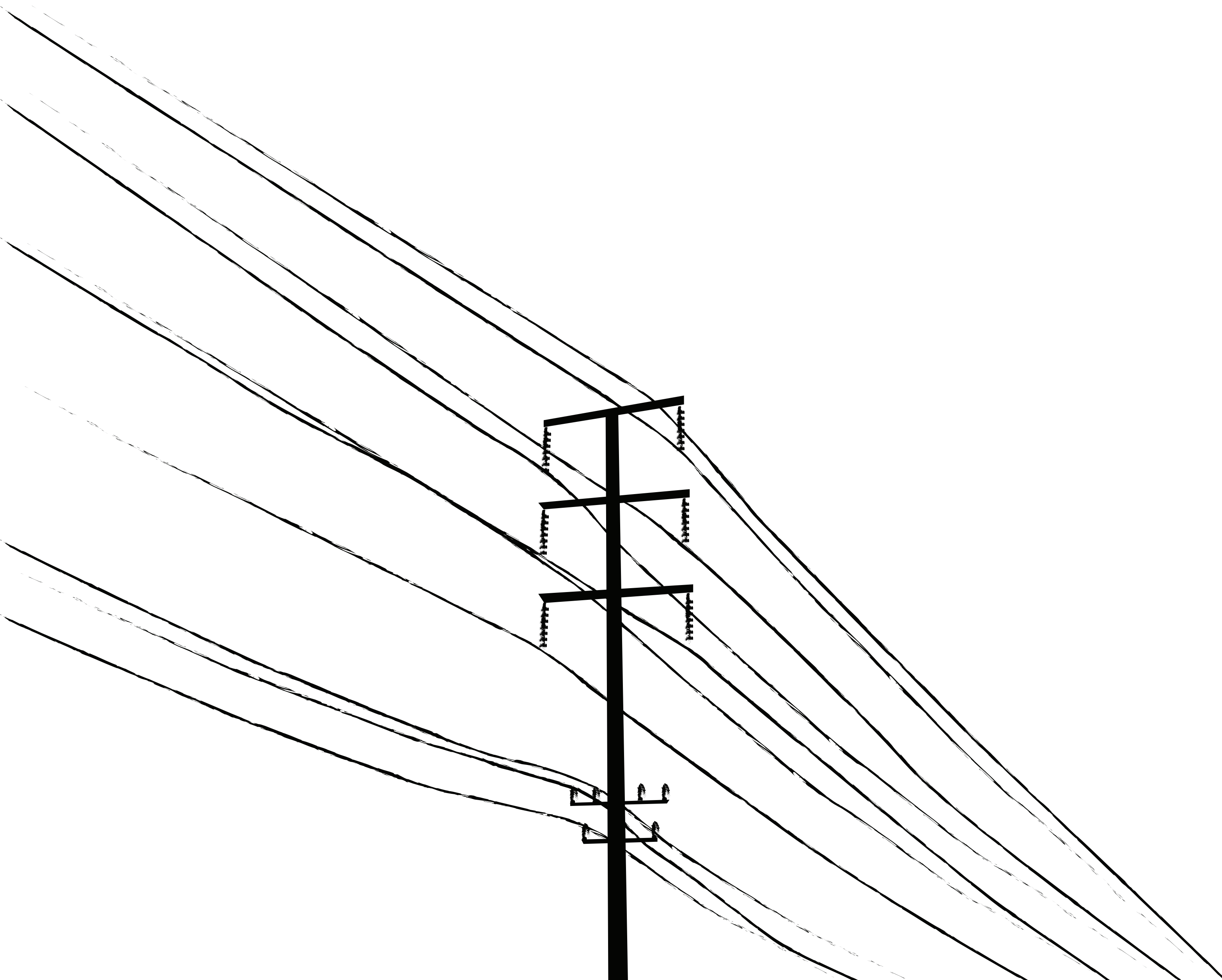
Annual Integrated Rating & Ranking: Power Distribution Utilities

August 2022

Tenth Annual Integrated Rating and Ranking of Power Distribution Utilities

As per the Framework approved by
Ministry of Power

August 2022



आर. के. सिंह
R. K. SINGH

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विद्युत मंत्री एवं
नवीन और नवीकरणीय ऊर्जा मंत्री
भारत सरकार
Minister of Power and
Minister of New & Renewable Energy
Government of India

Message

Availability of 24x7 reliable, quality and affordable power is essential for the country's development and growth. The Government of India have identified the power sector as a key sector of focus to accelerate socio-economic and industrial growth in India. Over the last 8 years, on the back of sustained efforts by all stakeholders and numerous strategic policies and initiatives, India's power sector has achieved numerous milestones.

Electricity Generation sector has seen the biggest transformation. From a power deficit country, India has now become a power surplus country, exporting power to neighbouring countries. This has been possible because of addition of 1.33 lakh MW of power generation capacity across the country, since FY 2015-16. The whole country has also been connected into one grid. It is possible to transmit almost 1.12 lakh MW from one part of the country to the other. This is because of an addition of nearly 1.6 lakh circuit kilometers lines to our transmission capacity. Today, India has more than 4.5 lakh circuit kilometers of power transmission lines, as compared to 3.0 lakh circuit kilometers in 2014.

The distribution sector has also been strengthened. With an outlay of more than Rs.2 lakh crore over the last 7 years, India has constructed 2,800 new substations and upgraded 3,900 substations. In addition, about 2.4 lakh circuit kilometers of HT lines, 5.4 lakh circuit kilometers of LT lines, and 6.8 lakh transformers have been added. The growth in distribution infrastructure has resulted in increased power availability to 22 hours in the rural areas and approximately 23.5 hours in the urban areas. The Government of India is committed to provide 24/7 guaranteed power supply, at affordable prices, across the country.

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We have also achieved universal household electricity access. Under the Deen Dayal Upadhyaya Gram Jyoti Yojana, 18,500 villages have been electrified. Further, a total of about 2.8 crore households have been electrified under the SAUBHAGYA scheme.

India has also made extraordinary progress on the renewable energy front. India is well on track to achieve its targets under the Paris Agreement. Renewable energy has already become cheaper than traditional energy in India, due to almost 250% rise in renewable capacity added across India over the last 7 years, which has enabled economy of scale in the segment. We are now incentivizing the production of solar panels and batteries in India and be known as a global powerhouse in green and clean energy.

The rapid progress in the sector has shored up investor confidence, and investments in the power sector are accelerating. In spite of the pandemic, green investments jumped 125% to USD 14.5 billion in FY 2022.

All these achievements have been possible because of a systematic approach in addressing the pain points and bottlenecks in the power sector over the last few years. The Government of India is committed to resolve issues in the distribution sector in a similar way. While AT&C losses have reduced since FY 2015 and is at ~22% in FY 2021, our endeavor is to bring down the losses to 12-15% level. Our target is to also bring down the ACS-ARR gap to zero.

To promote greater financial prudence in the sector, we have already put in place a letter of credit system for Discoms and advised lenders to follow Additional Prudential Norms while lending to State Power utilities. Last year, we introduced our most significant initiative to reform Discoms – the Revamped Distribution Sector Scheme (RDSS). This scheme has an outlay of INR 3.03 lakh crore and aims to modernize power distribution in India and reduce losses in the sector.

The 10th Integrated Rating is also an important step to reform the sector and marks a new milestone in its history with inclusion of Private Distribution Utilities and Power Departments. The Integrated Rating methodology has been comprehensively reviewed and is well aligned with our national priorities. For the first time, cash-adjusted parameters have been introduced in the Integrated Rating Methodology to understand the actual financial performance of Discoms. The rating

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अनुवर्ती/Continuation....

parameters aim to reflect a true and fair picture of financial health of Discoms viz. ability to meet the cost of running operations, ability to pay generation and transmission companies, and ability to service debt obligations. Ratings now will also be dynamic and be revised for individual Discoms if there are important updates during the year.

I am also pleased to note the launch of an interactive digital dashboard, urjadrishti.com, to promote transparency in India's power distribution sector. **DRISHTI** stands for **Discom Rating for Integrated Solvency, Health and Transparency Improvement**. It will provide users with the results of the integrated rating exercises and rich sector analysis.

I congratulate all the stakeholders, for their support in completing this important Integrated Rating annual exercise. The stakeholders will find this report and dashboard immensely helpful in understanding their strengths and challenges, and in creating performance improvement and action plans. The sector will immensely benefit from the changes made this year. I am certain that with the help of this exercise, RDSS, and other government measures, we will succeed in achieving a complete turnaround of the entire power distribution sector.

(R.K.Singh)

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कृष्ण पाल गुर्जर
KRISHAN PAL GURJAR

केन्द्रीय राज्य मंत्री,
विद्युत और भारी उद्योग मंत्रालय
भारत सरकार, नई दिल्ली
UNION MINISTER OF STATE FOR POWER & HEAVY INDUSTRIES GOVERNMENT OF INDIA, NEW DELHI

सत्यमेव जयते

आज़ादी का अमृत महोत्सव

संदेश

विद्युत क्षेत्र किसी भी अर्थव्यवस्था के विकास और प्रगति के लिए बहुत महत्वपूर्ण है। भारत ने पिछले कुछ वर्षों में अपने विद्युत क्षेत्र के परिवर्तन की दिशा में अपार और उत्कृष्ट प्रगति की है। अंतिम छोर तक कनेक्टिविटी में सुधार लाने और हर गांव में बिजली पहुंचाने से लेकर भारत को एक शुद्ध विद्युत निर्यातक और वैश्विक नवीकरणीय ऊर्जा शक्ति बनाने तक, भारत के विद्युत क्षेत्र ने पिछले कुछ वर्षों में महत्वपूर्ण प्रगति की है।

उत्पादन और पारेषण प्रणाली को उन्नत व अद्यतन कर दिया गया है, जिससे 2017 के बाद से एटी एंड सी हानियों में लगभग 2-3% की कमी आई है। कतिपय स्थानीय कारणों से हमारे कई डिस्कॉम अभी भी काफी नुकसान में हैं, इन पर उत्पादन और पारेषण कंपनियों का करोड़ो रुपये का बकाया है। बैंकों और वित्तीय संस्थानों का ऋण भी साल - दर - साल बढ़ा है और पूरे वित्तीय क्षेत्र के लिए एक बड़ा खतरा बन गया है।

मुझे इस संदर्भ में सुधारात्मक पहलों जैसे- पुर्नोत्थान वितरण क्षेत्र योजना (आरडीएसएस) और वितरण क्षेत्र में बदलाव लाने के लिए एडिशनल प्रुडेंशियल नॉर्म्स आदि में बहुत विश्वास है। 10वीं एकीकृत रेटिंग इस क्षेत्र में सुधार के लिए चल रहे सरकारी प्रयासों को पूरा करेगी। इस वर्ष से, हमने संपूर्ण क्षेत्र की कवरेज के लिए निजी डिस्कॉम और विद्युत विभागों को भी शामिल किया है।

मुझे खुशी है कि हमने डिस्कॉम की वास्तविक वित्तीय स्थिति को समझने के मिशन के साथ इस बार रेटिंग में कई कार्यनीतिक बदलाव किए हैं। न केवल पहली बार नकदी-समायोजित नंबरों (cash-adjusted numbers) को सम्मिलित किया गया है, बल्कि यह सुनिश्चित करने के लिए मजबूत प्रक्रियाएं भी स्थापित की गई हैं कि रेटिंग की समय-समय पर समीक्षा की जाती रहे और यह हमेशा नवीनतम स्थिति को दर्शाये । इस कवायद में urjadrishti.com के रूप में विकसित नया डैशबोर्ड भी नवीनतम रेटिंग और स्कोर के साथ अद्यतन किया जाएगा। इस नई ऑन-ग्राउंड पारदर्शिता से हमें एक व्यवस्थित तरीके से समस्या का समाधान करने में मदद करेगी। ऋणदाता भी इस क्षेत्र को अधिक विवेकपूर्ण तरीके से ऋण देने के लिए डिस्कॉम रेटिंग का उपयोग करने में सक्षम होंगे।

10वीं एकीकृत रेटिंग भी डिस्कॉम नेतृत्व के लिए बेहद मूल्यवान होगी। रैंकिंग और रिपोर्ट उनकी समग्र विशिष्टता व खामियों के साथ-साथ उनके द्वारा सामना की जाने वाली चुनौतियों पर प्रकाश डालने में मदद करेगी। यह उन्हें कार्य-निष्पादन में सुधार के लिए श्रेष्ठतम साधनों की पहचान करने में भी मदद करेगा जिसका उपयोग कार्य-योजनाओं को सूचित करने के लिए किया जा सकता है। इस रिपोर्ट में उल्लिखित सर्वोत्तम कार्य-प्रणालियाँ हाल के दिनों में प्रमुख भारतीय डिस्कॉमों द्वारा की गई वास्तविक कार्रवाइयों पर आधारित हैं और पूरे भारत में सभी डिस्कॉमों के लिए प्रासंगिक होंगी।

मैं इस महत्वपूर्ण कार्य योजना में शामिल सभी सदस्यों को बधाई देता हूं और इस क्षेत्र में समग्र परिवर्तन लाने के लिए सभी हितधारकों के साथ भागीदारी की आशा करता हूं। मेरा दृष्टिकोण पूरे क्षेत्र में एटी एंड सी हानियों को इस श्रेणी में सर्वश्रेष्ठ वैश्विक स्तर तक लाना, एसीएस-एआरआर अंतर को कम कर के शून्य तक लाना और प्रत्येक डिस्कॉम को वित्तीय रूप से समर्थ बनने और भारत की विकास यात्रा में योगदान देने में मदद करना है।

(कृष्ण पाल गुर्जर)

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Alok Kumar, I.A.S.
Secretary
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सत्यमेव जयते

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Message

India's power sector has played a key role in accelerating India's development trajectory. It has also become a major driver of India's sustainability ambitions driven by the growth in India's renewable power generation. India has emerged as a global leader in green energy.

In spite of unprecedented growth in power sector in last decade, India's power distribution sector remains a major area of concern. The government has undertaken numerous initiatives to transform this sector. Recently, the Government of India has introduced new Reforms-based and Results-linked initiative i.e. Revamped Distribution Sector Scheme (RDSS). The Scheme seeks to improve the operational efficiencies and financial sustainability of all DISCOMs/ Power Departments excluding Private Sector DISCOMs by providing conditional financial assistance to DISCOMs for strengthening of supply infrastructure. One of the key objectives of the scheme is to install 25 crore smart meters across the country which will help enhance collection and billing efficiency. The outlay of this scheme is more than INR 3 lakh crore and the grants have been linked to planned and executed reforms.

The Integrated Rating exercise aims to complement the various on-going government initiatives in this sector. It was instituted in 2012 with the purpose of performing an annual performance review of state owned discoms and highlighting both well-performing discoms as well as those whose performance was a matter of concern. Since then, the Integrated Rating methodology has gone through numerous changes. In its 10th year, we have made perhaps the most significant changes to the methodology so far.

A rigorous approach has been followed in developing the revised framework which included selection of metrics which are true indicators of financial sustainability, assigning them weightages and determining the scoring methodology based on extensive analysis of data. The 10th exercise introduces sharp focus on the financial sustainability of discoms and metrics derived from verifiable and audited sources. With the 10th Integrated Rating exercise, cash adjusted metrics have been included in the methodology instead of metrics based on accruals (e.g., ACS-ARR gap, leverage, DSCR) to get a clearer picture. The ratings will also be dynamic in nature, and will be reviewed every quarter for key triggers like defaults to banks or regulatory developments that might affect discom's financial performance.

The 10th Integrated Ratings have been designed keeping three stakeholders in mind – the State Governments, lenders and discoms. For the Governments, it will give a deeper understanding of the performance of discoms, whether it is declining or improving, along with the associated root causes. This will inform reform measures to transform the power distribution sector. For lenders and other financial institutions, it will be a ready reckoner to help them take informed lending decisions. It will also be extremely helpful to the discoms to benchmark their performance with peers having a similar operating environment to understand areas of strengths and weaknesses. It would also help them identify the high impact interventions for performance improvement. The best practices outlined in the report will also be valuable.

In addition to the changes made in the 10th Integrated Rating, I am also glad to note the launch of the new interactive Digital Dashboard (Urja DRISHTI) through which we have endeavored to establish full transparency in the sector for discoms, lenders, investors and all other stakeholders. I am sure that this exercise would become a turning point for India's power sector, and I hope to see a significant improvement in outcomes in the sector in the years to come.

(Alok Kumar)

Acknowledgements

This report captures the outcomes and insights from the 10th Integrated Rating Exercise, as per the framework approved by the Ministry of Power, with Power Finance Corporation Limited (PFC) as the nodal agency. REC Limited provided valuable feedback and inputs on the methodology. The utilities across states were forthcoming with sharing data.

Analysis and recommendations for the Rankings and Tenth Integrated Ratings of the Power Distribution Utilities, based on audited and provisional accounts of power distribution utilities, have been carried out by McKinsey & Company Inc. (McKinsey). The committee constituted for the 10^{th} Integrated Rating Exercise – with representatives from Central Electricity Authority (CEA), National Institute of Public Finance and Policy (NIPFP), PFC and REC – also contributed to the recommendations for the report submitted to the Ministry of Power. The Rankings and Tenth Integrated Ratings of the Power Distribution Utilities have been approved by the Ministry of Power.

Except where otherwise stated, all data in this report is sourced from audited and provisional annual accounts of 71 participating power distribution utilities, tariff and true-up orders issued by various regulatory commissions, RDSS plans, other supporting information submitted by the power distribution utilities for the rating exercise.

CONTENTS

01

Executive Summary

India's power sector has had a lot to celebrate over the last few years. It has achieved universal coverage, improved supply reliability, linked existing grids to create a single pan-India grid, accelerated the deployment of essential technologies, and attracted investments from both global and local sources. The sector is also driving India's move to renewable energy and is emerging as the largest enabler of its decarbonization goals.

The 10th Integrated Rating Exercise covers 71 power distribution utilities comprising of 46 State Discoms, 14 Private Discoms and 11 Power Departments across all States/UTs of India.

Since 2012, Integrated Rating Exercise is being carried out under the framework approved by the Ministry of Power annually with the aim of promoting financial well-being in corporatized state discoms. With the current report, the Ministry is publishing the results and insights from the 10th edition of this annual exercise, conducted with the Power Finance Corporation as the nodal agency.

The 10th Integrated Rating Exercise includes many changes, made in line with the Ministry's commitment to improve the long-term performance of discoms. Exhibit 1 shows all the key features of the Exercise. The Exercise covers 71 power utilities comprising of 46 State Discoms, 14 Private Discoms and 11 Power Departments across all States/UTs of India.

Exhibit 1

Key features of the 10th Integrated Rating Exercise

Comprehensive scorecard for every DISCOM with rating, ranking, trajectory and performance barometer

Ratings will be **dynamic in nature**, reviewed quarterly for key triggers (e.g., defaults to banks)

Metrics **adjusted for actual cash received** rather than accruals, e.g., ACS-ARR gap, DSCR, Leverage

Interactive digital dashboard to view rankings, ratings and benchmarking results

Ratings **rely on available and verifiable data** sourced from audited accounts, information from utilities, regulatory filings and orders, etc.

Robust **analytics backed approach** – weighted average of 3 years data (to normalize anomalies), ability to drill-down from dimension to specific parameters

Actionable for DISCOMs via specific root causes of under-performance and best practices for improvement

Of all the changes made in the Exercise, three are most pivotal. The first is replacing metrics based on accrual accounting with cash-adjusted metrics. This is being done to enable appreciation of different aspects of functioning of the utilities and on-ground financial position of the sector. The second change is a greater focus on quantitative metrics (derived from audited accounts and regulatory filings and orders) instead of qualitative ones. The third change is the formation of a Committee (constituted by MoP) to review discom ratings based on key events (such as regulatory developments and new defaults to banks and financial institutions) during the year. In addition to these three, another important shift this time is the inclusion of private discoms as well as power and electricity departments in the exercise. This is being done to enable comprehensive coverage.

The 10th Integrated Rating Methodology consists of 15 base rating metrics and 9 disincentives, which together provide a score—out of 100—to holistically capture every discom's performance (Exhibit 2)[1]. Based on their integrated rating score and specific overriding conditions[2], discoms are being assigned specific grades (A+, A, B, B-, C, C- and D). Following the Ministry's guidance, and to reflect the true on-ground financial position of the discoms, the rating parameters and boundaries this time are tighter than those followed in previous rating exercises.

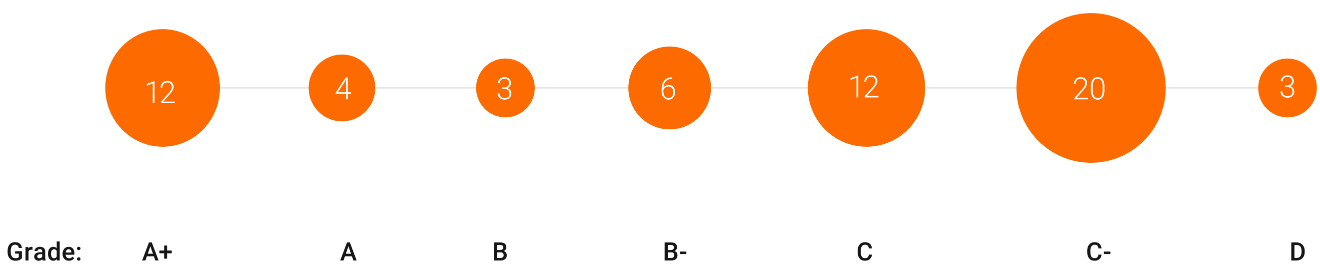
Results from the 10th Integrated Rating Exercise

The performance of the Utilities may be appreciated in the backdrop of prevailing COVID situation during FY20 and FY21, which impacted timely collection of receivables, supply to commercial & industrial category of consumers and pressure on state governments' finances. The following is a summary of the grades and performance trajectory received by discoms in the 10th Integrated Rating Exercise:

Exhibit 2

Split of state and private discoms by grade[3]

No. of Discoms



[1] For Power Departments, a subset of metrics is being used, in view of their non-corporatized nature of operations. This subset of metrics has been detailed in Section 2.2.2.
[2] Overriding conditions are cash adjusted ACS-ARR gap, red card metrics and increase in regulatory assets
[3] Excludes Power Departments (grades assigned to them are available in Section 3.2)

Summary of the 10th Integrated Rating Methodology for State & Private discoms

15 Base Metrics and 9 Specific Disincentives

● Red card metric

Integrated Rating

Financial Sustainability		75%
Overall Profitability and Cash Position	ACS – ARR Gap (cash adjusted)	35
	Days Receivable	3
GenCo, TransCo & Operational Obligations	Days Payable to GenCos & TransCos	10
	Adjusted Quick Ratio	10
Lender Obligations	Debt Service Coverage Ratio (cash adjusted)	10
	Leverage (Debt/EBITDA) (cash adjusted)	7

Performance Excellence	13%
Billing Efficiency	5
Collection Efficiency	5
Distribution Loss (SERC approved)	2
Corporate Governance	1

External Environment	12%
Subsidy Realized (Last 3 FYs)	4
Loss Takeover by State Government	3
Government Dues (Last 3 FYs)	3
Tariff Cycle Timelines	1
Auto Pass Through of Fuel Costs	1

Specific Disincentives[1,2]

● Auditor's Adverse Opinion	-15	Audit Qualifications	-4	Tariff Independent of Subsidy	-1
● Availability of Audited Accounts	-15	Governance (Audit Committee, Exclusive MD & DF, Quarterly Accounts)	-3	Uncovered Revenue Gap (Current Year)	-4
● Default to Banks/FIs	-15	Tariff Cycle Delays	-4.5	Regulatory Assets[3]	-5

1 The cumulative impact on the integrated score from all Specific Disincentives will be capped at -10 points, except in the case of Red card metrics
2 Red card metrics carry a heavy disincentive score which is not capped under the limit for Specific Disincentives and results in ineligibility for A+, A grades
3 Increase in regulatory assets balance will result in ineligibility for A+, A and B grades

Split of discoms by performance trajectory[4]

	Improving	Stable	Declining
ACS-ARR gap (cash adjusted) trajectory	15	16	21

4 Excludes 8 newly formed discoms: TPNODL, TPCODL, TPSODL, TPWODL, APCPDCL, LPCL, JPDCL, KPDCL

Insights from the 10th Integrated Rating Exercise

With the changes made in the 10th Integrated Rating Exercise and supporting analysis, a more comprehensive picture of the power distribution sector has emerged. Discoms in select states are consistently performing well on financial sustainability metrics. On the performance excellence metrics, private Discoms have performed well.

Key insights from the 10th Integrated Rating Exercise are as under:

- All the Discoms (excluding Jammu and Kashmir) (i.e. 57 out of 60) have submitted audited accounts for the purpose of 10th Integrated Rating Exercise, as compared to 35 out of 41 State Discoms covered under previous exercise
- Tariff orders for FY22 are in place for 26 States/UTs except for States/UTs of Arunachal Pradesh, West Bengal (For CESC and IPCL), Jharkhand, Jammu & Kashmir including Ladakh, Kerala, Nagaland, Tamil Nadu, Tripura and Telangana
- Tariff petition filed for FY23 by all utilities in 30 States/UTs except those in 6 states i.e. West Bengal, Arunachal Pradesh, Jammu & Kashmir, Nagaland, Tamil Nadu, Tripura
- 44 Discoms out of 60 utilities have implemented auto-pass through of fuel costs
- 26 utilities (including Power Departments) have AT&C losses of less than 15% in FY21 as compared to 21 utilities in FY19. The national average collection efficiency has slightly declined by 1.2% which was substantially compensated by improvement in billing efficiency. Accordingly, the AT&C losses between FY19-21 have broadly remained unchanged over the last three years, at about 21%
- 31 utilities out of 52 (excluding newly formed utilities and PDs) have reduced AT&C Losses in FY21 as compared to FY19. Out of these, 8 utilities (CSPDCL, DVVNL, GESCOM, HESCOM, MESCOM, MVVNL, PuVVNL, TSNPDCL) have improved AT&C losses by more than 5% while 17 utilities have improved AT&C losses between 1% to 5%
- 17 utilities improved their cash adjusted ACS-ARR gap performance over FY19–21
- Average Billing Efficiency for FY21 was at ~84%. Out of 71 utilities covered, 38 Utilities accounting for ~50% consumption reported more than average Billing Efficiency. 14 Utilities reported billing efficiency of greater than 92% in FY21
- 15 utilities managed to maintain collection efficiency at 100%, including DGVCL, DHBVNL, HPSEBL, KSEBL, MGVCL, PaVVNL, UHBVNL, etc. Average Collection efficiency for FY21 was ~92.5% which was adversely impacted by Covid-19 pandemic situation
- In FY21, 29 State owned Discoms and power departments have reported 100% or more of aggregate subsidy received over the aggregate subsidy booked for last three years
- On weighted average basis, 13 utilities (excluding power departments) have cash adjusted DSCR of more than 1.1. These are Gujarat Discoms, DNHPDCL, Torrent Power Ahmedabad, AEML, NPCL, Torrent Power Surat, TPML, DHBVNL, HPSEBL, TPWODL, NPCL, DNHPDCL
- On weighted average basis, 13 utilities (excluding power departments) have adjusted quick ratio greater or equal to 1.00. These are Gujarat Discoms, DNHPDCL, NPCL, IPCL, TSECL, MESCOM, MPPaKVVCL, PaVVNL, TPWODL, TPSODL
- 14 utilities (excluding power departments) scored greater than 10 out of 13 on the performance excellence dimension (i.e. Billing Efficiency, Collection Efficiency, Corporate Governance, Distribution Loss -SERC Approved), with the top 5 being UGVCL, Torrent Power Ahmedabad, TPML, IPCL, and DGVCL
- 13 utilities (DGVCL, MGVCL, UGVCL, Torrent Power Ahmedabad, PGVCL, Torrent Power Surat, IPCL, TPML, DHBVNL, CESC, BYPL, BRPL, TPCODL) have achieved full score on Corporate Governance Parameters (without any disincentives)
- Top rated state utilities of Gujarat and Haryana and Private distribution utilities have undertaken certain innovative measures to improve its overall Financial and Operational performance. The key best practices carried out such as implementation of HVDS and underground cables, bifurcation of feeders based on loading, rerouting of feeders and replacement of conductors to reduce technical losses; dedicated team for data based loss monitoring at substation and feeder-level; use of digital channels for billing and payments & running special programs to improve awareness and engagement in rural areas

Thus, it may be seen that some utilities have showed exceptional resilience in the face of the unprecedented challenges that the pandemic posed.

The performance of the Utilities may be appreciated in the backdrop of prevailing COVID situation during FY20 and FY21, which impacted collection efficiency, supply to commercial & industrial category of consumers and pressure on State Governments' finances.

- Over FY19–FY21, the absolute cash-adjusted gap in India's power distribution sector averaged nearly INR 1.04 lakh crore. On an average, in FY21 the cash adjusted gap per unit was Rs. 0.93 per kWh input compared to Rs. 0.83 per kWh input. The ACS-ARR gap has deteriorated in the years FY19-21 because the CAGR of cash adjusted revenue (1.0%) has lagged the overall increment in expenses (1.6%). The sector receivables increased by nearly 44% during FY19–FY21, primarily due to increase in subsidy receivables, which stood at INR 79,577 crore in FY21, an increase of 85% from FY19. The Covid-19 pandemic conditions adversely impacted the consumption by commercial and industrial consumer segment which in turn adversely impacted the profitability of the utilities
- Persistent losses have affected the broader power sector, with outstanding dues to generation and transmission companies (Gencos and Transcos) rising to INR 2.73 lakh crore or close to 174 days payable in FY21. It is noteworthy to mention that Liquidity Infusion Scheme of the Government of India has supported the Discoms to reduce the mounting power purchase dues of distribution utilities. More than INR 1 lakh crore was disbursed by PFC and REC under the scheme to distribution utilities
- In FY21, total debt in the sector stood at INR 5.89 lakh crore (up by 19% from FY19)
- It may be observed that 10 Discoms across 7 States are the highest contributors to national absolute losses, payables to Gencos and Transcos, liquidity challenges, energy loss and outstanding debt. Accordingly, if appropriate steps are initiated and implemented in these states, the overall financial performance will significantly improve

As part of the 10th Integrated Exercise, a set of best practices have also been identified that Discoms can follow to improve their billing and collection efficiencies and working capital management. Chapter 5 of this report lists these best practices as well as some suggestions for states and regulators to facilitate a more conducive environment for Discoms to thrive in.

Recognizing the financial challenges in the sector, the Ministry in 2021 had introduced the Revamped Distribution Sector Scheme (RDSS), with an outlay of INR 3.03 lakh crore, to reward Discoms for adhering to performance improvement and reform measures. To complement RDSS and other existing government initiatives, the Ministry is now announcing new initiatives. Amongst them is the creation of an online dashboard called Urja DRISHTI, accessible at urjadrishti.com, to enhance transparency in the sector and enable Discoms to benchmark themselves with their counterparts in other states.

02

Background and Introduction

India's power sector has achieved numerous feats in recent years. With total installed generation capacity of 403.76 GW (as on June, 2022). India has transformed from a power-deficit nation where load shedding was commonplace to a power-surplus country that exports power to Bangladesh, Nepal, and Myanmar. All of India's villages and almost all households have been electrified. The entire nation has also been connected to a single grid.

In renewables, India has become one of the global leaders. In 2021, it ranked third in the world by installed renewable capacity and is the only country in the G20 that is on track to achieve its targets under the Paris Agreement. During the 5 years, India has witnessed the fastest rate of growth in renewable energy capacity addition among all large economies, with renewable energy capacity (including large hydro) growing 1.6 times and, as of June 2022, stood at about 160.91 GW.

Investments in India's power sector have also risen, with India now allowing 100 percent foreign direct investment (FDI) in the sector and seeking ways to monetize transmission and generation assets. Technology adoption in the sector is rising too, with more than 47 lakh smart meters installed across the country.

Despite these feats, the sector continues to witness losses in distribution, which have risen despite numerous government schemes, subsidies, and incentives. The following figures from FY21 provide a glimpse into the concerning financial health of the sector:

- Absolute cash-adjusted gap or losses of INR 1.13 lakh crore, growing at 5% annually
- Total debt of INR 5.89 lakh crore, with 75% of debt held by distribution companies (discoms) with an ACS-ARR gap[5] of greater than INR 0.9 per kWh
- Dues to generation and transmission companies (gencos and transcos) of INR 2.73 lakh crore, increasing at 10% annually

[5] Gap between Average Cost of Supply (ACS) and Average Revenue Realized (ARR), used as a measure of profitability in the sector

After systematically transforming the transmission and generation sectors, the government has now adopted a similar strategic approach to reform the distribution sector, with the long-term vision of making it profitable. However, considering electricity is a concurrent subject, with States playing a predominant role in distribution, this strategic approach will yield results only with the full support of stakeholders at all levels. One of the core objectives of the 10th Integrated Rating Exercise is to create the necessary groundwork to inform both current and future contours of this approach.

2.1 Introduction to the 10th Integrated Rating Exercise

Since 2012, Integrated Rating Exercise is being carried out under the framework approved by the Ministry of Power annually with the aim of evaluating performance of Power Distribution utilities on a range of parameters covering financial, operational, regulatory and reform aspects and their ability to sustain improvements year over year. MoP has mandated Power Finance Corporation (PFC) to co-ordinate the rating exercise. So far, nine integrated rating exercises have been completed with the last i.e. ninth integrated ratings released by MoP on 16th July 2021 covering FY 2019-20.

For the current exercise, i.e., the 10th Integrated Rating Exercise, carried out for the financial year 2021, the Private Distribution Utilities and Power Departments are also being included in the rating exercise to provide complete sectoral coverage. This Exercise has been based on the Integrated Rating Methodology, which is used to rate discoms based on their financial performance and their ability to sustain improvements year over year.

The 10th Integrated Rating Exercise includes three fundamental revisions: the use of cash-adjusted figures, increased weightage of quantitative metrics, and new protocols for periodic rating reviews. These and other salient features of the revised methodology have been detailed below:

Ratings that reflect the true picture

- **All calculations based on actual cash received** instead of accruals, to factor in the impact of realization of cash from consumer dues, government dues, and tariff subsidies. Metrics that have improved due to this change include the ACS-ARR gap, debt service coverage ratio, and leverage.
- **Increased weightage of quantitative metrics** (derived from audited accounts and regulatory filings and orders), to improve the accuracy and transparency of ratings.
- **Negative scoring for non-compliance** with specific metrics, such as unavailability of audited accounts and defaults to banks and financial institutions. For power departments, a subset of metrics relevant to them has been used.
- **Establishment of protocols and a Committee for a trigger-based review of ratings,** to factor in the impact of events of significance and to ensure that ratings reflect the latest performance of discoms. A ratings review can be triggered by new payment defaults, publication of audited accounts, issuance of tariff orders, etc.

A robust analytical approach

- **Usage of three years of weighted average performance** to calculate scores for specific metrics, to factor in the impact of fluctuations and anomalies and reflect a long-term view of discoms' performance.
- **Trajectory-based scoring** for specific metrics to promote positive trends and improvements.
- **Performance benchmarks and best practices** used to determine scoring boundaries.

Actionable insights for all stakeholders:

- **A digital dashboard** (accessible at **www.urjadrishti.com**) has been developed to enable participants and stakeholders in the exercise to view key performance metrics and comparisons between discoms.
- **Deeper performance analyses and insights** have been enabled for individual discoms by benchmarking performance using important metrics and analyses of trends and drivers. Every discom will be provided with a detailed report benchmarking their performance on each parameters with peers. It also highlights their strengths, improvement areas and potential actions they can take to improve performance.
- **Best practices and insights from top-performing discoms** have been synthesized to inspire the rest of the sector.

2.2 Summary of the 10th Integrated Rating Methodology

The 10th Integrated Rating Methodology evaluates discoms' performance against three main parameters:

1. **Financial Sustainability (75% weightage):** Includes metrics such as ACS-ARR gap (cash adjusted), days payable to gencos and transcos, adjusted quick ratio and debt service coverage ratio (cash adjusted).
2. **Performance Excellence (13% weightage):** Includes metrics focusing on operational performance, such as billing efficiency and collection efficiency.
3. **External Environment (12% weightage):** Includes metrics to cover the impact of state government action and regulator action, such as subsidy realized and adherence to tariff cycle timelines.

For certain parameters, evaluation covers three years of performance as well as improvements from year to year. For Power Departments, a subset of metrics is being used, in view of their non-corporatized nature of operations. This subset of metrics has been detailed in Section 2.2.2.

2.2.1 Evaluation Parameters for State and Private Utilities[6]

S. No.		Parameter	Max. Score
A		**Financial Sustainability**	**75**
1		ACS-ARR Gap (cash adjusted)	35
2		Days Receivable	3
3		Days Payable to Gencos and Transcos	10
4		Adjusted Quick Ratio	10
5		Debt Service Coverage Ratio (cash adjusted)	10
6		Leverage (Debt/EBITDA; cash adjusted)	7
B		**Performance Excellence**	**13**
1		Distribution Loss (SERC approved)	2
2		Billing Efficiency	5
3		Collection Efficiency	5
4		Corporate Governance	1
C		**External Environment**	**12**
1		Subsidy Realized (Last 3 FYs)	4
2		Loss Takeover by State Government	3
3		Government Dues (Last 3 FYs)	3
4		Tariff Cycle Timelines	1
5		Auto Pass-through of Fuel Costs	1
D		**Specific Disincentives**	
1	●	Auditor's Adverse Opinion	0, -15
2	●	Availability of Audited Accounts	0, -15
3	●	Default to Banks/Financial Institutions	0, -15
4		Audit Qualifications	0, -4
5		Governance	0, -3
6		Tariff Cycle Delays	0, -4.5
7		Tariff Independent of Subsidy	0, -1
8		Uncovered Revenue Gap (Current Year)	0, -4
9		Regulatory Assets[7]	0, -5
	●	Red card metrics[8]	

6 Appendix 3 provides details each rating parameter
7 Increase in regulatory assets balance will result in ineligibility for A+, A and B grades
8 Red card metrics are those that substantially affect financial performance of discoms and therefore carry a higher negative score. They are not included in the -10 capping limit that applies to other Specific Disincentives as well as result in ineligibility for A+ and A grades. For more details, please see Appendix 3.

2.2.2 Evaluation Parameters for Power Departments

S. No.	Parameter	Max. Score
A	**Financial Sustainability**	**55**
1	ACS-ARR Gap (cash adjusted)	55
B	**Performance Excellence**	**35**
1	Distribution Loss (SERC approved)	10
2	Billing Efficiency	10
3	Collection Efficiency	10
4	Corporate Governance	5
C	**External Environment**	**10**
1	Subsidy Realized (Last 3 FYs)	6
2	Tariff Cycle Timelines	2
3	Auto Pass-through of Fuel Costs	2
D	**Specific Disincentives**	
1	Tariff Cycle Delays	0, -4.5
2	Tariff Independent of Subsidy	0, -1
3	Uncovered Revenue Gap (Current Year)	0, -4
4	Regulatory Assets	0, -5

2.2.3 Grading and Performance

The 10th Integrated Rating Exercise assigns a grade and ACS-ARR Gap trajectory to every discom.

Grading Scale

Grading for state and private discoms takes into account both the integrated rating score and the ACS-ARR gap performance. For power departments, grades are based only on the rating score.

Grade	Rating Score	Additional overriding ACS-ARR gap condition	Grading Definitions
A+	Greater than or equal to 85	Should be in surplus (Gap should be less than or equal to 0 paisa/kWh)	Exceptionally strong financial and operational performance
A	Greater than or equal to 65 and less than 85	Should be in top 33rd percentile (ACS-ARR Gap should be less than or equal to 15 paisa/kWh)	Very high financial and operational performance
B	Greater than or equal to 50 and less than 65	ACS-ARR Gap should be less than or equal to 50 paisa/kWh	High financial and operational performance
B-	Greater than or equal to 35 and less than 50	ACS-ARR Gap should be less than Rs. 1.0/kWh	Moderate financial and operational performance
C	Greater than or equal to 15 and less than 35	ACS-ARR Gap should be less than Rs. 1.25/kWh	Below average financial and operational performance
C-	Less than 15		Low financial and operational performance
D	Utilities under SMA-2		Very low financial and operational performance

The “A+ to D” grading scale of the 10th Integrated Rating Methodology differs from the standard “AAA to D” scale used by credit rating agencies because both these indicators are different. While integrated ratings reflect the operational and financial health of discoms, credit ratings are meant to serve as an indicator of probability of default. Also, unlike credit ratings, which enable comparisons with entities across the economy, integrated ratings are solely meant for intra-discom comparisons.

Performance Trajectory

Starting this year, a performance trajectory will now be assigned to discoms in every Integrated Rating Exercise. In the current exercise, this trajectory is being defined based on the trend in ACS-ARR gap (as detailed below), considering significant changes have been made to the Integrated Rating Methodology. In future exercises, the trajectory will be defined based on the trend in the rating score.

Trajectory	Definition
Improving	ACS-ARR gap of current year is lesser than the previous year and the year before that
Stable	ACS-ARR gap of current year is lesser than previous year but greater than the year before that or vice-versa (i.e., non-linear trend)
Declining	ACS-ARR gap of current year is greater than the previous year and the year before that


+6.5%
Trends
More info
78%
Shares
More info
CTMX
FTR
CSCO
CHK
AAPL
PRTO
AMZN
TSLA
AVGO
SIRI
0.45
-0.23
-1.01
0.02
-0.65
+0.45%
-2.34%

03

Ranking and Results of the 10th Integrated Rating Exercise

Based on the methodology approved by the Ministry of Power and elaborated in the previous chapter, the discoms have been given a ranking and rating for the 10th Integrated Rating Exercise in sections 3.1 and 3.2.

3.1 State & Private Utilities

Rank	Name of Utility	State	Ownership	Grade
1	Dakshin Gujarat Vij Company Limited (DGVCL)	Gujarat	State Power Utility	A+
2	Madhya Gujarat Vij Company Limited (MGVCL)	Gujarat	State Power Utility	A+
3	DNH Power Distribution Corporation Limited (DNHPDCL)	Dadra & Nagar Haveli	State Power Utility	A+
4	Uttar Gujarat Vij Company Limited (UGVCL)	Gujarat	State Power Utility	A+
5	Torrent Power Ahmedabad	Gujarat	Private Utility	A+
6	Adani Electricity Mumbai Limited (AEML)	Maharashtra	Private Utility	A+
7	Noida Power Company Limited (NPCL)	Uttar Pradesh	Private Utility	A+
8	Paschim Gujarat Vij Company Limited (PGVCL)	Gujarat	State Power Utility	A+
9	Torrent Power Surat	Gujarat	Private Utility	A+
10	India Power Corporation Limited (IPCL)	West Bengal	Private Utility	A+
11	Tata Power Mumbai Limited (TPML)	Maharashtra	Private Utility	A+
12	Dakshin Haryana Bijli Vitran Nigam Limited (DHBVNL)	Haryana	State Power Utility	A+
13	Tata Power Delhi Distribution Company Limited (TPDDL)	Delhi	Private Utility	A
14	Uttar Haryana Bijli Vitran Nigam Limited (UHBVNL)	Haryana	State Power Utility	A
15	CESC Limited	West Bengal	Private Utility	A
16	Punjab State Power Corporation Limited (PSPCL)	Punjab	State Power Utility	B
17	Uttarakhand Power Corporation Limited (UPCL)	Uttarakhand	State Power Utility	B
18	Himachal Pradesh State Electricity Board Limited (HPSEBL)	Himachal Pradesh	State Power Utility	B-
19	Assam Power Distribution Corporation Limited (APDCL)	Assam	State Power Utility	B-
20	BSES Yamuna Power Limited (BYPL)	Delhi	Private Utility	B-
21	BSES Rajdhani Power Limited (BRPL)	Delhi	Private Utility	B-
22	Tripura State Electricity Company Limited (TSECL)	Tripura	State Power Utility	B-
23	Mangalore Electricity Supply Company Limited (MESCOM)	Karnataka	State Power Utility	C
24	Madhya Pradesh Paschim Kshetra Vidyut Vitaran Company Limited (MPPaKVVCL)	Madhya Pradesh	State Power Utility	C
25	Kerala State Electricity Board Limited (KSEBL)	Kerala	State Power Utility	C
26	Chhattisgarh State Power Distribution Company Limited (CSPDCL)	Chhattisgarh	State Power Utility	C
27	Ajmer Vidyut Vitaran Nigam Limited (AVVNL)	Rajasthan	State Power Utility	C
28	West Bengal State Electricity Distribution Company Limited (WBSEDCL)	West Bengal	State Power Utility	C

Rank	Name of Utility	State	Ownership	Grade
29	Paschimanchal Vidyut Vitran Nigam Limited (PaVVNL)	Uttar Pradesh	State Power Utility	C
30	Manipur State Power Distribution Company Limited (MSPDCL)	Manipur	State Power Utility	C
31	Hubli Electricity Supply Company Limited (HESCOM)	Karnataka	State Power Utility	C
32	Jaipur Vidyut Vitaran Nigam Limited (JVVNL)	Rajasthan	State Power Utility	C
33	Bangalore Electricity Supply Company Limited (BESCOM)	Karnataka	State Power Utility	C-
34	North Bihar Power Distribution Company Limited (NBPDCL)	Bihar	State Power Utility	C-
35	Dakshinanchal Vidyut Vitran Nigam Limited (DVVNL)	Uttar Pradesh	State Power Utility	C-
36	Kanpur Electricity Supply Company Limited (KESCO)	Uttar Pradesh	State Power Utility	C-
37	Gulbarga Electricity Supply Company Limited (GESCOM)	Karnataka	State Power Utility	C-
38	Northern Power Distribution Company of Telangana Limited (TSNPDCL)	Telangana	State Power Utility	C-
39	South Bihar Power Distribution Company Limited (SBPDCL)	Bihar	State Power Utility	C-
40	Jodhpur Vidyut Vitaran Nigam Limited (JDVVNL)	Rajasthan	State Power Utility	C-
41	Maharashtra State Electricity Distribution Company Limited (MSEDCL)	Maharashtra	State Power Utility	C-
42	Madhyanchal Vidyut Vitran Nigam Limited (MVVNL)	Uttar Pradesh	State Power Utility	C-
43	Chamundeshwari Electricity Supply Corporation Limited (CHESCOM)	Karnataka	State Power Utility	C-
44	Purvanchal Vidyut Vitaran Nigam Limited (PuVVNL)	Uttar Pradesh	State Power Utility	C-
45	Southern Power Distribution Company of Telangana Limited (TSSPDCL)	Telangana	State Power Utility	C-
46	Tamil Nadu Generation & Distribution Corporation Limited (TANGEDCO)	Tamil Nadu	State Power Utility	C-
47	Madhya Pradesh Poorv Kshetra Vidyut Vitaran Company Limited (MPPoKVVCL)	Madhya Pradesh	State Power Utility	C-
48	Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited (MPMaKVVCL)	Madhya Pradesh	State Power Utility	C-
49	Jharkhand Bijli Vitaran Nigam Limited (JBVNL)	Jharkhand	State Power Utility	C-
50	Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL)	Andhra Pradesh	State Power Utility	D
51	Southern Power Distribution Company of Andhra Pradesh Limited (APSPDCL)	Andhra Pradesh	State Power Utility	D
52	Meghalaya Power Distribution Company Limited (MePDCL)	Meghalaya	State Power Utility	D

The following 8 utilities have not been included in the main ranking list because they have not completed three full years of operations yet. The rating for these utilities is based on their reported performance for FY21 only.

Name of Utility	State	Ownership	Grade
Tata Power Western Odisha Distribution Limited (TPWODL)	Odisha[9]	Private Utility	A
Tata Power Central Odisha Distribution Limited (TPCODL)	Odisha	Private Utility	B
Tata Power Southern Odisha Distribution Limited (TPSODL)	Odisha	Private Utility	B-
Tata Power Northern Odisha Distribution Limited (TPNODL)	Odisha	Private Utility	C
Andhra Pradesh Central Power Distribution Corporation Limited (APCPDCL)[10]	Andhra Pradesh	State Power Utility	C
Ladakh Power Corporation Limited (LPCL)	Ladakh[11]	State Power Utility	C-
Jammu Power Distribution Corporation Limited (JPDCL)	J&K[11]	State Power Utility	C-
Kashmir Power Distribution Corporation Limited (KPDCL)	J&K[11]	State Power Utility	C-

3.2 Power Departments

Rank	Name of Utility	State	Grade
1	Daman & Diu PD	Daman & Diu	A
2	Chandigarh PD	Chandigarh	A
3	BEST	Maharashtra	A
4	Goa PD	Goa	B
5	Puducherry PD	Puducherry	B-
6	Mizoram PD	Mizoram	C
7	Arunachal PD	Arunachal Pradesh	C-
8	Andaman & Nicobar PD	Andaman & Nicobar	C-
9	Sikkim PD	Sikkim	C-
10	Lakshadweep ED	Lakshadweep	C-
11	Nagaland PD	Nagaland	C-

9 Between June 2020 and April 2021, all 4 Odisha discoms were acquired by Tata Power (with a 51% stake). The loans and power purchase liabilities of the discoms were not transferred to the newly formed entities as part of this deal.

10 APCPDCL was bifurcated from APSPDCL in December 2019

11 The power department of Jammu & Kashmir was corporatized in October 2019, with the formation of 3 new discoms: JPDCL, and KPDCL. For LPCL check page 216 of the report.

3.3 Performance of Discoms on Integrated Rating Metrics

The grades indicate the overall performance of the discoms utilizing the weightage of individual metrics and various overriding criteria. A deeper look at the individual metrics indicates that while most of the top performing discoms have performed consistently well across metrics, there is some variation in the bottom performers by metric. Dissecting the performance of discoms by dimensions reveals 2 key insights a) discoms in select states are consistently performing well on financial sustainability metrics b) most of the top performers on performance excellence metrics are private discoms.

Financial Sustainability

Metric	Bottom Performers	Bottom value	Top value	Top Performers
ACS – ARR Gap (cash adjusted) (INR/kWh) **35 marks**	KESCO, TANGEDCO, PuVVNL, MPPoKVVCL	2.00	-1.19	NPCL, TPML, Torrent Power Ahd & Surat
Days Receivable 3 marks	PuVVNL, DVVNL, MVVNL, MSPDCL	840	7	DGVCL, PGVCL, UHBVNL, TPDDL
Days Payable to GenCos & TransCos 10 marks	BYPL, JBVNL, BRPL, MePDCL	897	0	MGVCL, DGVCL, UGVCL, PGVCL
Adjusted Quick Ratio 10 marks	BYPL, BRPL, UPCL, TPML	0.06	2.48	MGVCL, DGVCL, DNHPDCL, UGVCL
Debt Service Coverage Ratio (cash adjusted) 10 marks	SBPDCL, MSPDCL, TSSPDCL, TSNPDCL	-7.35	31.17	DNHPDCL, NPCL, DGVCL, MGVCL
Leverage (Debt/EBITDA) (cash adjusted) 7 marks	TANGEDCO, HESCOM, APSPDCL, BESCOM	38.07	0.00	NPCL, DNHPDCL, DGVCL, UGVCL

Performance Excellence

Legend: Top Performers | Bottom Performers

Metric	Bottom Performers (Bottom)	Bottom value	Top value	Top Performers (Top)
Distribution Loss (SERC approved) **2 marks**	JBVNL, MePDCL, DVVNL, MPPoKVVCL	2.67	0.18	TPML, MSPDCL, CESC, KSEBL
Billing Efficiency (%) 5 marks	MePDCL, JBVNL, MPMaKVVCL, TSECL	68.7%	99.4%	TPML, IPCL, DNHPDCL, Torrent Power Surat
Collection Efficiency (%) 5 marks	APSPDCL, MPMaKVVCL, MPPoKVVCL, SBPDCL	75.1%	99.8%	TPML, HPSEBL, TPDDL Torrent Power Ahd
Corporate Governance **1 mark**	40 discoms do not have 1/3rd independent directors on the board			18 discoms have 1/3rd independent directors on the board

External Environment

Metric	Bottom	Top
Subsidy Realized (Last 3 FYs) 4 marks	TSECL, APEPDCL, APSPDCL, JDVVNL (0%)	APDCL, HPSEBL, NBPDCL, MSEDCL (168%)
Loss Takeover by State Govt. 3 marks	TSSPDCL, HESCOM, TSNPDCL, JBVNL (0%)	AVVNL, APDCL, MVVNL, JVVNL (149%)
Government Dues (Last 3 FYs) 3 marks	TSNPDCL, DVVNL, JBVNL, MSPDCL (54%)	SBPDCL, HESCOM, NBPDCL, KSEBL (-26%)
Tariff Cycle Timelines 1 mark	41 utilities did not have tariff & true-up orders before 1st April '22	25 utilities had tariff and true-up orders before 1st April '22
Auto Pass Through of Fuel Costs 1 mark	19 discoms have not implemented auto pass through of fuel costs	52 discoms have implemented auto pass through of fuel costs

Legend: Top Performers; Bottom Performers

04

State of India's Power Distribution Sector

With the 10th Integrated Rating Exercise and associated analyses of key metrics, it has been possible to arrive at a clearer and more comprehensive understanding of the financial challenge that besets the power distribution sector. This understanding will be valuable to guide the preparation and implementation of any blueprint for tackling the sector's complex challenges. It will also create a shared understanding of the sector—a critical advantage considering that electricity is a concurrent subject (with states playing the main administrative role in distribution).

The financial deficit in India's power distribution sector on a cash-adjusted basis is more than INR 1 lakh crore

With the 10th Integrated Rating Exercise, the absolute cash-adjusted gap (i.e., losses) in India's power distribution sector have been calculated for the first time. Over FY19–FY21, this gap averaged nearly INR 1.04 lakh crore. This figure is nearly 1.4 times the losses recorded (on the basis of accrual accounting). Over FY19–FY21, for example, the recorded accrual gap averaged INR 0.74 lakh crore.

Analysis of losses over FY19–FY21 shows that the deficit is widening (Exhibit 3). The absolute cash-adjusted gap during the period increased by 10.0% This rise was almost entirely due to the sector's rising ACS-ARR gap, given the gross input energy during the period remained almost constant. The national average ACS-ARR gap grew 11.4% during the period, from INR 0.83 to INR 0.93 per kWh. This means on an average India's distribution utilities are making a loss of 93 paisa per unit of input energy.

Without adjusting for cash, the per-unit ACS-ARR gap was INR 0.69 per kWh in FY21 (excluding subsidy billed but not received, grants for loan takeover under UDAY, regulatory income) (Exhibit 4). The difference in these two figures was on account of further adjustments made to revenue to factor in the impact of increase in trade receivables.

The worsening trend during the period is estimated to be partly due to the COVID-19 considering pandemic because the ACS-ARR gap and total losses reduced slightly over FY19–FY20 before surging again in FY21 to end at levels higher than even FY19.

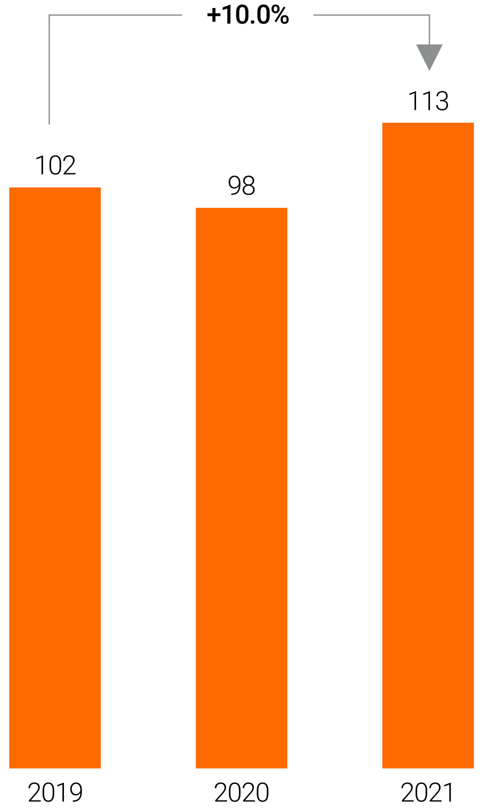
Exhibit 4 also shows the various components of the ACS-ARR gap and how they have evolved. The cash-adjusted revenue was only adequate to meet the power purchase and O&M costs. This shortfall was driven by poor collections, lower billing efficiency, low tariff subsidy realization and tariffs not being cost reflective. The problem has worsened in the past 3 years. Revenues grew at only 1% mainly driven by a marginal increase in AT&C loss from 20.9% in FY19 to 21.6% in FY21. Costs grew at 1.6% in the same time period leading to an increase in the gap. This was driven by interest costs growing at 7% and O&M costs growing at 6%.

Exhibit 3

Trend in national cash adjusted gap for FY19 to FY21 (INR '000 crores)

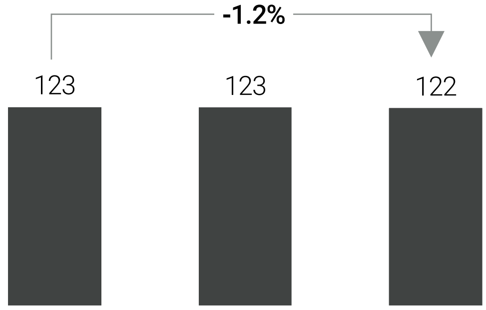
Increasing absolute cash adjusted gap

INR '000 Crores



Stable gross input energy in sector

'000 Crore units



Increasing per unit cash adjusted gap

INR per kWh

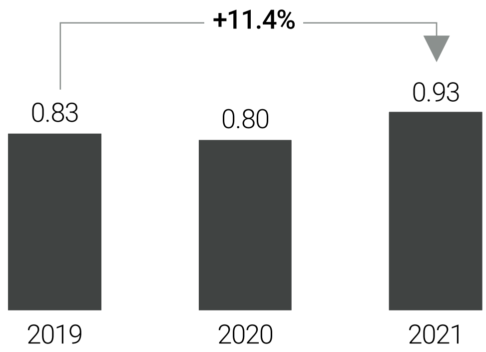


Exhibit 4

Breakdown of ACS-ARR gap components
(INR '000 crores)

Deduction for adjusting cash realization

ACS – ARR Components	Amount (FY 21) (INR '000 Crores)	Amount (INR/kWh)	CAGR for FY 19 to FY 21
Cash adjusted revenue	644 / 56	5.26	1%
Power purchase costs	573	4.68	0.5%
O&M costs	88	0.72	6%
Interest costs	56	0.46	7%
Other expenses	40	0.32	2%
Gap / Surplus	-113	0.93 (0.69)[1]	5.5%

1 Accrual basis ACS-ARR gap (excluding subsidy billed but not received, grants for loan takeover under UDAY, regulatory income

This financial deficit is manifesting as a liquidity crunch in the sector, with discoms' current liabilities exceeding their overall current assets, and amounting to nearly twice the value of their current liquid assets[12]. The sector's total liquidity gap is nearly INR 3.04 lakh crore (Exhibit 5).

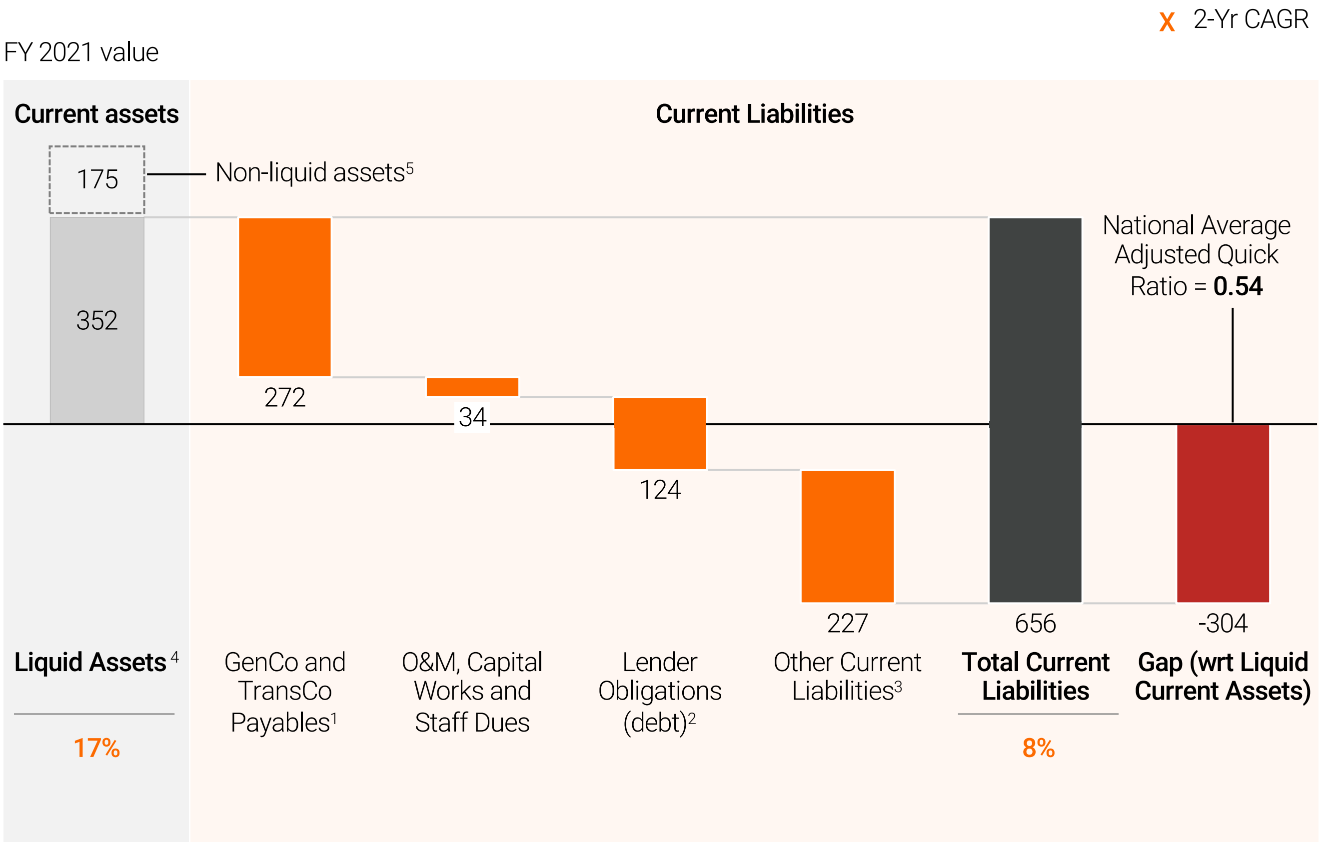
At the overall sector level, discoms' combined liquid assets are adequate to cover only their generation, transmission and operational liabilities. Including their non-liquid assets, their lender obligations can be covered too. However, they have even more liabilities, which cannot be covered without liquidating non-current assets or marshalling external support.

[12] Current liquid assets comprise cash, receivables pending for less than three months, subsidies receivable, and other liquid financial assets

Exhibit 5

Comparison of assets and liabilities of the power distribution sector

Breakdown of Adjusted Quick Ratio components
INR ‘000 crores



1 Includes payables to gencos and transcos, fuel costs, and railway receipt costs
2 Key components – (a) Short-term loans – 46% (b) Current maturities of long-term loans – from banks / financial institutions / others – 33%
3 Key components – (a) Intercompany balances – ~26% (b) Advances, deposits & retention – ~24% (c) Provisions – ~15% (d) Dues for other expenses – ~10% (e) Other liabilities like electricity duty and other levies, interest on trade payables, payables to PF & gratuity trust, interest accrued but not due, etc. – ~10%; based on data for 10 discoms which account for ~60% of these liabilities
4 Key components – (a) Trade receivables <3 months old (22%), subsidy receivables (23%), cash and cash equivalents (6%), unbilled revenue, market investments and other current assets (49%)
5 Key components – (a) Trade receivables >3 months (91%), current regulatory assets, inventories, current tax assets, and assets held for sale

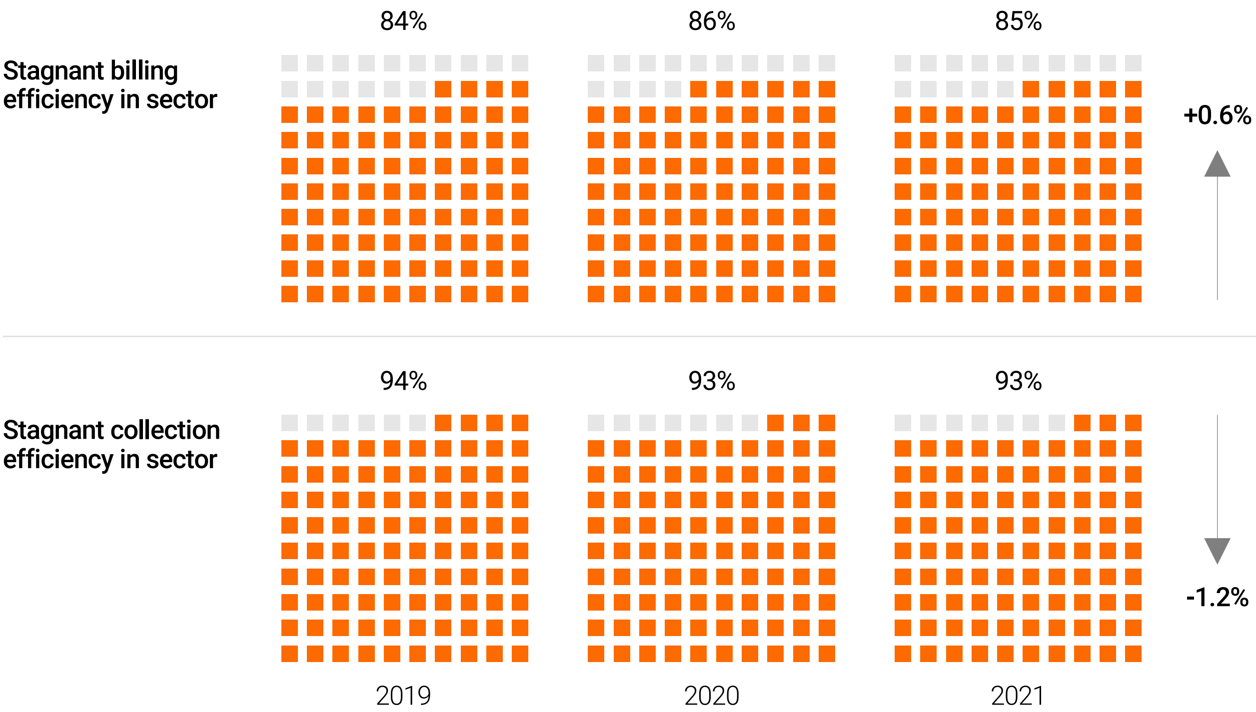
The financial deficit is primarily on account of poor operational performance of discoms

which are predominantly an outcome of discoms’ poor operational performance After falling by an average of 0.9% per year over FY16–FY19 (from 23.7% to 21.1%), national average AT&C losses in the sector have stagnated over the last three years, at around 21%. The two core components of AT&C losses have only marginally changed: The national average billing efficiency has slightly improved by 0.6% while and the national average collection efficiency has slightly declined by 1.2% over the period, from 93.7% to 92.5%(Exhibit 6).

A breakdown of the sectoral loss of INR 1.13 lakh crore in FY21 also reveals that discoms would have suffered lower losses in the year if they were performing more efficiently. Even if they had just increased their billing efficiency to levels approved by the State Electricity Regulatory Commissions (SERCs), while collecting every rupee billed, the sectoral loss would reduce by 46% to INR 0.61 lakh crores and sectoral gap goes down to 0.50 Rs/ kWh. In reality, however, 46 out of 71 discoms had distribution losses higher than even figures approved by SERCs. Getting to best in class billing efficiency of 92% will further reduce this from 0.50 Rs/ kWh to 0.21 Rs/ kWh.

Exhibit 6

Trend in national average Billing and Collection Efficiency



Declining collection efficiency in the sector is partly a reflection of increasing trade receivables. Total trade receivables to be collected by discoms climbed from INR 1.78 lakh crore and 119 days in FY19 to INR 2.39 lakh crore and 161 days in FY21, a growth of 34.4% and 34.9%, respectively. This does not include subsidy receivables but includes overdues from state government offices. (Exhibit 7). For 45 discoms who have submitted data on govt overdues, it represents 25% of the total trade receivables. The trade receivables are 2.8 times the subsidy receivables highlighting that operational performance is one of the key drivers of financial deficit.

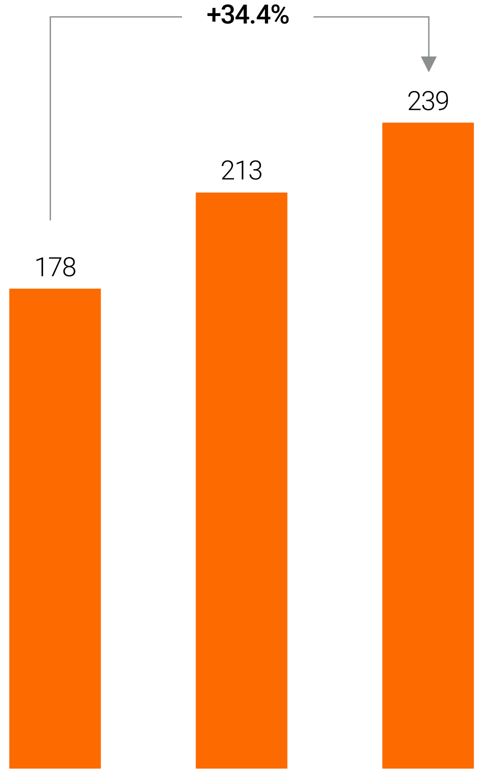
Exhibit 7

Growth in sector receivables

Trend in trade receivables (in INR '000 Crores) **and Days Receivable** (in Days) **for FY 2019 to FY 2021**

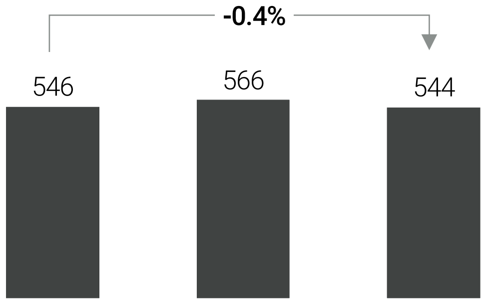
Net trade receivables

INR '000 Crores



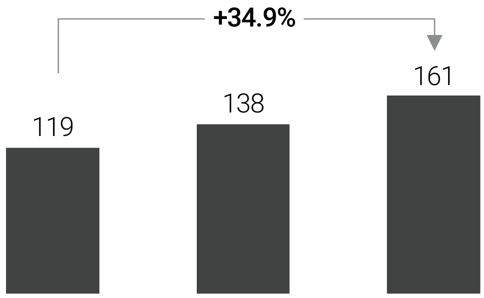
Stable revenue from operations

INR '000 Crores



Increasing days receivable

Days



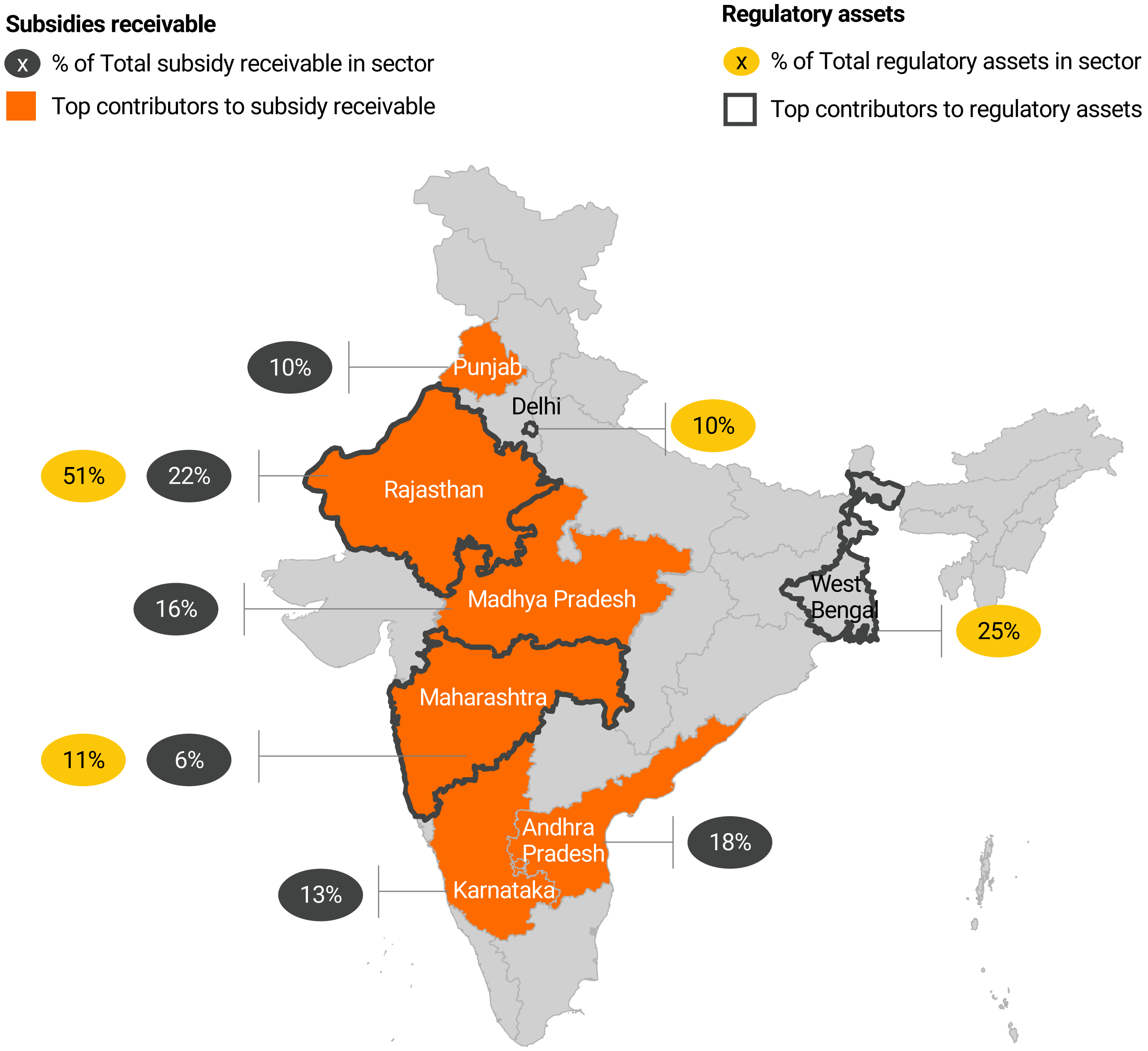
In some states, external factors have fueled the sector's financial challenges

External factors such as pending subsidies by state governments and regulatory assets are also compounding the sector's financial challenges. In FY21, subsidy receivables amounted to INR 79,577 crore, a jump of 85% from FY19. This is 52% of the subsidy booked in FY21, which amounted to INR 1,52,658 crores, a jump of 14% from FY19. While this is a substantial figure, pending subsidies is a highly concentrated challenge. Just 6 states—Rajasthan, Andhra Pradesh, Madhya Pradesh, Karnataka, Punjab, and Maharashtra—account for INR 67,578 crore or 85% of total subsidy receivables in the sector (Exhibit 8).

Sector's regulatory assets also slightly increased to reach INR 90,832 crore in FY21. Just 4 states—Rajasthan, West Bengal, Maharashtra and Delhi—account for INR 88,118 crore or 97% of the total regulatory assets, with Rajasthan alone accounting for 51%.

Exhibit 8

Top contributors to subsidies receivable and regulatory assets



In addition to subsidy receivables and regulatory assets, another external factor inhibiting discoms in certain states is slow revision of tariffs. In FY22, 10 states did not issue tariff orders. Of these 10 states, 7 did not issue tariff orders in FY21 either (Exhibit 9). Partly because of slow revision of tariffs, cash-adjusted revenue growth (1.0%) has not kept pace with growth in overall costs (1.6%) in the sector—making existing tariffs increasingly non-reflective of costs.

Exhibit 9

Tariff order issuance for FY22, True-up for FY20 and Petition filing for FY23

	On-time	Delay	Not issued or filed
Tariff Orders (FY 22)	30	27	14
True-up Orders (FY 20)	25	25	21
Petitions filing (FY 23)	38	24	9

Arunachal*
J&K*
Jharkhand
Kerala*
Ladakh*
Nagaland
Tamil Nadu*
Telangana*
Tripura
West Bengal[1]*

*Not issued for FY21 either

Arunachal PD, CESC, IPCL, JPDCL, KPDCL, Nagaland PD, TANGEDCO, TSECL, WBSEDCL

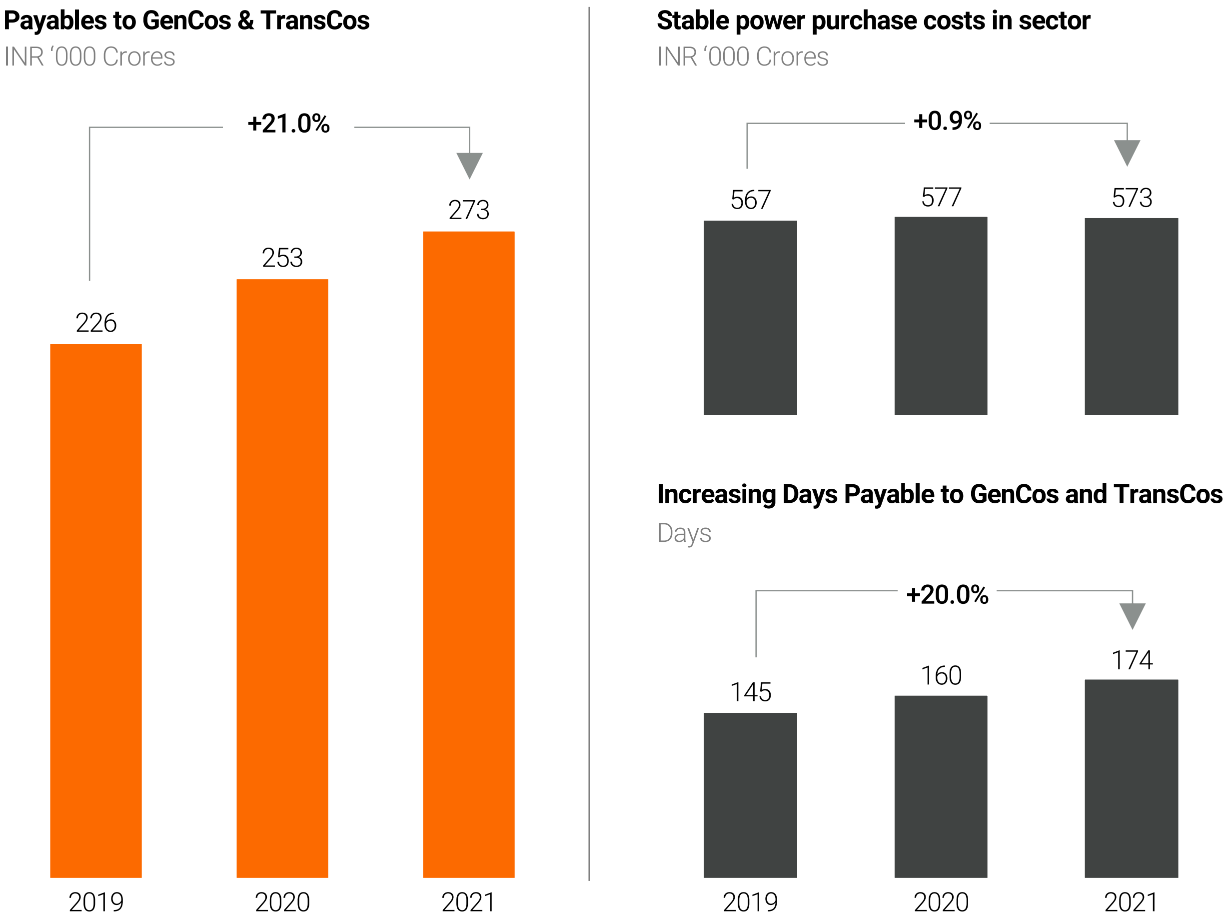
1 – West Bengal has issued FY22 tariff orders for WBSEDCL, but not for IPCL and CESC

The impact of the sector's deficit and challenges is being felt not just across the power sector, but beyond it too

Over FY19–FY21, the total payables to gencos and transcos by discoms increased 21% to INR 2.73 lakh crore. Cycle times for payments have also risen, with the national average days payable to gencos and transcos standing at 174 days in FY21, an increase of 20% from FY19. This growth in payables was despite power purchase costs remaining stable (Exhibit 10).

Exhibit 10

Trend in Payables to GenCos and TransCos (INR '000 Crores) **and Days Payables** (in Days) **for FY 2019 to FY 2021**



As a result of mounting discom losses, sectoral debt is climbing too. In FY21, total debt stood at INR 5.89 lakh crore (up by 19% from FY19), with the resulting immediate debt obligation being INR 1.06 lakh crore (up by 17% from FY19). This poses a growing risk to India's financial institutions. Even more worrying is the fact that the majority of the debt and payables in the sector are held by worst-performing discoms, many of which also have a widening ACS-ARR gap. About 75% of the sector's debt is held by discoms with an ACS-ARR gap greater than INR 0.90 per unit and 89.5% is held by discoms with a debt service coverage ratio lower than 0.6 (Exhibit 11).

Exhibit 11

Mapping of discoms by ACS-ARR gap bracket vs ACS-ARR gap trajectory

% share in sector debt | % share in GenCo & TransCo payables

ACS-ARR gap Performance Trajectory	> 0.9	Between -0.05 and 0.9	<= -0.05
Improving 22% | 29%	6 JVVNL, TSNPDCL, DVVNL , JDVVNL, MVVNL, TSSPDCL, 18% | 25%	3 PGVCL, UPCL, AVVNL, 3% | 3%	6 DGVCL, MGVCL, DNHPDCL, Torrent Power Surat, IPCL, TPDDL 1% | 0%
Stable 17% | 18%	5 BESCOM, APEPDCL, SBPDCL, APSPDCL, MePDCL 8% | 9%	5 UGVCL, PSPCL, HPSEBL, TSECL, CSPDCL 6% | 7%	6 Torrent Power Ahmedabad, AEML NPCL, DHBVNL, UHBVNL, CESC 3% | 2%
Declining 61% | 53%	11 PaVVNL, NBPDCL, KESCO, GESCOM, CHESCOM, MSEDCL, PuVVNL, TANGEDCO, MPPoKVVCL, MPMaKVVCL, JBVNL 49% | 39%	9 APDCL, BYPL, BRPL, MESCOM, MPPaKVVCL, KSEBL, WBSEDCL, HESCOM, MSPDCL 11% | 14%	1 TPML 0% | 0%
Total	76% | 74%	20% | 24%	4% | 3%

ACS-ARR gap (cash adjusted)

The above figures exclude Power Departments and 8 State Utilities which have not completed 3 full years of operation

The sector's challenging financial situation is highly concentrated – a few discoms account for the majority of losses

Analysis across metrics shows that just a few discoms are responsible for the majority of the sector's challenges. Overall, 10 discoms across 7 states are the highest contributors to national absolute losses, payables to gencos and transcos, liquidity gap, energy loss and outstanding debt (Exhibit 12).

Exhibit 12

Discoms with the highest contributions to sector's losses and debt

XX Very high contribution XX High contribution XX Medium contribution

		Losses	Genco, Transco Payables	Liquidity Gap	Energy Lost	Debt
TANGEDCO	Tamil Nadu	16%	8%	14%	5%	25%
MSEDCL	Maharashtra	14%	11%	16%	14%	6%
TSSPDCL	Telangana	6%	7%	7%	3%	3%
PuVVNL	Uttar Pradesh	5%	4%	2%	4%	5%
MPPoKVVCL	Madhya Pradesh	5%	3%	4%	4%	3%
MPMaKVVCL	Madhya Pradesh	4%	5%	5%	5%	3%
WBSEDCL	West Bengal	4%	4%	6%	3%	3%
JdVVNL	Rajasthan	3%	4%	4%	4%	3%
DVVNL	Uttar Pradesh	3%	3%	2%	3%	4%
JVVNL	Rajasthan	2%	4%	5%	3%	3%

This trend plays out across metrics (Exhibit 13).

- **Just 6 discoms**—TSSPDCL, TANGEDCO, MSEDCL, PuVVNL, MPPoKVVCL and MPMaKVVCL—account for nearly 50% of total cash adjusted gap i.e., INR 0.57 lakh crore out of 1.13 lakh crore. Of these, the last five's performance trajectory is declining.
- **Just 9 discoms**—MSEDCL, TANGEDCO, TSSPDCL, MPMaKVVCL, JDVVNL, PuVVNL, JVVNL, WBSEDCL, and MVVNL—account for nearly 50% of the total genco and transco liabilities i.e., INR 1.4 lakh crore out of 2.7 lakh crore
- **Just 6 discoms**—MSEDCL, TANGEDCO, TSSPDCL, WBSEDCL, MPMaKVVCL, and JVVNL—account for nearly 50% of total liquidity gap i.e., INR 1.62 lakh crore of 3.04 lakh crores
- **Just 10 discoms**—MSEDCL, MPMaKVVCL, TANGEDCO, MPPoKVVCL, PSPCL, PuVVNL, APSPDCL, JdVVNL, DVVNL, and WBSEDCL—account for nearly 50% of the total energy loss of 12,215 crore units of 24,415 crore units
- **Just 8 discoms**—TANGEDCO, MSEDCL, PuVVNL, DVVNL, KSEBL, TSSPDCL, MPMaKVVCL, JVVNL—account for nearly 50% of the total sector debt i.e., INR 3.09 lakh crore of INR 5.89 lakh crore

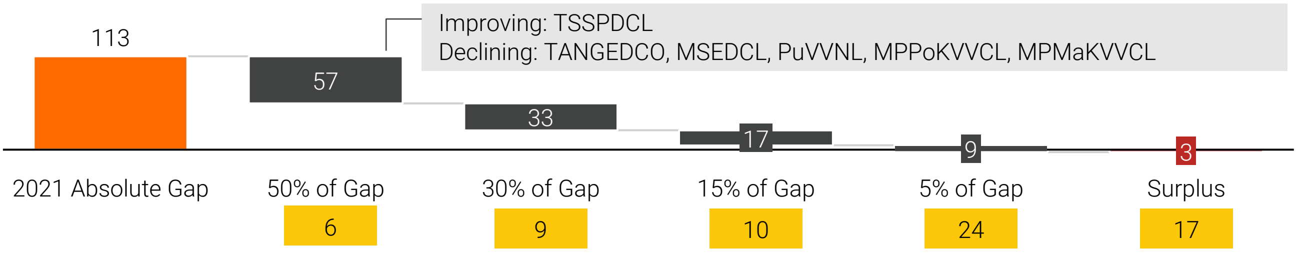
Aggregation of discom figures to the state level also shows the same trend: 6 states— Maharashtra, Tamil Nadu, Uttar Pradesh, Madhya Pradesh, Rajasthan and Telangana—figure prominently among the highest contributors to national absolute losses, payables to gencos and transcos, liquidity gap, energy loss and outstanding debt (Exhibit 14).

Exhibit 13

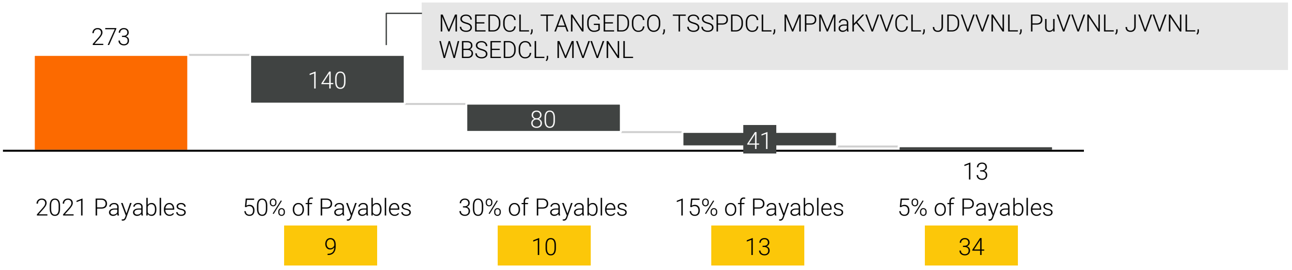
Break-up of sectoral challenges by top contributing discoms

# of utilities

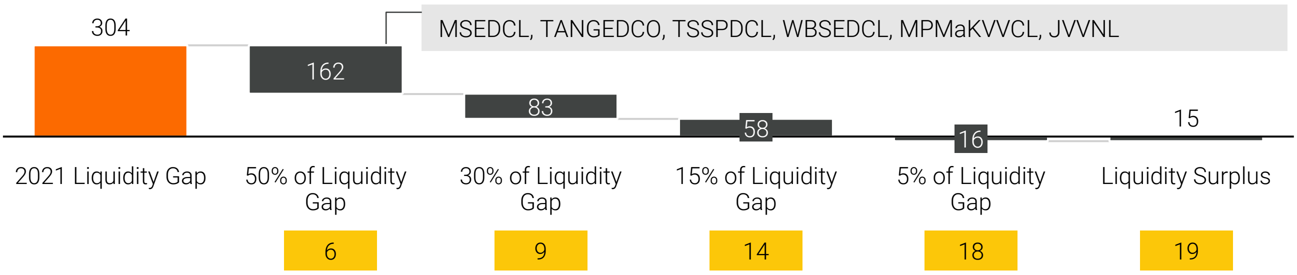
Number of utilities vs % contribution to sectoral Absolute Gap (INR ‘000 crores)



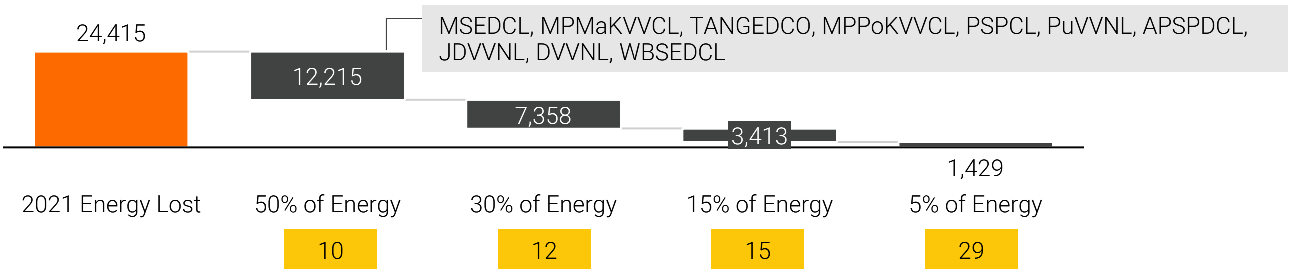
Number of utilities vs % contribution to sectoral Payables (INR ‘000 crores)



Number of utilities vs % contribution to sectoral liquidity Gap (INR ‘000 crores)



Number of utilities vs % contribution to sectoral Energy Lost (crore units)



Number of utilities vs % contribution to sectoral Debt (INR ‘000 crores)

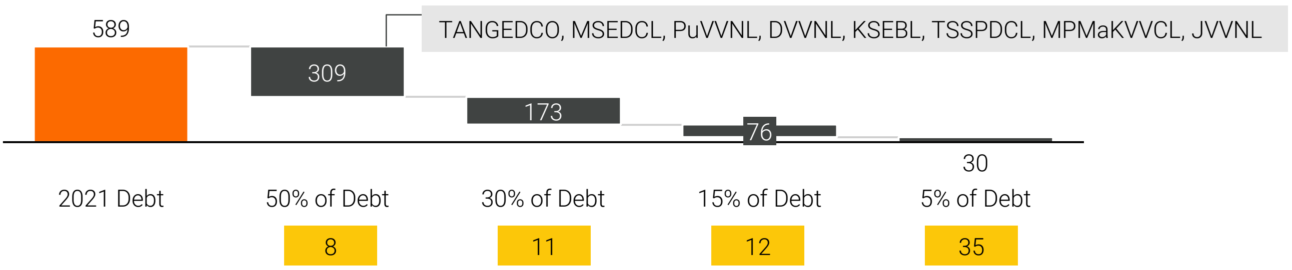
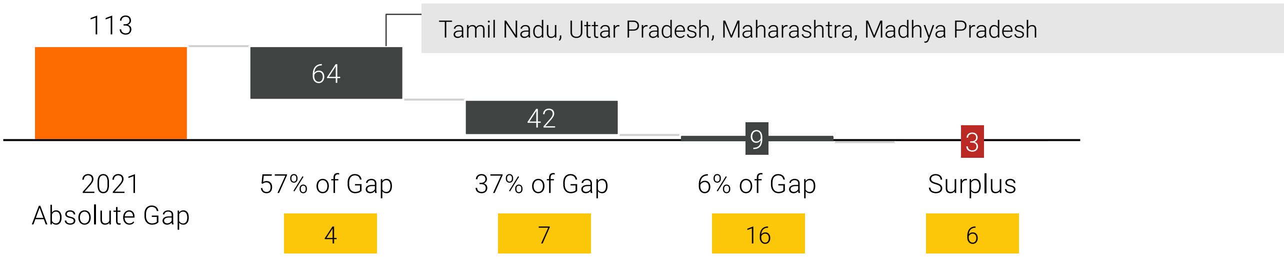


Exhibit 14

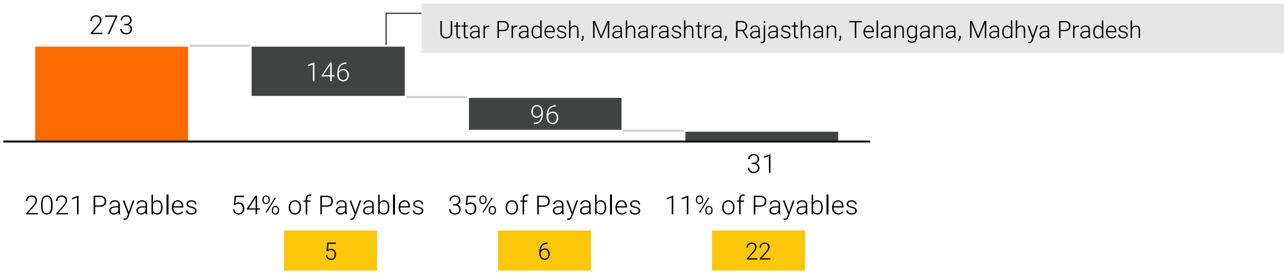
Break-up of sectoral challenges by top contributing states

# of States/UTs

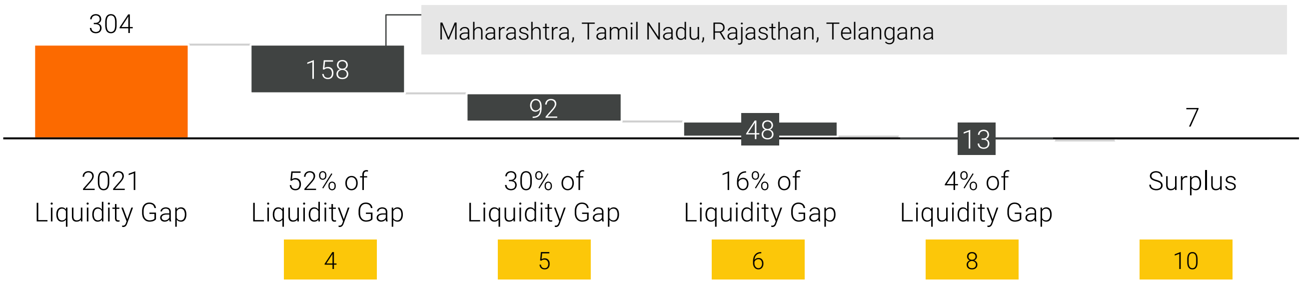
Number of states/UTs vs % contribution to sectoral Absolute Gap (INR '000 crores)



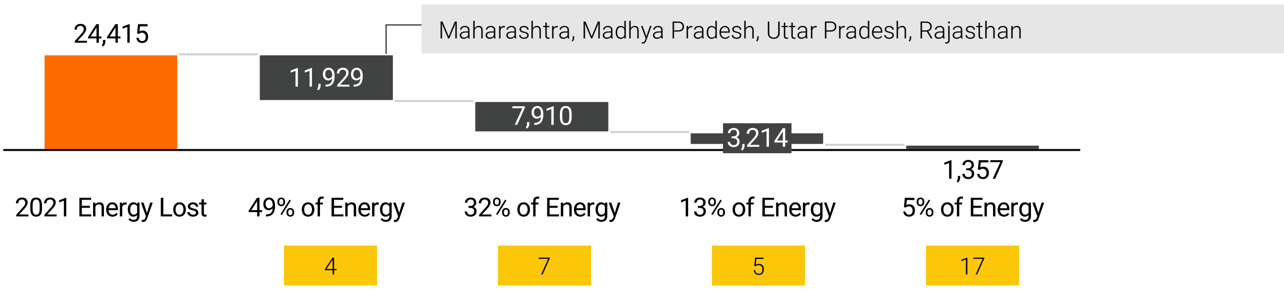
Number of states/UTs vs % contribution to sectoral Payables (INR '000 crores)



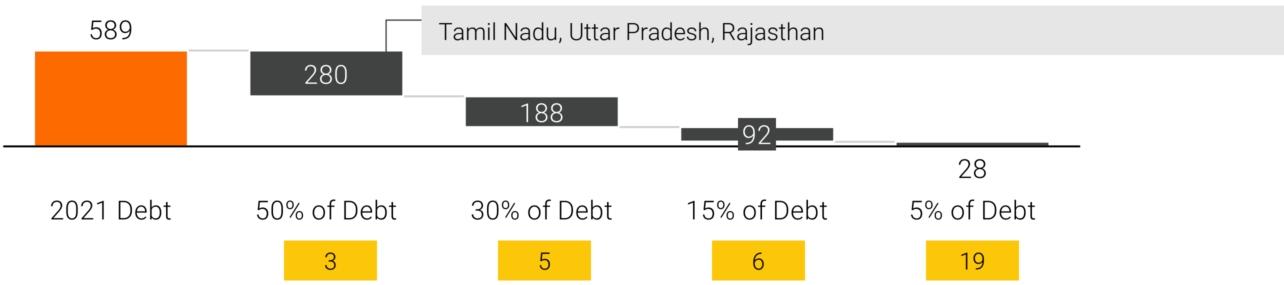
Number of states/UTs vs % contribution to sectoral liquidity Gap (INR '000 crores)



Number of states/UTs vs % contribution to sectoral Energy Lost (crore units)



Number of states/UTs vs % contribution to sectoral Debt (INR '000 crores)



The sector's financial challenges are not universal – some discoms have improved performance despite external stress

Over the last three years, 17 utilities across 10 states and UTs have consistently improved their performance in cash adjusted ACS-ARR gap. In stark contrast to loss-making utilities, 17 utilities in the sector are also profitable, with the highest profit per unit (INR 1.47 per kWh) reported by NPCL in FY21. The other utilities are Gujarat Discoms, Torrent Power Surat, Torrent Power Ahmedabad, Chandigarh PD, IPCL, DNHPDCL, TPDDL, UHBVNL, DHBVNL, AEML, Daman & Diu PD, HPSEBL, CESC.

Some utilities have showed exceptional resilience in the face of the unprecedented challenges that the pandemic posed:

- All the Discoms (excluding Jammu and Kashmir) (i.e. 57 out of 60) have submitted audited accounts for the purpose of 10th Integrated Rating Exercise, as compared to 35 out of 41 State Discoms covered under previous exercise
- Tariff orders for FY22 are in place for 26 States/UTs except for States/UTs of Arunachal Pradesh, West Bengal (For CESC and IPCL), Jharkhand, Jammu & Kashmir including Ladakh, Kerala, Nagaland, Tamil Nadu, Tripura and Telangana
- Tariff petition filed for FY23 by all utilities in 30 States/UTs except those in 6 states i.e. West Bengal, Arunachal Pradesh, Jammu & Kashmir, Nagaland, Tamil Nadu, Tripura
- 44 Discoms out of 60 utilities have implemented auto-pass through of fuel costs
- 26 utilities (including Power Departments) have AT&C losses of less than 15% in FY21 as compared to 21 utilities in FY19. The national average collection efficiency has slightly declined by 1.2% which was substantially compensated by improvement in billing efficiency. Accordingly, the AT&C losses between FY19-21 have broadly remained unchanged over the last three years, at about 21%
- 31 utilities out of 52 (excluding newly formed utilities and PDs) have reduced AT&C Losses in FY21 as compared to FY19. Out of these, 8 utilities (CSPDCL, DVVNL, GESCOM, HESCOM, MESCOM, MVVNL, PuVVNL, TSNPDCL) have improved AT&C losses by more than 5% while 17 utilities have improved AT&C losses between 1% to 5%
- 17 utilities improved their cash adjusted ACS-ARR gap performance over Fy19–21
- Average Billing Efficiency for FY21 was at ~84%. Out of 71 utilities covered, 38 Utilities accounting for ~50% consumption reported more than average Billing Efficiency. 14 Utilities reported billing efficiency of greater than 92% in Fy21
- 15 utilities managed to maintain collection efficiency at 100%, including DGVCL, DHBVNL, HPSEBL, KSEBL, MGVCL, PaVVNL, UHBVNL, etc. Average Collection efficiency for FY21 was ~92.5% which was adversely impacted by Covid-19 pandemic situation
- In FY21, 29 State owned Discoms and power departments have reported 100% or more of aggregate subsidy received over the aggregate subsidy booked for last three years
- On weighted average basis, 13 utilities (excluding power departments) have cash adjusted DSCR of more than 1.1. These are Gujarat Discoms, DNHPDCL, Torrent Power Ahmedabad, AEML, NPCL, Torrent Power Surat, TPML, DHBVNL, HPSEBL, TPWODL, NPCL, DNHPDCL
- On weighted average basis, 13 utilities (excluding power departments) have adjusted quick ratio greater or equal to 1.00. These are Gujarat Discoms, DNHPDCL, NPCL, IPCL, TSECL, MESCOM, MPPaKVVCL, PaVVNL, TPWODL, TPSODL
- 14 utilities (excluding power departments) scored greater than 10 out of 13 on the performance excellence dimension (i.e. Billing Efficiency, Collection Efficiency, Corporate Governance, Distribution Loss -SERC Approved), with the top 5 being UGVCL, Torrent Power Ahmedabad, TPML, IPCL, and DGVCL
- 13 utilities (DGVCL, MGVCL, UGVCL, Torrent Power Ahmedabad, PGVCL, Torrent Power Surat, IPCL, TPML, DHBVNL, CESC, BYPL, BRPL, TPCODL) have achieved full score on Corporate Governance Parameters (without any disincentives)

05

Strategic directions to address sectoral challenges

India's power distribution sector needs urgent interventions, considering its losses have already started affecting adjacent sectors and pose a growing risk to India's financial institutions. Specifically, the sector needs alleviate measures to reduce AT&C losses and create a more conducive external environment.

This section details the main initiatives—both ongoing and upcoming—that the Ministry of Power has undertaken to address the sector's challenges. While the responsibility of distribution lies on the state, these initiatives have been taken in recognition of the catalytic role that the Center can play to reform the sector. The Central initiatives are followed by a set of best practices followed by high-performing discoms, which other discoms can adopt. These best practices are an outcome of the analyses done as part of the 10th Integrated Rating Exercise. The section ends with specific suggestions for states to better support discoms and foster a conducive environment in which they can thrive.

By following these best practices and suggestions, states and discoms can effectively back ongoing Central initiatives to turnaround the state of India's power distribution sector.

5.1 Ministry of Power Initiatives to Support the Sector

Ongoing initiatives

The Ministry has implemented a variety of schemes and initiatives to support the sector over the last decade. The most significant among these has been the **Revamped Distribution Sector Scheme (RDSS).** Launched in July 2021 with an outlay of INR 3.03 lakh available till FY25–FY26, RDSS is a reforms-based and results-linked scheme that aims to reduce pan-India AT&C losses to 12–15% (from the current 21.5%) and bring down the ACS-ARR gap to zero. The scheme aims to support the installation of 25 crore smart meters, 10,000 feeders, and 4 lakh kilometer of low-tension overhead lines across India. For availing funds available under this scheme, states must prequalify a set of criteria, including publishing audited financial reports, non-creation of additional regulatory assets, and upfront liquidation of dues or subsidies to discoms.

In September 2021, the Ministry also introduced **new norms for discoms to become eligible for loans** disbursed by the PFC and REC. These included timely availability of quarterly audited accounts, timely filing of tariff petitions and issuance of tariff orders, clearance of any pending subsidies and bills due to discoms, preparation of an ACS-ARR gap and AT&C loss improvement action plan, and zero defaults. In FY21, the Ministry also announced additional borrowing permissions to the extent of 0.5% of state GSDP. Each of these permissions is linked to the reduction of AT&C losses and ACS-ARR gap for the next 4 to 5 years.

New initiatives

With the insights emerging from the 10th Integrated Rating Exercise, the Ministry is considering announcing more initiatives to support the sector. First and foremost among these is the creation of **a dashboard called Urja DRISHTI (Discom Rating for Integrated Solvency, Health and Transparency Improvement)**, accessible at urjadrishti.com, which will publish key sector insights in the public domain. Urja DRISHTI will increase transparency in the sector, help discoms benchmark themselves with their counterparts in other states, and identify their specific areas of strength and weakness. This knowledge will poise them to create a performance improvement plan that addresses their specific needs.

In order to make the **ratings more dynamic, an independent Committee** has also been constituted. It will review and revise discom ratings upon the occurrence of a set of pre-defined events, including new defaults to banks and financial institutions and regulatory developments such as issuance of tariff orders.

5.2 Best Practices for Discoms to Address their Challenges

Through past government initiatives, it has become clear that a one-size-fits-all approach does not work for the sector, because each discom faces a unique set of challenges. In some discoms, billing efficiency is the greatest challenge. In some, collection-related problems are most prominent. In some, the external environment is not conducive. In some, working capital management and cost optimization are the biggest concerns. Others, meanwhile, face a combination of these challenges. Keeping this in mind, each discom is advised to identify its most pressing pain points (leveraging the Urja DRISHTI dashboard and their individual discom reports) and consider adopting some of the following best practices to resolve them.

For improving billing efficiency:

- **Acquire advanced meter reading and bill generation capabilities.** APDCL, for example, has deployed an AI-based app that can autofill units consumed in discom bills. Bills are generated based on images captured by meter readers, so no manual overriding is possible.
- **Overhaul and modernize grid infrastructure.** Discoms in Gujarat, for instance, have implemented high voltage distribution systems (or HVDS) as well as made great strides in undergrounding cables, bifurcating feeders based on loading, rerouting feeders and replacing conductors to reduce technical losses. Tata Power has also established unmanned substations and centralized grid control centers to improve the efficiency as well as quality of the grid.
- **Implement robust checks and balances to reduce fraud.** Leading state utilities in Gujarat and Haryana and many private utilities have dedicated teams for data-based analysis and identification of fraud. At some of these utilities, accountability for loss monitoring resides with dedicated substation and feeder-level managers. They also regularly monitor MIS reports and have institutionalized the following actions to ensure that there are no revenue leakages:
    - Investigating frequent zero and average billed connections through onsite visits, phone calls and notices
    - Removing service lines from permanently disconnected consumers to prevent misuse
    - Bringing all newly energized connections under the billing cycles
    - Identifying and investigating high loss and low consumption connections

For boosting collection efficiency:

- **Use digital channels (web, mobile apps, etc.) for billing and payments.** Leading utilities allow and encourage consumers to receive bills and make payments across a variety of channels, such as SMS, website, and mobile apps. At the top performers, more than 80% of the amount collected and more than 60% of transactions are through digital means.
- **Simplify and integrate payments**. Processes can be simplified and integrated end-to-end through the creation and linkage of virtual account numbers to meter numbers, optimization of at-the-counter waiting time through QR codes at collection windows, etc.
- **Run special programs to improve awareness and engagement in rural areas.** Partnering with post offices and gram panchayats and deploying dedicated agents to improve rural collections have helped discoms with large rural territories to improve their collection efficiency. Haryana discoms in particular have run successful programs to educate consumers about electricity usage and drive fundamental shifts in consumer behavior. These programs have included rural roadshows and awareness campaigns as well as tie-ups with educational institutions to create awareness at the grassroots level.

For enhancing working capital management and optimizing costs:

- **Streamline processes and timelines to ensure timely collection.** Leading discoms maintain incoming cash flow by generating consumer bills within two weeks of close of the billing cycle, offering reasonable payment windows (10 to 15 days) and levying penalties for late payments. Some discoms in Gujarat also review high-value debtor accounts almost on a daily basis to ensure that corrective actions such as follow-up visits or calls can be conducted timely.
- **Implement conducive terms and processes with partners and suppliers.** Many high-performing discoms maintain low current liabilities by consistently cashing in early on payment discounts offered by vendors. They also have tightly integrated processes that involve third parties to ensure that funds are received on time (e.g., payment clearance processes with partner banks).
- **Reduce costs through operating model shifts and resource optimization.** Centralizing key functions such as procurement and back-office operations has helped discoms in Haryana realize volume discounts, improve payment terms, and optimize talent use. Some leading private discoms have also acquired analytics-based workforce scheduling capabilities to boost productivity.
- Improving forecasting of regulatory allowances to improve cost budgeting and allocation

Governance and other measures:

The following are some additional best practices (related to governance, accounting, etc.) that high-performing discoms follow:

- Creating a business transformation action plan (including targets and KPIs, activities, monitoring, and reviews) and setting up a multi-disciplinary project management office to own its implementation
- Launching performance-based incentive schemes to reward employees for actions taken to maintain or reduce AT&C losses and ACS-ARR gap
- Establishing a cadence for top-management reviews of targets and milestones and regularly communicating with central nodal agencies (e.g., PFC and REC for RDSS)
- Following accounting standards (IND-AS) as prescribed under the Companies Accounting Standard Rules
- Maintaining records of ageing of trade receivables in quarterly or annual accounts
- Maintaining records of total electricity duty and delayed payment surcharges, booked and collected, in quarterly or annual accounts

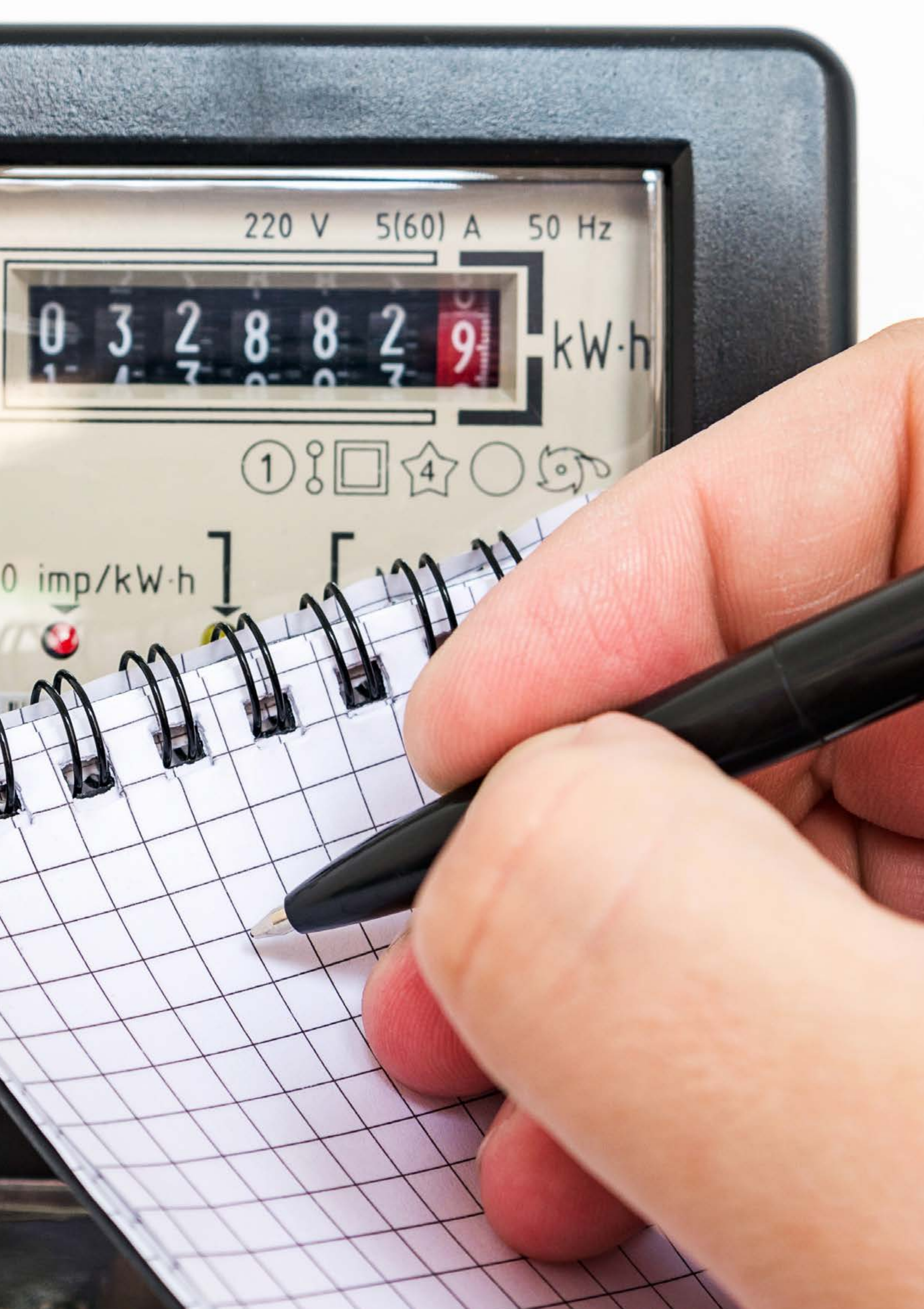
5.3 Suggestions for States to Support Discoms

States and regulators must play an active role to bolster discoms. They could provide financial relief and support appropriate measures to help discoms improve their performance. The following are a few high-impact measures they can take:

- Facilitate adherence to tariff cycle timelines. States must issue tariff orders and true-up orders every year to ensure that discoms can recover all their necessary capital and operational expenditure. Delays in issuing these orders manifests as additional burden on an already crunched sector.
- Release payments and subsidies to discoms in a timely manner. States must ensure that electricity bills of government departments are cleared before the due date. They should also set up mechanisms to ensure subsidies are paid on time. States that have a high share of subsidized power supply can also explore mechanisms to directly transfer subsidy benefits to end customers, so that the burden does not fall on discoms.
- Provide financial support through reform-linked schemes. States can offer operational viability funding and capital infusion to take over liabilities and losses of insolvent discoms. They can link this support to the performance of the discom in the latest integrated ratings and the reforms planned by it to address highlighted concerns.
- Create capacity to help transform discoms. To complement the Center's capability-building efforts, states can also set up state-level teams to help discoms prepare action plans for reform, monitor progress against critical milestones, and facilitate cross-pollination of best practices and ideas for operational improvements.

□ □ □

The combined force of the above initiatives, best practices, and directions is expected to turn the tide of losses in the distribution sector, cultivate healthy and high-performing discoms, and nurture a conducive environment for them to operate in. To affect a turnaround in the sector, it will be critical for all stakeholders—Center, states, regulators, discoms, lenders, etc.—to join hands and prioritize improvements in distribution.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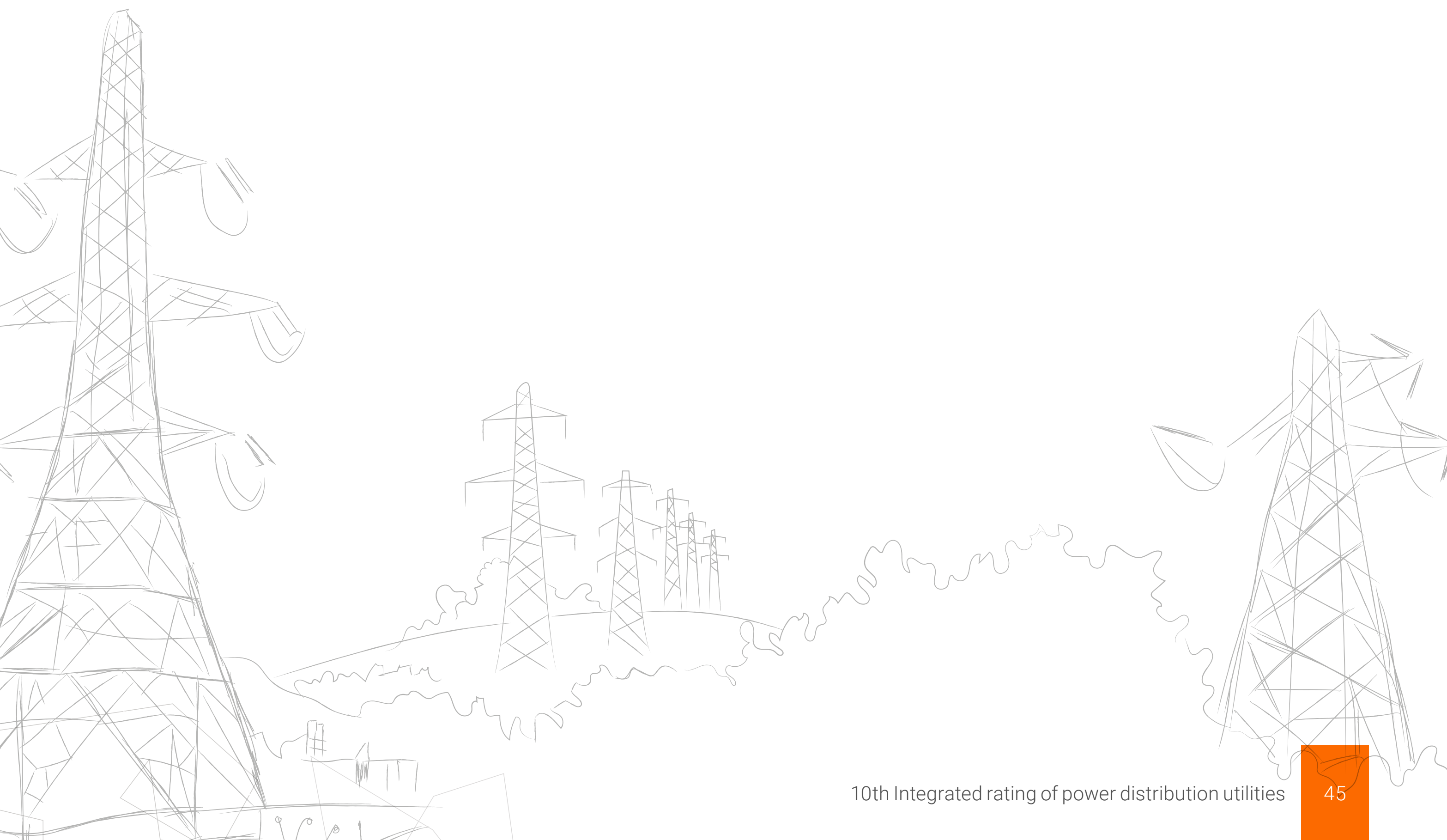
imp/kW·h

06

Appendix



APPENDIX

1. Discoms Covered in the 10th Integrated Rating Exercise

A. State Discoms

S.N	State	Utility Name	Full Name
1	Andhra Pradesh	APCPDCL	Andhra Pradesh Central Power Distribution Corporation Limited
2	Andhra Pradesh	APEPDCL	Eastern Power Distribution Company of Andhra Pradesh Limited
3	Andhra Pradesh	APSPDCL	Southern Power Distribution Company of Andhra Pradesh Limited
4	Assam	APDCL	Assam Power Distribution Company Limited
5	Bihar	NBPDCL	North Bihar Power Distribution Company Limited
6	Bihar	SBPDCL	South Bihar Power Distribution Company Limited
7	Chhattisgarh	CSPDCL	Chhattisgarh State Power Distribution Company Limited
8	Dadra & Nagar Haveli	DNHPDCL	DNH Power Distribution Corporation Limited
9	Gujarat	DGVCL	Dakshin Gujarat Vij Company Limited
10	Gujarat	MGVCL	Madhya Gujarat Vij Company Limited
11	Gujarat	PGVCL	Paschim Gujarat Vij Company Limited
12	Gujarat	UGVCL	Uttar Gujarat Vij Company Limited
13	Haryana	DHBVNL	Dakshin Haryana Bijli Vitran Nigam Limited
14	Haryana	UHBVNL	Uttar Haryana Bijli Vitran Nigam Limited
15	Himachal Pradesh	HPSEBL	Himachal Pradesh State Electricity Board Limited
16	Jammu	JPDCL	Jammu Power Distribution Corporation Limited
17	Jharkhand	JBVNL	Jharkhand Bijli Vitran Nigam Limited
18	Karnataka	BESCOM	Bangalore Electricity Supply Company Limited
19	Karnataka	CHESCOM	Chamundeshwari Electricity Supply Corporation Limited
20	Karnataka	GESCOM	Gulbarga Electricity Supply Company Limited
21	Karnataka	HESCOM	Hubli Electricity Supply Company Limited
22	Karnataka	MESCOM	Mangalore Electricity Supply Company Limited
23	Kashmir	KPDCL	Kashmir Power Distribution Corporation Limited
24	Kerala	KSEBL	Kerala State Electricity Board Limited
25	Ladakh	LPCL	Ladakh Power Corporation Limited

S.N	State	Utility Name	Full Name
26	Madhya Pradesh	MPMaKVVCL	MP Madhya Kshetra Vidyut Vitaran Company Limited
27	Madhya Pradesh	MPPaKVVCL	MP Paschim Kshetra Vidyut Vitaran Company Limited
28	Madhya Pradesh	MPPoKVVCL	MP Poorv Kshetra Vidyut Vitaran Company Limited
29	Maharashtra	MSEDCL	Maharashtra State Electricity Distribution Company Limited
30	Manipur	MSPDCL	Manipur State Power Distribution Company Limited
31	Meghalaya	MePDCL	Meghalaya Power Distribution Corporation Limited
32	Punjab	PSPCL	Punjab State Power Corporation Limited
33	Rajasthan	AVVNL	Ajmer Vidyut Vitran Nigam Limited
34	Rajasthan	JDVVNL	Jodhpur Vidyut Vitran Nigam Limited
35	Rajasthan	JVVNL	Jaipur Vidyut Vitran Nigam Limited
36	Tamil Nadu	TANGEDCO	Tamil Nadu Generation & Distribution Corporation Limited
37	Telangana	TSNPDCL	Northern Power Distribution Company of Telangana Limited
38	Telangana	TSSPDCL	Southern Power Distribution Company of Telangana Limited
39	Tripura	TSECL	Tripura State Electricity Corporation Limited
40	Uttar Pradesh	DVVNL	Dakshinanchal Vidyut Vitran Nigam Limited
41	Uttar Pradesh	KESCO	Kanpur Electricity Supply Company Limited
42	Uttar Pradesh	MVVNL	Madhyanchal Vidyut Vitran Nigam Limited
43	Uttar Pradesh	PaVVNL	Paschimanchal Vidyut Vitran Nigam Limited
44	Uttar Pradesh	PuVVNL	Purvanchal Vidyut Vitaran Nigam Limited
45	Uttarakhand	UPCL	Uttarakhand Power Corporation Limited
46	West Bengal	WBSEDCL	West Bengal State Electricity Distribution Company Limited

B. Private Discoms

S.N	State	Utility Name	Full Name
1	Delhi	BRPL	BSES Rajdhani Power Ltd
2	Delhi	BYPL	BSES Yamuna Power Ltd
3	Delhi	TPDDL	Tata Power Delhi Distribution Co Ltd
4	Gujarat	Torrent Power Ahmedabad	Torrent Power Ahmedabad
5	Gujarat	Torrent Power Surat	Torrent Power Surat
6	Maharashtra	AEML	Adani Electricity Mumbai Limited
7	Maharashtra	TPML	Tata Power Mumbai Limited
8	Odisha	TPCODL	Tata Power Central Odisha Distribution Ltd
9	Odisha	TPNODL	Tata Power Northern Odisha Distribution Ltd
10	Odisha	TPSODL	Tata Power Southern Odisha Distribution Ltd
11	Odisha	TPWODL	Tata Power Western Odisha Distribution Ltd
12	Uttar Pradesh	NPCL	Noida Power Company Ltd.
13	West Bengal	CESC	CESC Limited
14	West Bengal	IPCL	India Power Corporation Limited

C. Power Departments

S.N	State	Utility Name	Full Name
1	Andaman & Nicobar Islands	Andaman & Nicobar PD	Electricity Department, Andaman & Nicobar Administration
2	Arunachal Pradesh	Arunachal PD	Department of Power, Government of Arunachal Pradesh
3	Chandigarh	Chandigarh PD	Electricity Wing of Engineering Department, Chandigarh Administration
4	Daman & Diu	Daman & Diu PD	Electricity Department, UT Administration of Dadra & Nagar Haveli and Daman & Diu
5	Goa	Goa PD	Electricity Department, Government of Goa
6	Lakshadweep	Lakshadweep ED	Department of Electricity, UT of Lakshadweep
7	Maharashtra	BEST	The Brihanmumbai Electric Supply & Transport Undertaking
8	Mizoram	Mizoram PD	Power & Electricity Department, Government of Mizoram
9	Nagaland	Nagaland PD	Department of Power, Nagaland
10	Puducherry	Puducherry PD	Electricity Department of Government of Puducherry
11	Sikkim	Sikkim PD	Power Department, Government of Sikkim

APPENDIX

2. Key Findings – Power Distribution Utilities

A. State Discoms

B. Private Discoms

C. Newly formed Discoms

D. Power Departments

A. State Discoms

Assam Power Distribution Company Limited (APDCL)

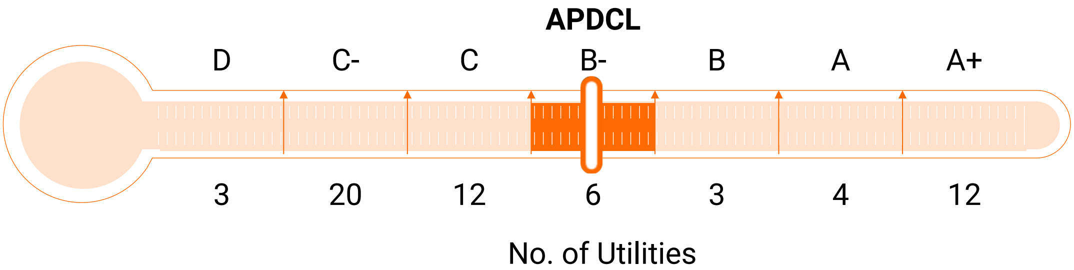
APDCL is a state owned discom incorporated in June 2000. It serves 63 lakh+ customers in the state of Assam. In FY21, APDCL had a revenue of INR 7,158 crores, loss after tax of INR 292 crores and sold 7,458 million units of energy.

#19

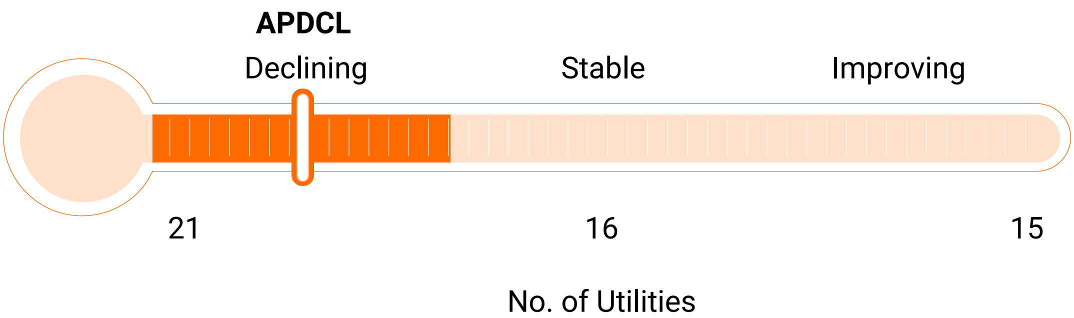
Rank
19 out of 52

B-

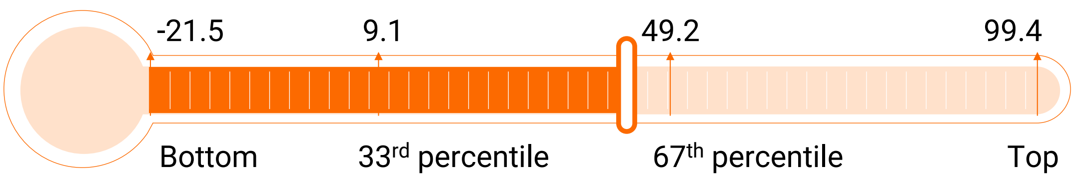
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

APDCL has a low cash adjusted ACS-ARR gap of INR 0.07 per kWh (top tertile in the sector). The primary driver of the low ACS-ARR gap is high revenue realization of 98% and low interest costs. Its power purchase costs lie in the middle tertile. APDCL's performance on all ACS-ARR gap components (except interest costs) declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | APDCL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	Percentile: 33rd	Percentile: 67th	Top	APDCL
Cash adjusted revenue	6.84 (Unrealized revenue: 0.14)	⇩	6.33	77%	90%	98%	103%	98%
Power purchase cost	5.63	⇩	5.22	107%	88%	79%	55%	81%
O&M expenses	0.99	⇩	0.91	34%	14%	9%	1%	14%
Interest	0.21	⇧	0.19	21%	7%	4%	0%	3%
Other expenses	0.09	⇩	0.08					
Gap / Surplus	0.08	⇩	0.07	2.00	0.95	0.15	-0.69	0.07

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • Low ACS-ARR gap, currently at INR 0.07* per unit • Low interest costs, currently at 3%* of revenue booked • Low days payable to gencos and transcos, currently at 65 days	**Financial Sustainability** • High days receivable, currently at 147 days for FY21 • Low adjusted quick ratio, currently at 0.35* • Improvement in cash adjusted DSCR and leverage, currently at 0.17* and 11.1*, respectively
Performance Excellence • Board has 1/3rd independent directors	**Performance Excellence** • Distribution losses higher than the SERC approved figure • Improvement in billing efficiency, currently at 81.1%*
External Environment • Receipt of over 100% of tariff subsidy over the last 3 financial years, with arrears also being received • 62% of losses taken over by the state government in FY21 • Issuance of tariff and true-up orders on time • Implementation of automatic passthrough of fuel costs	**External Environment** • Significant government dues, at 38% over the last 3 financial years

* 3-year weighted average

Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL)

APEPDCL is a state owned discom incorporated in March 2000. It serves 63 lakh+ customers in the state of Andhra Pradesh in 5 eastern districts, namely, Srikakulam, Vizianagaram, Visakhapatnam, East Godavari and West Godavari. In FY21, APEPDCL had a revenue of INR 15,486 crores, profit after tax of INR 40 crores and sold 20,416 million units of energy.

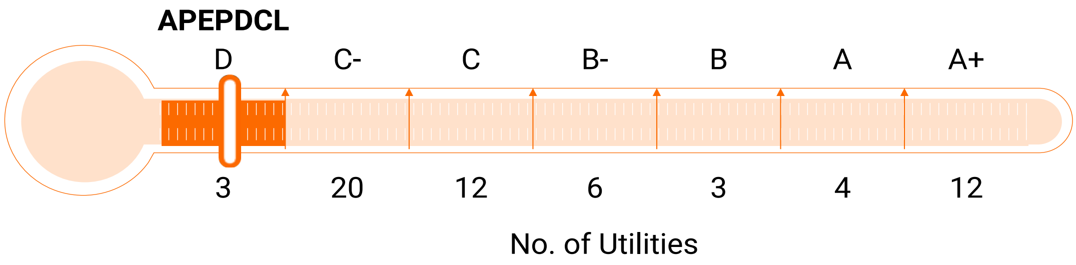
#50

Rank

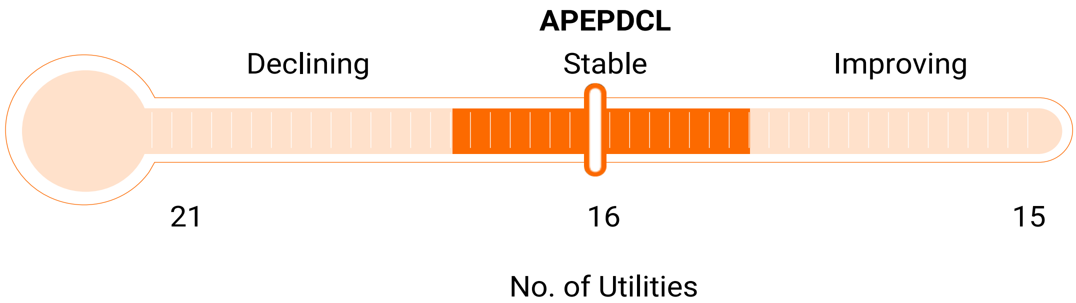
50 out of 52

D

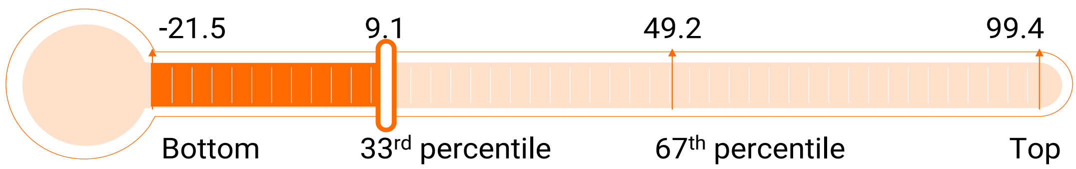
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

APEPDCL has a high cash adjusted ACS-ARR gap of INR 1.22 per kWh (bottom tertile in the sector). The primary driver of its high ACS-ARR gap is low cash adjusted revenue of 86% and high O&M costs of 19% of revenue booked (bottom tertile). APEPDCL is performing well on power purchase costs as well as interest costs, both of which lie at the 67th percentile boundary. APEPDCL's performance on cash adjusted revenue, power purchase costs, and other expenses improved during FY19-FY21. However, its performance on O&M costs and interest costs declined during the period.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | APEPDCL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Bottom	APEPDCL	Percentile 33rd	Percentile 67th	Top
Cash adjusted revenue	12.23 (Unrealized revenue: 2.09)	⇧	5.37	77%	86%	90%	98%	103%
Power purchase cost	11.13	⇧	4.90	107%	79%	88%	79%	55%
O&M expenses	2.75	⇩	1.21	34%	19%	14%	9%	1%
Interest	0.59	⇩	0.26	21%	4%	7%	4%	0%
Other expenses	0.50	⇧	0.22					
Gap / Surplus	2.74	⇧	1.22	2.00	1.22	0.95	0.15	-0.69

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • Fair adjusted quick ratio, currently at 0.82*	**Financial Sustainability** • Improvement of cash adjusted revenue, currently at 86%* of revenue booked, to improve cash adjusted ACS-ARR gap, currently at INR 1.22* per kWh • Improvement of cash adjusted Debt Service Coverage Ratio and leverage, currently at -1.23* and -1.17*, respectively
Performance Excellence • Fair billing efficiency, currently at 93.4%*	**Performance Excellence** • Improvement in collection efficiency, currently at 89.0%*
External Environment • Regulation allows automatic pass through of fuel costs	**External Environment** • Improvement in tariff subsidy realization, currently at 50% over the last 3 financial years • Support from State govt. in terms of clearing dues, currently at 26% over the last 3 financial years

* 3-year weighted average

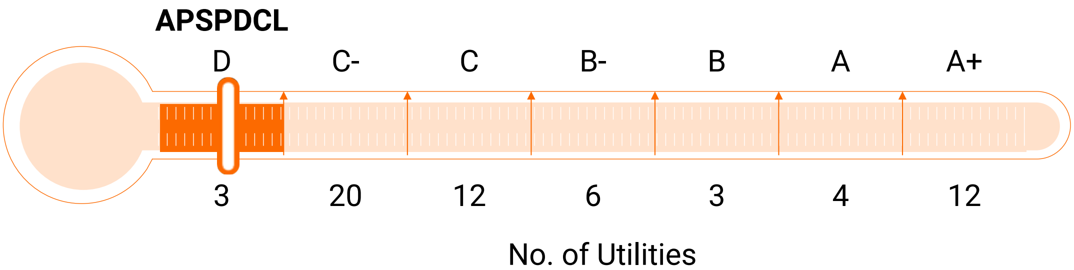
Southern Power Distribution Company of Andhra Pradesh Limited (APSPDCL)

APSPDCL is a state owned discom incorporated in March 2000. It serves 66 lakh+ customers in the state of Andhra Pradesh in 5 southern districts, namely, Tirupati, Kadapa, Nellore, Anantapur and Kurnool. In FY21, APSPDCL had a revenue of INR 19,882 crores, profit after tax of INR 1.6 crores and sold 21,460 million units of energy.

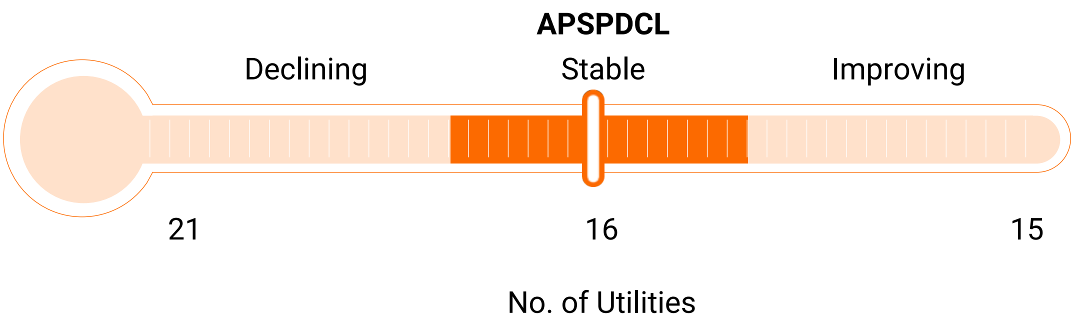
#51 **Rank**
51 out of 52

D

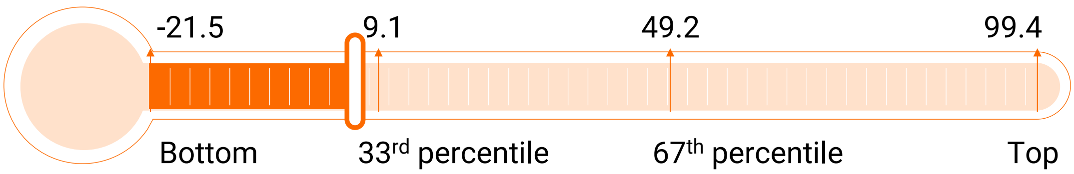
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

APSPDCL has a high cash adjusted ACS-ARR gap of INR 1.49 per kWh (bottom tertile in the sector). The primary driver of its high ACS-ARR gap is low cash adjusted revenue, at 80% of revenue booked, and high O&M costs, at 15% of the revenue booked (bottom tertile). APSPDCL is performing well on power purchase costs as well as interest costs (middle tertile). its performance on cash adjusted revenue, power purchase costs, as well as O&M costs improved during FY19-FY21. However, its performance on interest costs and other expenses declined during the period.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

☐ Unrealized revenue ☐ APSPDCL

ACS - ARR gap Component	Amount INR '000 cr.	Trend	Amount INR / kWh	Bottom	33rd percentile	67th percentile	Top	APSPDCL
Cash adjusted revenue	18.15 (unrealized revenue 4.23)	⇧	4.93	77%	90%	98%	103%	80%
Power purchase cost	18.26	⇧	4.98	107%	88%	79%	55%	81%
O&M expenses	3.37	⇧	0.92	34%	14%	9%	1%	15%
Interest	1.07	⇩	0.30	21%	7%	4%	0%	5%
Other expenses	0.83	⇩	0.23					
Gap / Surplus	5.38	⇧	1.49	2.00	0.95	0.15	-0.69	1.49

Distribution of percentage share of total revenue booked

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability**
• N/A	• Improvement of cash adjusted revenue, currently at 80%, to improve cash adjusted ACS-ARR gap, currently at INR 1.49* per kWh • Cashflow management to be able to reduce days payable to gencos & transcos, currently at 171 days • Improvement of Days Receivable, currently at 186 days • Improvement of adjusted quick ratio, currently at 0.63* • Improvement of cash adjusted DSCR and leverage, currently at -1.30* and -18.27* respectively
Performance Excellence	**Performance Excellence**
• Fair billing efficiency at 91.8%*	• Improvement in collection efficiency, currently at 76.0%* • Adherence to corporate governance i.e., board with 1/3rd independent directors
External Environment	**External Environment**
• Regulation allows automatic pass through of fuel costs • Profitable before loss takeover	• Low tariff subsidy realization, at 64% for the last 3 financial years • Significant government dues, at 37% for the last 3 financial years

* 3-year weighted average

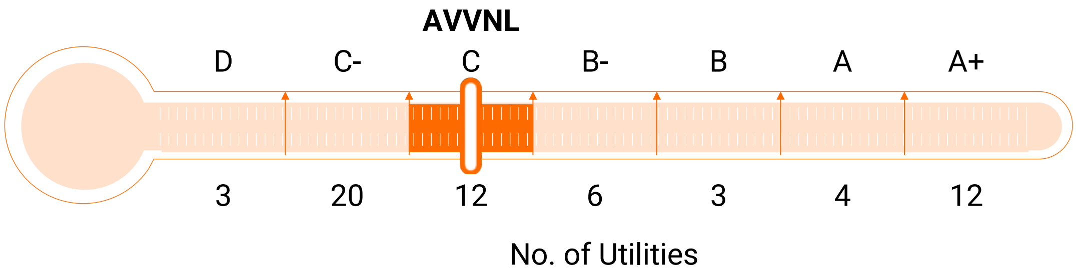
Ajmer Vidyut Vitran Nigam Limited (AVVNL)

AVVNL is a state owned discom incorporated in June 2000. It serves 60 lakh+ customers in the state of Rajasthan in 11 districts namely Ajmer, Bhilwara, Nagaur, Sikar, Jhunjhunu, Udaipur, Banswara, Chittorgarh, Rajsamand, Dungarpur and Pratapgarh. In FY21, AVVNL had a revenue of INR 15,589 crores, profit after tax of INR 176 crores and sold 18,174 million units of energy.

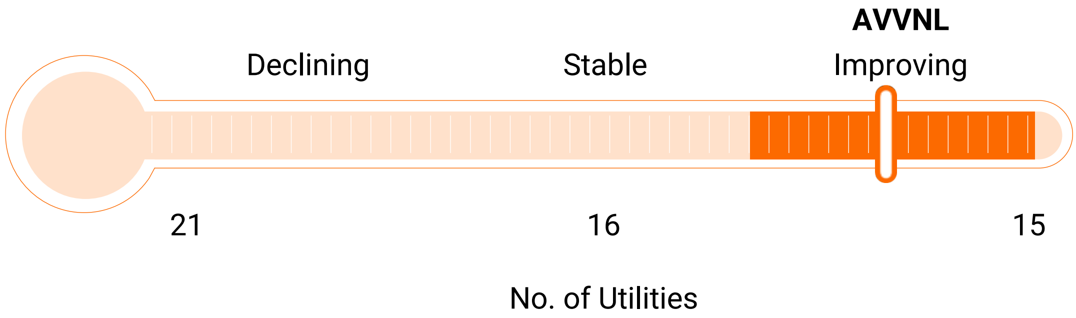
#27 **Rank**
27 out of 52

C

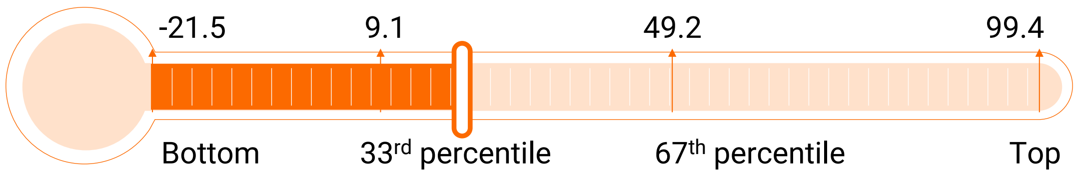
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

The primary driver of its high ACS-ARR gap is below-average cash adjusted revenue, which is around 88% of the revenue booked and translates to ~INR 1,866 crore of unrealized revenue. AVVNL is performing well on power purchase as well as O&M costs. However, its performance on interest costs lie in the bottom tertile. AVVNL's performance on all components of ACS-ARR gap improved during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)
(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | AVVNL

ACS - ARR gap Component	Amount INR '000 cr.	Unrealized revenue	Trend	Amount INR / kWh	Bottom	33rd Percentile	67th Percentile	Top	AVVNL
Cash adjusted revenue	13.91	1.87	⇧	6.11	77%	90%	98%	103%	88%
Power purchase cost	10.71		⇧	4.71	107%	88%	79%	55%	68%
O&M expenses	1.38		⇧	0.61	34%	14%	9%	1%	9%
Interest	2.33		⇧	1.02	21%	7%	4%	0%	15%
Other expenses	0.99		⇧	0.43					
Gap / Surplus	1.49		⇧	0.66	2.00	0.95	0.15	-0.69	0.66

The last five columns show the distribution of percentage share of total revenue booked.

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • Low power procurement costs, at 68%* of revenue booked • Low days receivable, currently at 22 days	**Financial Sustainability** • Reduction in days payable to gencos & transcos, currently at 224 days • Improvement of cash adjusted DSCR, currently at 0.45* • Improvement of cash adjusted leverage, currently at -181.45*
Performance Excellence • Distribution loss levels are very close to the SERC approved figure	**Performance Excellence** • Improvement in corporate governance (Board should constitute 1/3rd independent directors on BoD)
External Environment • Profitable before loss takeover • Low government dues at 7% of the amount billed to the government for the last 3 financial years • Regulator allows auto pass through of fuel costs	**External Environment** • Significant improvement in state government action to improve tariff subsidy realization, at 71% for the last 3 financial years • Regulatory support for issuance of tariff and true-up orders on time

* 3-year weighted average

Bangalore Electricity Supply Company Limited (BESCOM)

BESCOM is a state owned discom incorporated in April 2002. It serves 1.2 crore+ customers in the state of Karnataka in Bangalore Urban, Bangalore Rural, Chikkaballapura, Kolar, Davanagere, Tumkur, Chitradurga and Ramanagara. In FY21, BESCOM had a revenue of INR 20,116 crores, profit after tax of INR 208 crores and sold 25,234 million units of energy.

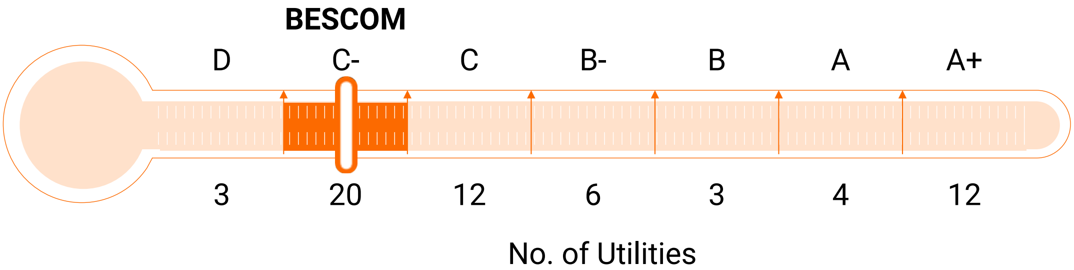
#33

Rank

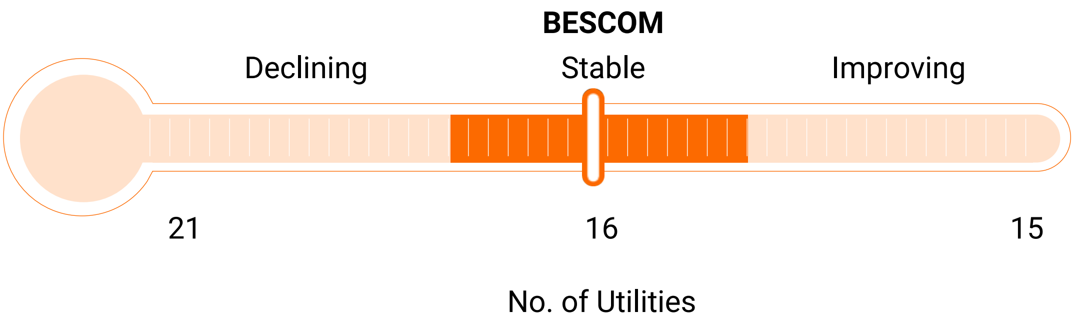
33 out of 52

C-

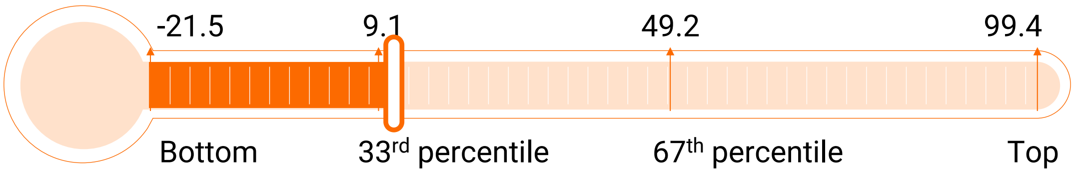
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

BESCOM has a high cash adjusted ACS-ARR gap of INR 0.95 per kWh (middle tertile in the sector). The primary driver of its high ACS-ARR gap is high power purchase costs, at 88% of the revenue booked, and low cash adjusted revenue of 93%, which translates to ~INR 1,360 crore of unrealized revenue. Its O&M costs as well as interest costs lie in the middle tertile. BESCOM's performance on all ACS-ARR gap components (except cash adjusted revenue) declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR   ☐ Unrealized revenue ☐ BESCOM

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Bottom	33rd Percentile	67th Percentile	Top	BESCOM
Cash adjusted revenue.	19.14 (Unrealized revenue: 1.36)	⇧	6.18	77%	90%	98%	103%	93%
Power purchase cost	18.04	⇩	5.81	107%	88%	79%	55%	88%
O&M expenses	2.03	⇩	0.65	34%	14%	9%	1%	10%
Interest	0.94	⇩	0.30	21%	7%	4%	0%	5%
Other expenses	1.10	⇩	0.36					
Gap / Surplus	2.96	⇩	0.95	2.00	0.95	0.15	-0.69	0.95

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • N/A	**Financial Sustainability** • Improvement in cash adjusted revenue, currently at 93%*, to improve cash adjusted ACS-ARR gap, currently at INR 0.95* per kWh* • Improvement of Days Receivables, currently at 112 days • Improvement in days payable to gencos and transcos, currently at 158 days • Improvement in cash adjusted DSCR and leverage, currently at -0.65* and -17.31*, respectively
Performance Excellence • N/A	**Performance Excellence** • Adherence to Corporate Governance i.e., board with 1/3rd independent directors
External Environment • Regulation allows automatic pass through of fuel costs	**External Environment** • Improvement in government dues, at 34% over the last 3 financial years • Improvement in tariff subsidy realization, currently at 84% • Delays in tariff cycle timelines

* 3-year weighted average

Chamundeshwari Electricity Supply Corporation Limited (CHESCOM)

CHESCOM is a state owned discom incorporated in December 2004. It serves 34 lakh+ customers in the state of Karnataka namely in the districts of Mysore, Chamarajanagar, Mandya, Hassan and Kodagu. In FY21, CHESCOM had a revenue of INR 4,592 crores, profit after tax of INR -723 crores and sold 6,303 million units of energy.

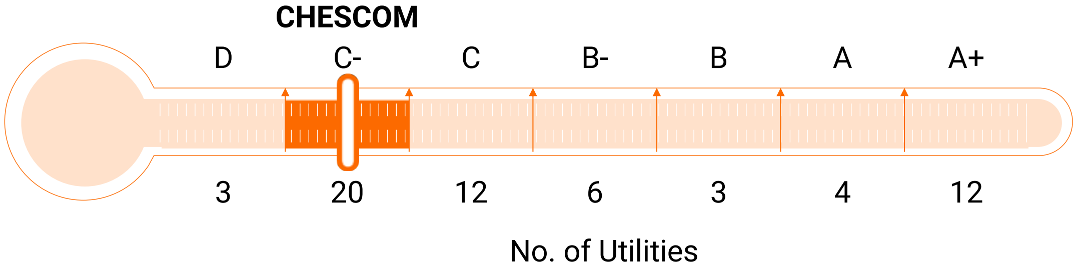
#43

Rank

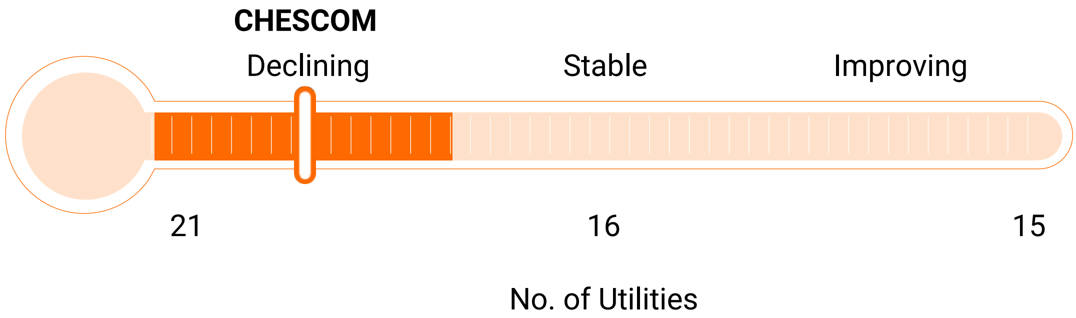
43 out of 52

C-

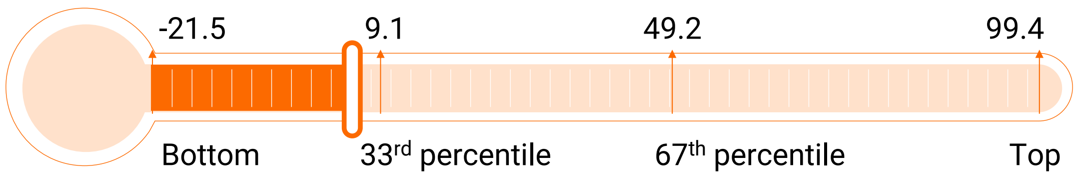
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

CHESCOM has a high cash adjusted ACS-ARR gap of INR 0.93 per kWh (middle tertile in the sector). It is performing well on power purchase costs and interest costs. However, its performance on O&M expenses lies in the bottom tertile.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue CHESCOM

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	Percentile 33rd	Percentile 67th	Top	CHESCOM
Cash adjusted revenue	4.10 / 0.42	⇧	5.39	77%	90%	98%	103%	91%
Power purchase cost	3.46	⇩	4.55	107%	88%	79%	55%	76%
O&M expenses	0.88	⇩	1.16	34%	14%	9%	1%	19%
Interest	0.19	⇩	0.25	21%	7%	4%	0%	4%
Other expenses	0.28	⇩	0.36					
Gap / Surplus	0.70	⇩	0.93	2.00	0.95	0.15	-0.69	0.93

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • N/A	**Financial Sustainability** • Improvement in liquidity management to be able to reduce days payable to gencos and transcos, currently at 273 days • Improvement in days receivable, currently at 194 days • Improvement in cash adjusted EBITDA to improve DSCR and leverage, currently at -0.53* and 38.07*, respectively
Performance Excellence • N/A	**Performance Excellence** • Adherence to Corporate Governance i.e., board with 1/3rd independent directors • Improvement in collection efficiency, currently at 90.5%*
External Environment • Regulation allows automatic pass through of fuel costs	**External Environment** • Improvement in tariff subsidy realization, currently at 84% over the last 3 financial years • Loss takeover support from the state government • Delays in issuance of tariff orders

* 3-year weighted average

Chhattisgarh State Power Distribution Company Limited (CSPDCL)

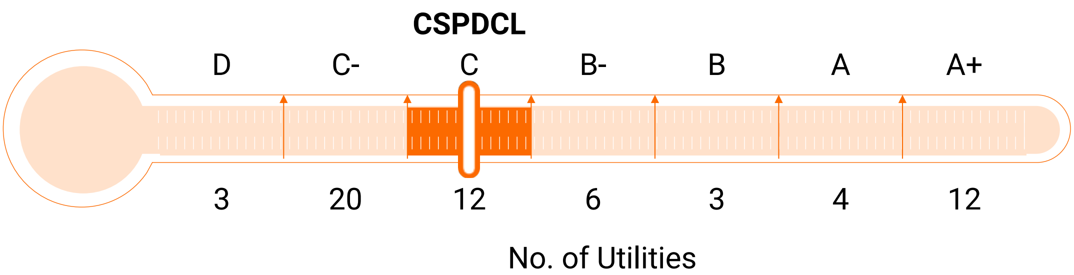
CSPDCL is a state owned discom incorporated in May 2003. It serves 56 lakhs+ customers in the state of Chhattisgarh. In FY21, CSPDCL had a revenue of INR 16,274 crores, profit after tax of INR -420 crores and sold 23,361 million units of energy.

#26

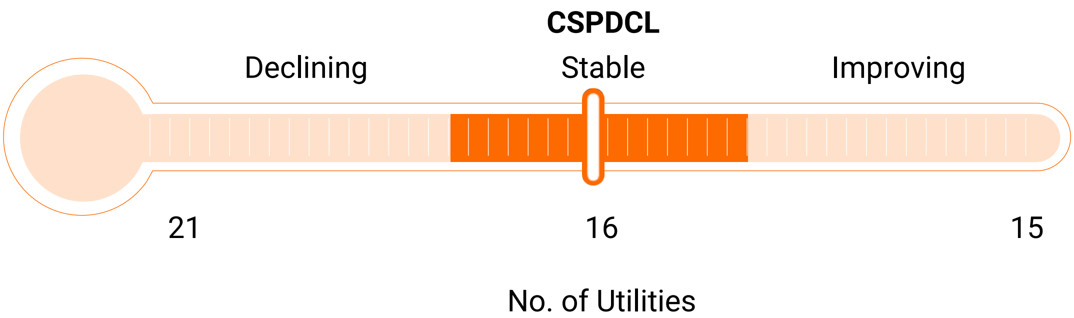
Rank
26 out of 52

C

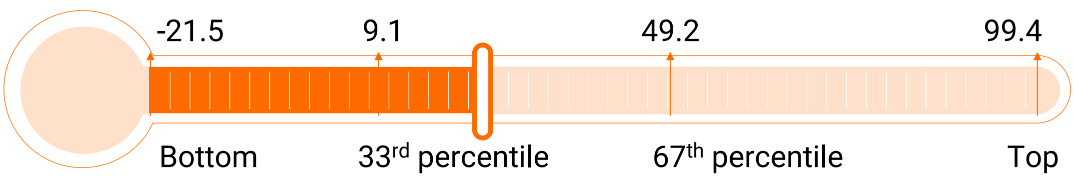
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

CSPDCL has a cash adjusted ACS-ARR gap of INR 0.41 per kWh (middle tertile in the sector). The primary driver of its ACS-ARR gap is average cash adjusted revenue at 94%, which translates to ~INR 950 crore of unrealized revenue and high power procurement costs at 88% (bottom tertile). CSPDCL's performance on cash adjusted revenue, O&M costs, and interest costs improved during FY19-FY21. However, its performance on power purchase costs declined during the period.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | CSPDCL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Bottom	33rd Percentile	67th Percentile	Top	CSPDCL
Cash adjusted revenue	15.13 (Unrealized revenue: 0.95)	⇧	4.32	77%	90%	98%	103%	94%
Power purchase cost	14.20	⇩	4.05	107%	88%	79%	55%	88%
O&M expenses	1.84	⇧	0.53	34%	14%	9%	1%	11%
Interest	0.44	⇧	0.13	21%	7%	4%	0%	3%
Other expenses	0.11	⇧	0.03					
Gap / Surplus	1.46	⇧	0.41	2.00	0.95	0.15	-0.69	0.41

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability** • Improvement in days receivable, currently at 191 days • Improvement in days payable to gencos and transcos, currently at 195 days • Improvement of cash adjusted DSCR and leverage, currently at -0.75* and -0.40*, respectively
Performance Excellence • N/A	**Performance Excellence** • Significant improvement in billing efficiency, currently at 82.4%* • Losses exceed SERC approved levels • Improvement in corporate governance (Board should constitute 1/3rd independent directors)
External Environment • Realization of 101% of tariff subsidy over the last 3 financial years • Regulation allows automatic pass through of fuel costs	**External Environment** • Significant government dues, at 38% over the last 3 financial years • Regulatory support needed for issuance of tariff and true-up orders on time

* 3-year weighted average

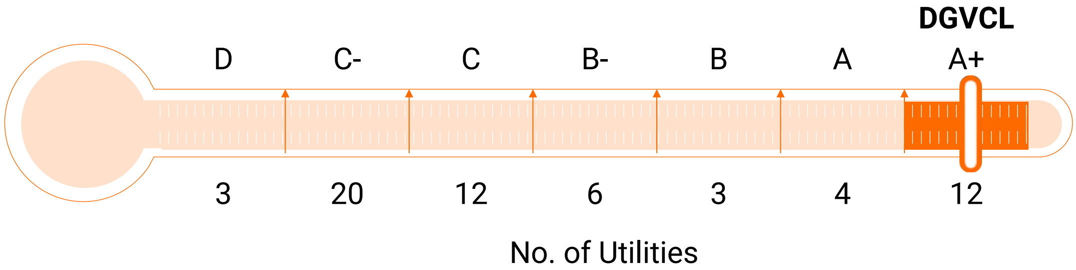
Dakshin Gujarat Vij Company Limited (DGVCL)

DGVCL is a state owned discom incorporated in September 2003. It serves 34 lakhs+ customers in 7 districts in the state of Gujarat namely Bharuch, Narmada, Surat (except part of Surat City), Tapi, Dangs, Navsari and Valsad. In FY21, DGVCL had a revenue of INR 12,401 crores, profit after tax of INR 126 crores and sold 17,566 million units of energy.

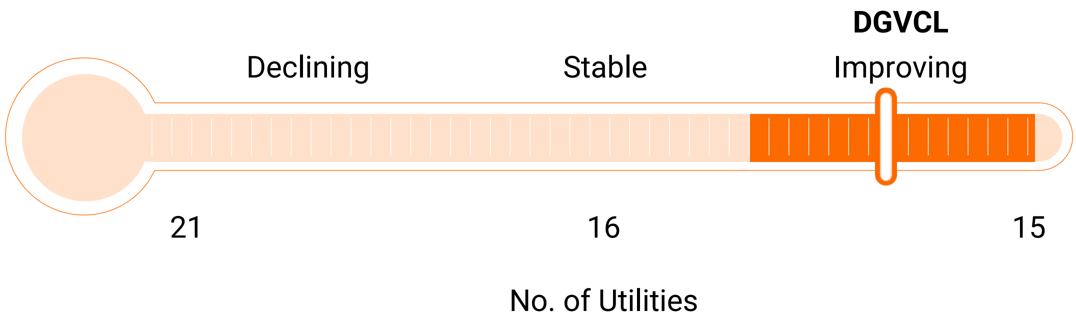
#1 **Rank**
1 out of 52

A+

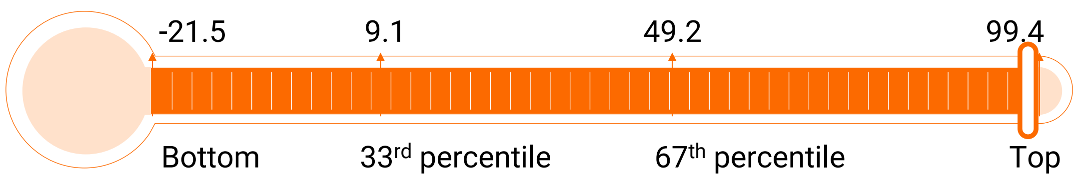
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

DGVCL's cash adjusted ACS–ARR gap for FY19-FY21 is INR -0.12 per kWh (top tertile in the sector). A breakdown of expenses shows that its cash adjusted revenue is sufficient to meet all key expenses. DGVCL is performing well on cash adjusted revenue, O&M costs, and interest costs (top tertile) but its power procurement costs lie in the bottom tertile.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

🟧 Unrealized revenue ☐ DGVCL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	Percentile: 33rd	Percentile: 67th	Top	DGVCL
Cash adjusted revenue	13.07	⇧	6.38	77%	90%	98%	103%	101%
Power purchase cost	11.80	⇧	5.76	107%	88%	79%	55%	91%
O&M expenses	0.56	⇩	0.27	34%	14%	9%	1%	4%
Interest	0.10	⇩	0.05	21%	7%	4%	0%	1%
Other expenses	0.37	⇩	0.18					
Gap / Surplus	0.24	⇧	-0.12	2.00	0.95	0.15	-0.69	-0.12

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • High cash adjusted revenue of 101%* • High ACS-ARR surplus of 0.12* • Very low days payable and days receivable, currently at 0.19 days and 11 days, respectively • Very high adjusted quick ratio and DSCR & Leverage currently at 2.32* and 6.61* and 0.12* respectively	**Financial Sustainability** • NA
Performance Excellence • Good billing efficiency, currently at 93.9%* • Distribution loss levels are 24% lower than the SERC approved figure • Good collection efficiency, currently at 99.2%*	**Performance Excellence** • NA
External Environment • Receipt of 100% of tariff subsidy over the last 3 financial years • Regulation allows automatic pass through of fuel costs • Government dues at 8% over the last 3 financial years	**External Environment** • NA

* 3-year weighted average

Dakshin Haryana Bijli Vitran Nigam Limited (DHBVNL)

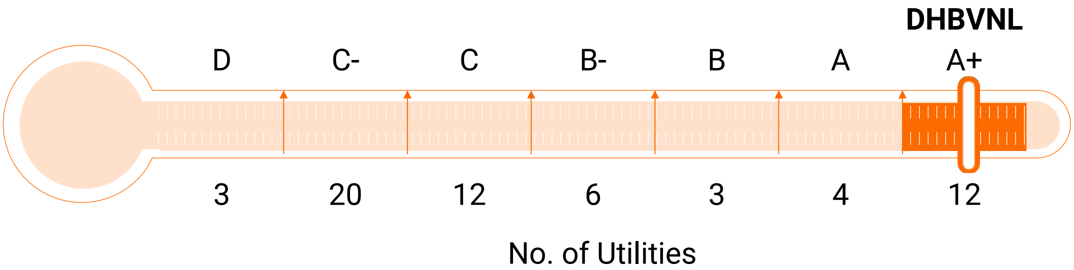
DHBVNL is a state owned discom incorporated in March 1999. It serves 38 lakhs+ customers in southern part of the state of Haryana. In FY21, DHBVNL had a revenue of INR 16,102 crores, profit after tax of INR 240 crores and sold 24,296 million units of energy.

#12

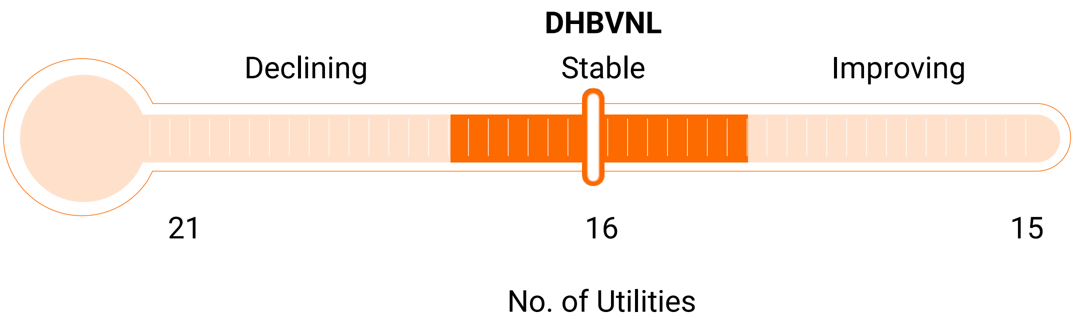
Rank
12 out of 52

A+

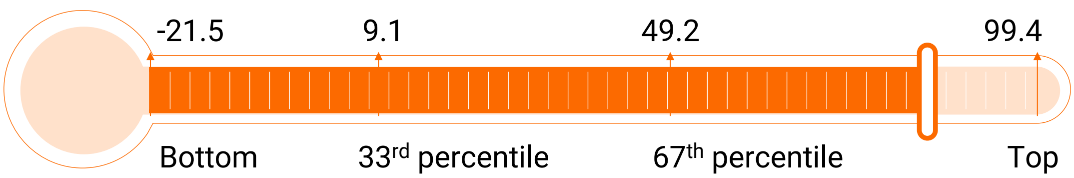
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

DHBVNL has a cash adjusted ACS-ARR surplus of INR 0.11 per kWh (top tertile in the sector), driven primarily by a high cash adjusted revenue (top tertile). DHBVNL is also performing well on O&M expenses and interest costs. However its performance on the power purchase costs lie in the middle tertile . DHBVNL's performance on cash adjusted revenue, O&M expenses & other expenses declined during FY19-FY21 whereas power purchase costs and interest expenses improved during the period.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | DHBVNL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	Percentile 33rd	Percentile 67th	Top	DHBVNL
Cash adjusted revenue.	17.03	⇩	5.35	77%	90%	98%	103%	101%
Power purchase cost	14.36	⇧	4.51	107%	88%	79%	55%	85%
O&M expenses	1.51	⇩	0.48	34%	14%	9%	1%	9%
Interest	0.36	⇧	0.11	21%	7%	4%	0%	2%
Other expenses	0.43	⇩	0.14					
Gap / Surplus	0.36	⇩	-0.11	2.00	0.95	0.15	-0.69	-0.11

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • ACS-ARR surplus, currently at 0.11 INR/ kWh* • High cash adjusted revenue, currently at 101%* of revenue booked • Low days receivable and payable to gencos and transcos currently at 51 days and 57 days, respectively. • High DCSR and leverage, currently at 1.40* and 3.25*, respectively	**Financial Sustainability** • Improvement in adjusted quick ratio, currently at 0.55*
Performance Excellence • High collection efficiency, currently at 99.4%* • Distribution loss levels marginally higher than SERC-approved figure • Adherence to Corporate Governance i.e., board with 1/3rd independent directors	**Performance Excellence** • Improvement in billing efficiency, currently at 83.9%*
External Environment • Receipt of 100% of tariff subsidy over the last 3 financial years • Very low government dues of 6% over the last 3 years • Regulation allows automatic pass through of fuel costs • Issuance of tariff and true-up orders on time	**External Environment** • N/A

* 3-year weighted average

DNH Power Distribution Corporation Limited (DNHPDCL)

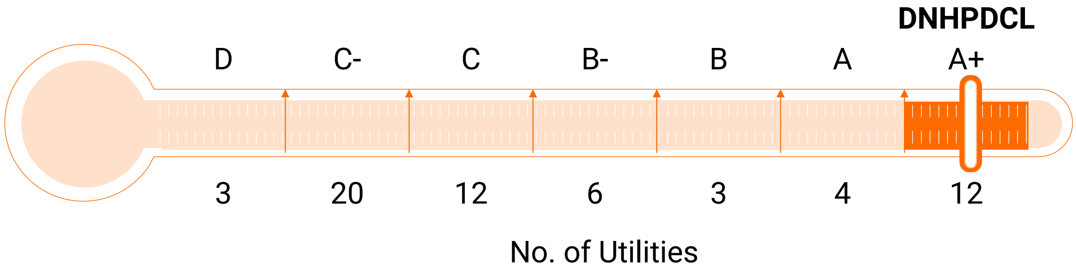
DNHPDCL is a state owned discom incorporated in July 2012. It serves 71,000+ customers in the UT of Dadra & Nagar Haveli. In FY21, DHBVNL had a revenue of INR 2,922 crores, profit after tax of INR 230 crores and sold 5,297 million units of energy.

#3

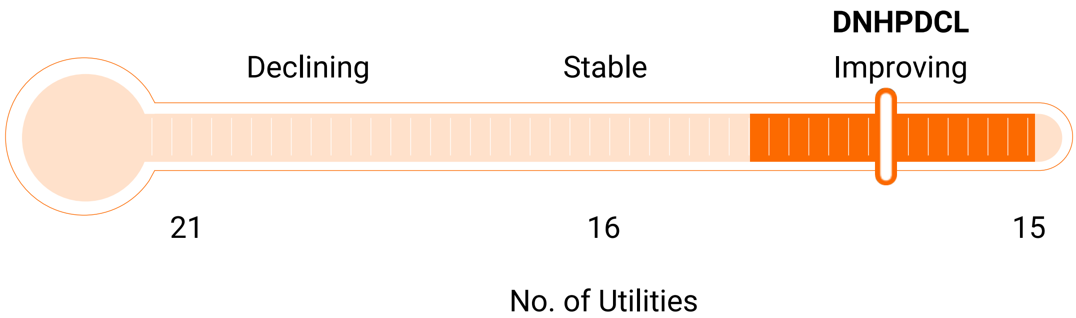
Rank
3 out of 52

A+

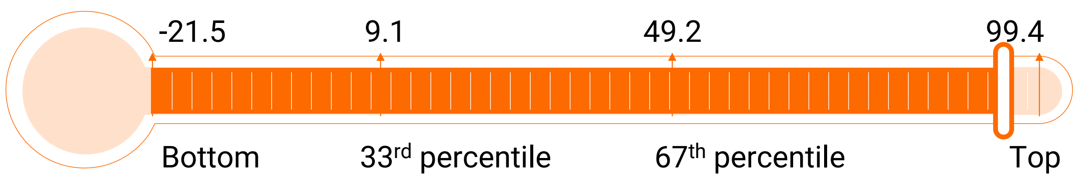
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

DNHPDCL has a cash adjusted ACS-ARR surplus of INR 0.23 per kWh (top tertile in the sector). The primary driver of its ACS-ARR surplus is high cash adjusted revenue of 99%, very low O&M costs (at 1% of revenue booked) and negligible interest costs. DNHPDCL's power purchase costs at 92% of booked revenue lie in the bottom tertile but improved during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR   Unrealized revenue   DNHPDCL

ACS - ARR gap Component	Amount INR '000 cr.	Unrealized revenue	Trend	Amount INR / kWh	Percentile: Bottom	Percentile: 33rd	Percentile: 67th	Percentile: Top	DNHPDCL
Cash adjusted revenue	3.04	0.03	⇧	4.94	77%	90%	98%	103%	99%
Power purchase cost	2.85		⇧	4.61	107%	88%	79%	55%	92%
O&M expenses	0.04		⇩	0.06	34%	14%	9%	1%	1%
Interest	0		⇩	0.01	21%	7%	4%	0%	0%
Other expenses	0.01		⇧	0.02					
Gap / Surplus	0.13		⇧	-0.23	2.00	0.95	0.15	-0.69	-0.23

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • High cash adjusted revenue of 99%* of revenue booked • High liquidity, reflected by an adjusted quick ratio of 2.09* • Low days payable to gencos and transcos (37 days) and days receivable (42 days) • Negligible debts reflected in a very high cash adjusted DSCR and low leverage of 31.17* and 0.00*, respectively	**Financial Sustainability** • High power purchase costs of INR 4.61* per kWh (which forms 92% of revenue booked)
Performance Excellence • High billing efficiency, currently at 96.4%* • High collection efficiency, currently at 98.8%* • Distribution loss levels are lower than the SERC approved figure by 14 percentage points • Adherence to Corporate Governance i.e., board with 1/3rd independent directors	**Performance Excellence** • N/A
External Environment • Timely issuance of tariff and true-up orders by the regulator • Implementation of automatic pass through of fuel costs	**External Environment** • N/A

* 3-year weighted average

Dakshinanchal Vidyut Vitran Nigam Limited (DVVNL)

DVVNL is a state owned discom incorporated in May 2003. It serves 55 lakhs+ customers in the state of Uttar Pradesh namely in the districts of Agra, Mathura, Mainpuri, Aligarh, Hathras, Etawah, Etah, Farrukhabad, Firozabad, Kanpur City, Kanpur rural, Banda, Jhansi, Kannauj, Auraiya, Jalaun Urai, Hamirpur, Mahoba, Lalitpur, Chitrakoot, Kanshiram Nagar. In FY21, DVVNL had a revenue of INR 13,217 crores, profit after tax of INR -2,241 crores and sold 19,183 million units of energy.

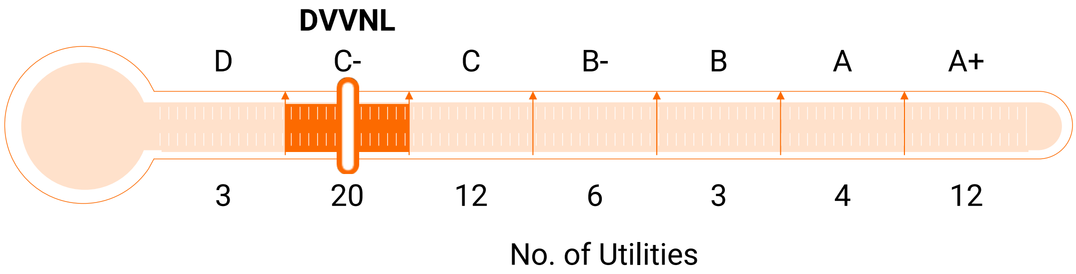
#35

Rank

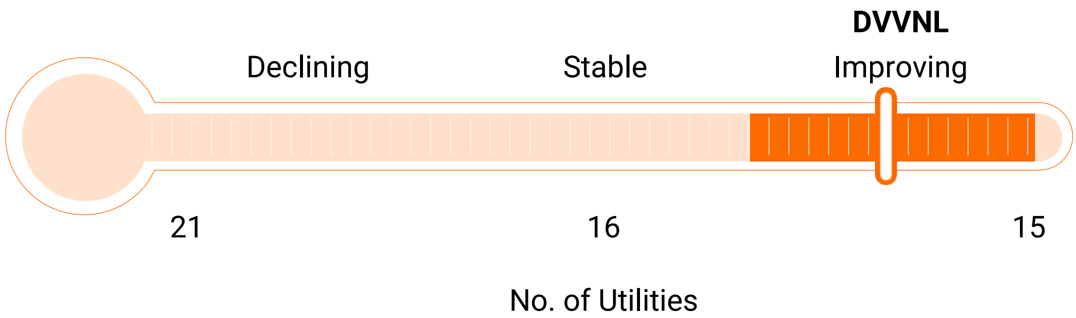
35 out of 52

C-

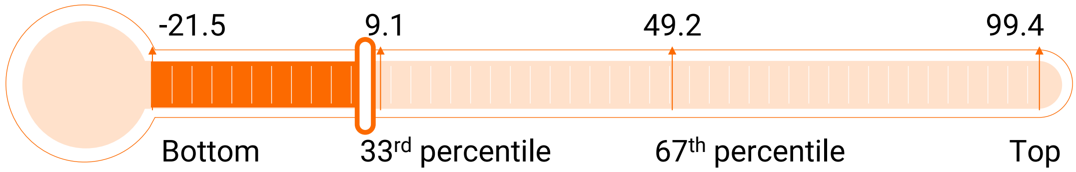
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

DVVNL has a high cash adjusted ACS-ARR gap of INR 1.52 per kWh (bottom tertile in the sector). The primary driver of its high ACS-ARR gap is low cash adjusted revenue, at 85% of revenue booked. DVVNL has high power purchase costs and interest costs (bottom tertile). However, its O&M costs lie on 67th percentile boundary. DVVNL's performance on all ACS-ARR gap components (except power purchase costs and O&M expenses) declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | DVVNL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Bottom	Percentile 33rd	Percentile 67th	Top	DVVNL
Cash adjusted revenue	11.42 1.99	⇩	4.50	77%	90%	98%	103%	85%
Power purchase cost	11.91	⇧	4.71	107%	88%	79%	55%	89%
O&M expenses	1.25	⇧	0.49	34%	14%	9%	1%	9%
Interest	1.66	⇩	0.66	21%	7%	4%	0%	12%
Other expenses	0.43	⇩	0.17					
Gap / Surplus	3.83	⇧	1.52	2.00	0.95	0.15	-0.69	1.52

Distribution of percentage share of total revenue booked

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • NA	**Financial Sustainability** • Improvement in power purchase costs and O&M expenses, currently at 89%* and 12%* of revenue booked • Improvement of ACS-ARR Gap, currently at INR 1.52* per kWh • High days receivable and days payable to gencos and transcos, currently at 617 days and 250 days, respectively • Low cash adjusted revenue, resulting in negative DSCR and leverage, currently at -0.63* and -13.48*, respectively
Performance Excellence • NA	**Performance Excellence** • Improvement in billing efficiency, currently at 76.0%* • Improvement in collection efficiency, currently at 86.2%* • Distribution loss levels are higher than the SERC approved figure
External Environment • Receipt of 100% of tariff subsidy over the last 3 financial years	**External Environment** • High government dues at 50% over the last 3 financial years • Adherence to tariff cycle timelines needed

* 3-year weighted average

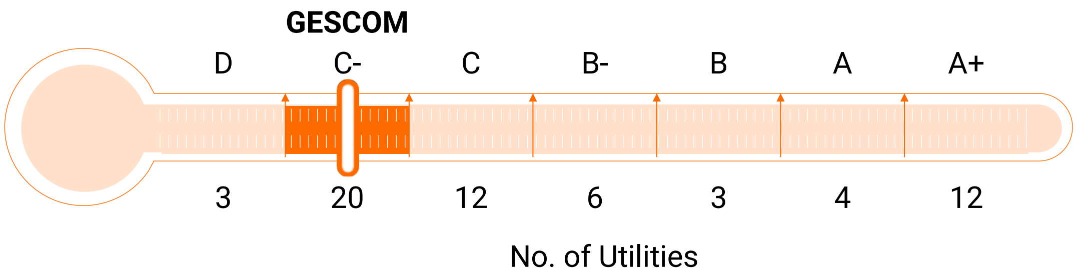
Gulbarga Electricity Supply Company Limited (GESCOM)

GESCOM is a state owned discom incorporated in April 2002. It serves 34 lakh+ customers in the state of Karnataka namely in the districts of Kalaburagi, Bidar, Yadgir, Raichur, Koppal, Bellari and Vijayanagar. In FY21, GESCOM had a revenue of INR 5,386 crores, profit after tax of INR -1,116 crores and sold 7,002 million units of energy.

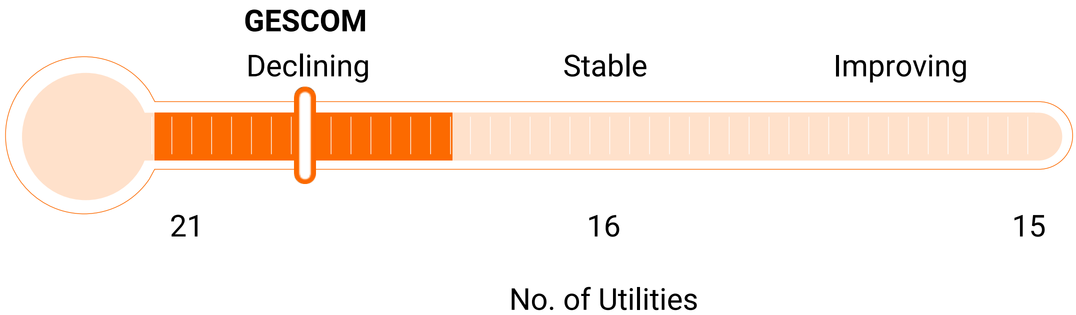
#37 **Rank**
37 out of 52

C-

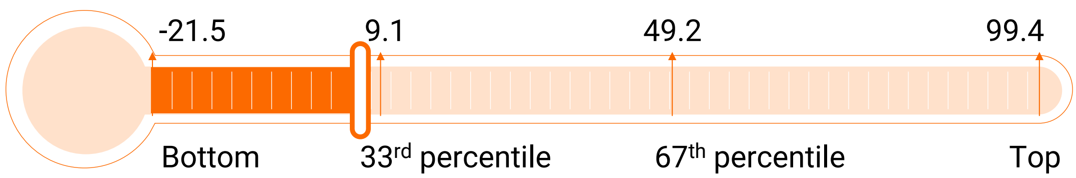
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

GESCOM has a high cash adjusted ACS-ARR gap of INR 1.19 per kWh (bottom tertile in the sector). One of the drivers of its high ACS-ARR gap is low cash adjusted revenue of 90%, which translates to ~INR 510 crore of unrealized revenue. All components of its ACS–ARR gap except power purchase costs lie in bottom tertile. Its performance on all ACS-ARR gap components (except cash adjusted revenue) also declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)
(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

☐ Unrealized revenue ☐ GESCOM

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	GESCOM	Percentile 33rd	Percentile 67th	Top
Cash adjusted revenue	4.83 (unrealized 0.51)	⇧	**5.50**	77%	90%	90%	98%	103%
Power purchase cost	4.28	⇩	**4.87**	107%	80%	88%	79%	55%
O&M expenses	0.82	⇩	**0.93**	34%	15%	14%	9%	1%
Interest	0.42	⇩	**0.48**	21%	8%	7%	4%	0%
Other expenses	0.36	⇩	**0.41**					
Gap / Surplus	1.05	⇩	**1.19**	2.00	1.19	0.95	0.15	-0.69

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability**
• N/A	• Improvement in cash adjusted revenue, currently at 90%, to improve cash adjusted ACS-ARR gap, currently at 1.19 INR per kWh* • Improvement in cash adjusted DSCR and leverage, currently at -0.44* and -14.43* respectively • Improvement in days payable to gencos and transcos, currently at 218 days • Improvement in days receivable, currently at 196 days
Performance Excellence	**Performance Excellence**
• Lower distribution loss levels than the SERC approved figure	• Significant improvement in collection efficiency, currently at 89.6%*
External Environment	**External Environment**
• Regulation allows automatic pass through of fuel costs	• Significant government dues, at 44% over the last 3 financial years • Improvement in subsidy realization, currently at 90% over the last 3 financial years • Loss takeover support from the State Government • Adherence to tariff cycle timelines

* 3-year weighted average

Hubli Electricity Supply Company Limited (HESCOM)

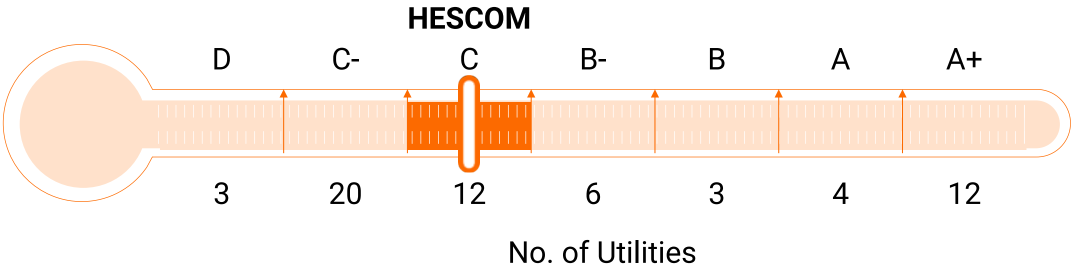
HESCOM is a state owned discom incorporated in April 2002. It serves 54 lakh+ customers in the state of Karnataka namely in the districts of Dharwad, Haveri, Uttara Kannada, Gadag, Belagavi, Bagalkot, Vijayapur. In FY21, HESCOM had a revenue of INR 7,926 crores, profit after tax of INR -2,490 crores and sold 10,974 million units of energy.

#31

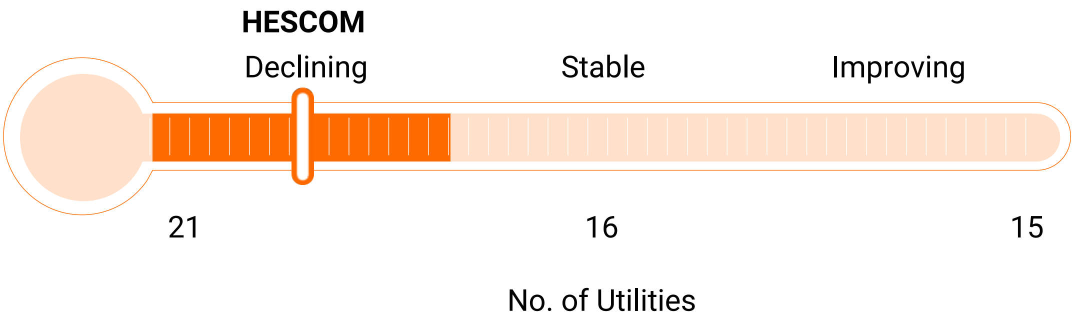
Rank
31 out of 52

C

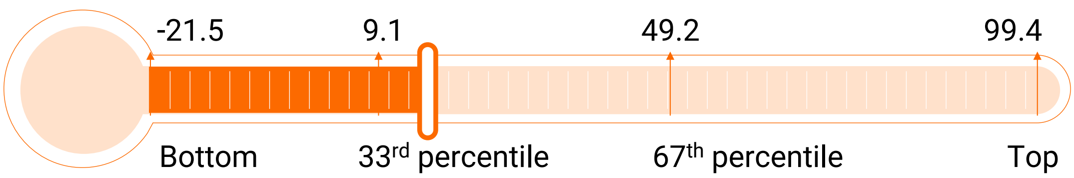
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

HESCOM has a cash adjusted ACS-ARR gap of INR 0.81 per kWh (middle tertile in the sector) HESCOM is performing average on power purchase costs. However, its interest costs and O&M costs lie in bottom tertile. HESCOM's performance on power purchase costs, O&M costs, and interest costs declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | HESCOM

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Bottom	33rd	67th	Top	HESCOM
Cash adjusted revenue	7.69 / 0.21	⇧	5.81	77%	90%	98%	103%	97%
Power purchase cost	6.50	⇩	4.90	107%	88%	79%	55%	82%
O&M expenses	1.15	⇩	0.87	34%	14%	9%	1%	15%
Interest	0.90	⇩	0.68	21%	7%	4%	0%	11%
Other expenses	0.21	⇧	0.16					
Gap / Surplus	1.07	⇩	0.81	2.00	0.95	0.15	-0.69	0.81

Distribution of percentage share of total revenue booked (Percentile)

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability**
• Fair adjusted quick ratio, currently at 0.71*	• Cash adjusted ACS-ARR gap, currently at INR 0.81* per kWh • Improvement in cash adjusted DSCR and cash adjusted leverage, currently at 0.03* and -24.65*, respectively • Improvement in days receivable and days payable to gencos and transcos, currently at 185 days and 288 days, respectively
Performance Excellence	**Performance Excellence**
• Distribution Losses for FY 2021 lower than SERC approved losses	• Adhering to Corporate Governance i.e., board with 1/3rd independent directors
External Environment	**External Environment**
• Regulation allows automatic pass through of fuel costs • No government dues over the last 3 financial years	• Improvement in subsidy realization, currently at 91% over the last 3 financial years • Loss takeover support from the State Government • Delays in issuance of tariff orders

* 3-year weighted average

Himachal Pradesh State Electricity Board Limited (HPSEBL)

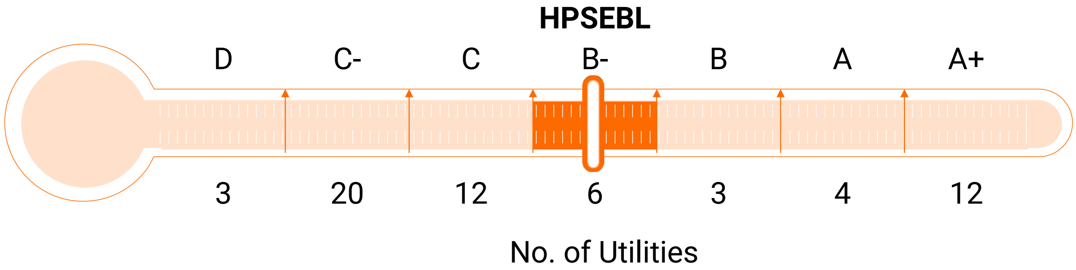
HPSEBL is a state owned discom incorporated in December 2009. It serves customers in the state of Himachal Pradesh. In FY21, HPSEBL had a revenue of INR 6,850 crores, profit after tax of INR -185 crores and sold 8,635 million units of energy.

#18

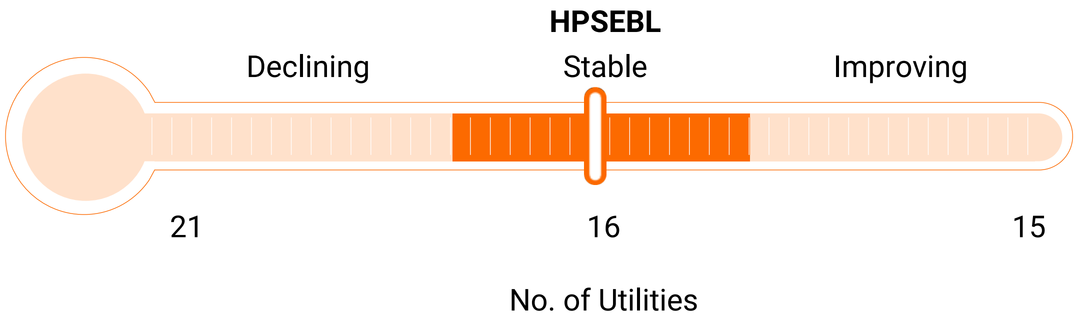
Rank
18 out of 52

B-

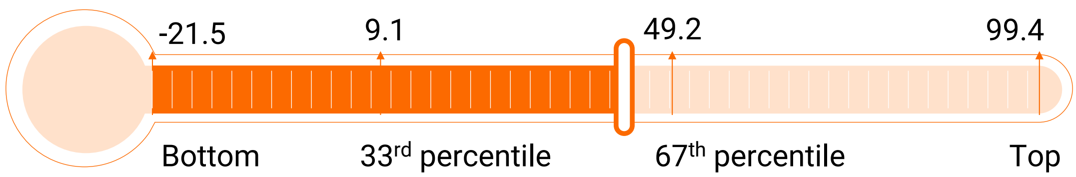
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

HPSEBL has a cash adjusted ACS-ARR surplus of INR 0.01 per kWh (top tertile in the sector) . HPSEBL is performing well on power purchase costs. However, its interest costs lie at the 33rd percentile boundary and O&M expenses fall below the boundary. HPSEBL's performance on all ACS-ARR gap components (except power purchase costs) declined during FY19-21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR   Unrealized revenue   HPSEBL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	Percentile: 33rd	Percentile: 67th	Top	HPSEBL
Cash adjusted revenue	7.14	⇩	5.13	77%	90%	98%	103%	102%
Power purchase cost	4.20	⇧	3.02	107%	88%	79%	55%	60%
O&M expenses	2.04	⇩	1.47	34%	14%	9%	1%	29%
Interest	0.46	⇩	0.33	21%	7%	4%	0%	7%
Other expenses	0.42	⇩	0.30					
Gap / Surplus	0.02	⇩	-0.01	2.00	0.95	0.15	-0.69	-0.01

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • ACS-ARR surplus at INR 0.01 per kWh* • Low Days receivable, currently at 23 days • High DSCR, currently at 1.12*	**Financial Sustainability** • Improvement in leverage, currently at 6.69*
Performance Excellence • High collection efficiency, currently at 99.65%*	**Performance Excellence** • Distribution loss levels higher than the SERC approved figure in FY21 • Improvement in billing efficiency, currently at 86.7%* • Improvement in corporate governance (Board should constitute 1/3rd independent directors)
External Environment • Receipt of 114% of tariff subsidy over the last 3 financial years. • Regulation allows automatic pass through of fuel costs.	**External Environment** • Delay in issuance of tariff orders • Operational viability support from the state government needed

* 3-year weighted average

Jharkhand Bijli Vitran Nigam Limited (JBVNL)

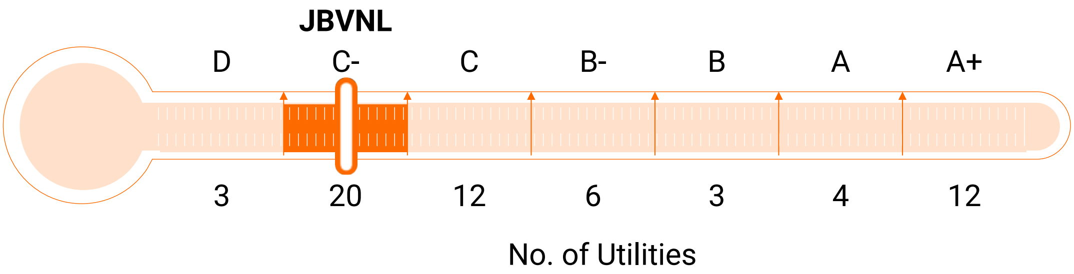
JBVNL is a state owned discom incorporated in January 2014. It serves 34 lakh+ customers in the state of Jharkhand. In FY21, JBVNL had a revenue of INR 5897 crores, profit after tax of INR -2,200 crores and sold 8,066 million units of energy.

#49

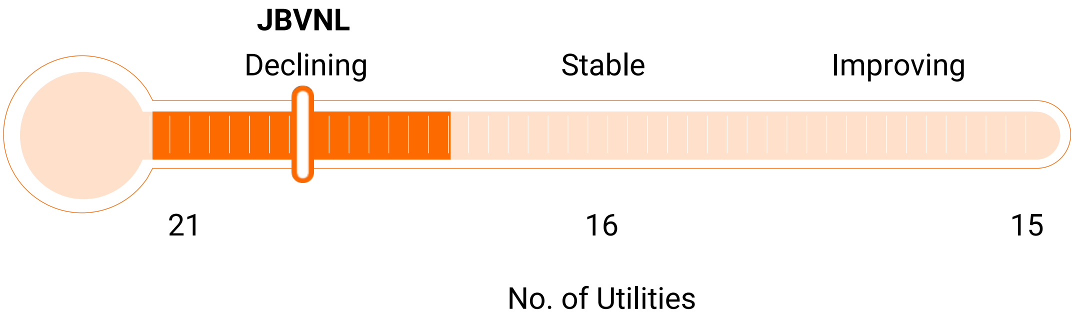
Rank
49 out of 52

C-

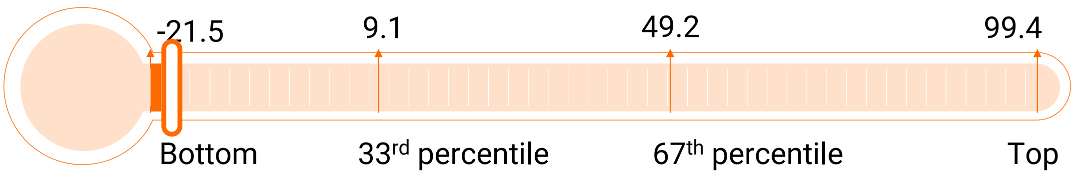
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

JBVNL has a high cash adjusted ACS-ARR gap of INR 1.78 per kWh (bottom tertile in the sector). One of the drivers for its high ACS-ARR gap is low cash adjusted revenue of 90%, which translates to ~INR 614 crore of unrealized revenue, and high power purchase costs, which make up 97% of the cash adjusted revenue. JBVNL is performing well on O&M costs. However, its performance on power purchase costs lies in the bottom tertile. Its performance on all ACS-ARR gap components declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR; Unrealized revenue; JBVNL

ACS - ARR gap Component	Amount INR '000 cr.	Trend	Amount INR / kWh	Bottom	33rd	67th	Top	JBVNL
Cash adjusted revenue	5.55 (Unrealized revenue 0.61)	⇩	4.25	77%	90%	98%	103%	90%
Power purchase cost	5.97	⇩	4.56	107%	88%	79%	55%	97%
O&M expenses	0.54	⇩	0.41	34%	14%	9%	1%	9%
Interest	0.35	⇩	0.27	21%	7%	4%	0%	6%
Other expenses	1.02	⇩	0.78					
Gap / Surplus	2.33	⇩	1.78	2.00	0.95	0.15	-0.69	1.78

Distribution of percentage share of total revenue booked (Percentile: Bottom, 33rd, 67th, Top)

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • N/A	**Financial Sustainability** • Improvement in cash adjusted ACS-ARR gap, currently at INR 1.78* per kWh • Improvement of cash adjusted DSCR and leverage, currently at -0.93* and -14.12*, respectively • Improvement of days receivables and payable to gencos and transcos, currently at 436 and 497 days, respectively • Improvement in adjusted quick ratio, currently at 0.38*
Performance Excellence • N/A	**Performance Excellence** • Significant improvement in billing efficiency, currently at 70.9%* • Significant improvement in collection efficiency, currently at 88%* • Adherence to Corporate Governance i.e., board with 1/3rd independent directors
External Environment • N/A	**External Environment** • Improvement in realization of subsidy, currently at 91% over the last 3 financial years • Regulatory support needed in terms of timely issuance of tariff orders and implementation of fuel surcharge adjustments • Improvement in loss takeover by state govt.

* 3-year weighted average

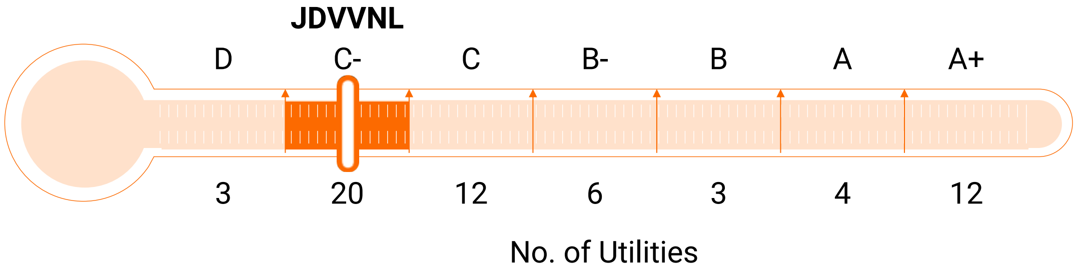
Jodhpur Vidyut Vitran Nigam Limited (JDVVNL)

JDVVNL is a state owned discom incorporated in June 2000. It serves 44 lakh+ customers in 10 districts of Rajasthan, namely Jodhpur, Jaisalmer, Jalore, Sirohi, Pali, Barmer, Bikaner, Churu, Ganganagar and Hanumangarh. In FY21, JDVVNL had a revenue of INR 18,497 crores, profit after tax of INR -1,732 crores and sold 21,794 million units of energy.

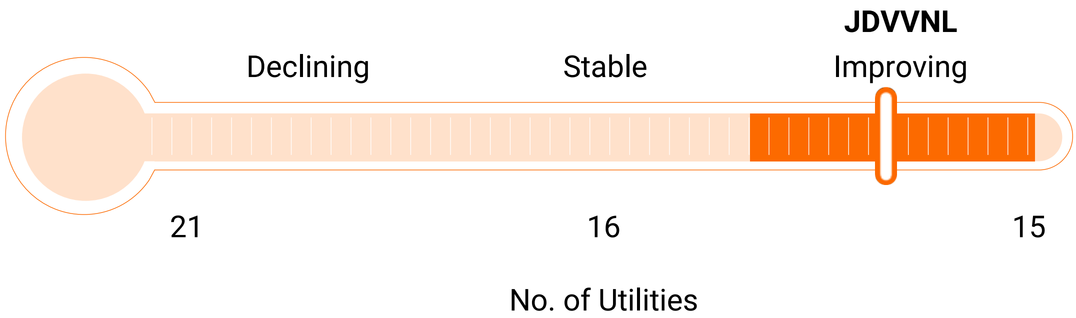
#40 **Rank**
40 out of 52

C-

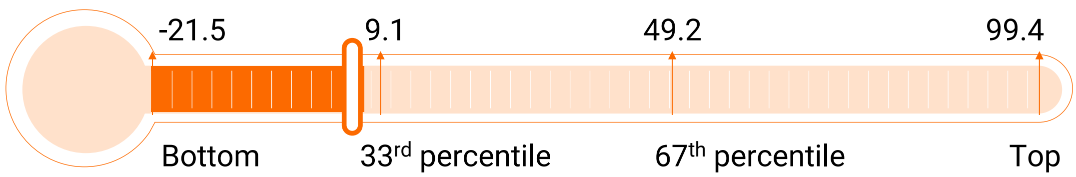
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

JDVVNL has a high cash adjusted ACS-ARR gap of INR 1.63 per kWh (bottom tertile in the sector). The primary driver of its high ACS-ARR gap is low cash adjusted revenue, at 79% of the revenue booked, which translates to ~INR 3,865 crore of unrealized revenue. JDVVNL is performing well on power purchase costs and O&M costs (top tertile). However, its performance on interest costs lie in the bottom tertile. Its performance on all ACS-ARR gap components (except cash adjusted revenue and O&M expenses) declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | JDVVNL

ACS - ARR gap Component	Amount INR '000 cr.	Trend	Amount INR / kWh	Bottom	JDVVNL	33rd	67th	Top
Cash adjusted revenue	14.82 (Unrealized revenue: 3.86)	⇧	5.03	77%	79%	90%	98%	103%
Power purchase cost	13.90	⇩	4.74	107%	74%	88%	79%	55%
O&M expenses	1.40	⇧	0.48	34%	7%	14%	9%	1%
Interest	3.12	⇩	1.06	21%	17%	7%	4%	0%
Other expenses	1.11	⇩	0.38					
Gap / Surplus	4.72	⇧	1.63	2.00	1.63	0.95	0.15	-0.69

Distribution of percentage share of total revenue booked (Percentile: Bottom, 33rd, 67th, Top)

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • Low power purchase costs, at 74%* of revenue booked • Low O&M costs, at 7%* of revenue booked	**Financial Sustainability** • Improvement in revenue realization, currently at 79%*, to improve the cash adjusted ACS-ARR gap, currently at INR 1.63 per kWh* • Improvement of cash adjusted DSCR and leverage, currently at -0.17* and 19.08* • Reduction in days payable to gencos and transcos, currently at 298 days
Performance Excellence • N/A	**Performance Excellence** • Higher distribution loss levels than the SERC approved figure • Significant improvement in billing efficiency, currently at 78.2%* • Significant improvement in collection efficiency, currently at 85.2%* • Improvement in corporate governance, i.e., board should have 1/3rd independent directors
External Environment • Implementation of automatic pass through of fuel costs	**External Environment** • Low tariff subsidy realization rate, at 66% over the last 3 financial years • Regulatory support for timely issuance of tariff and true-up orders

* 3-year weighted average

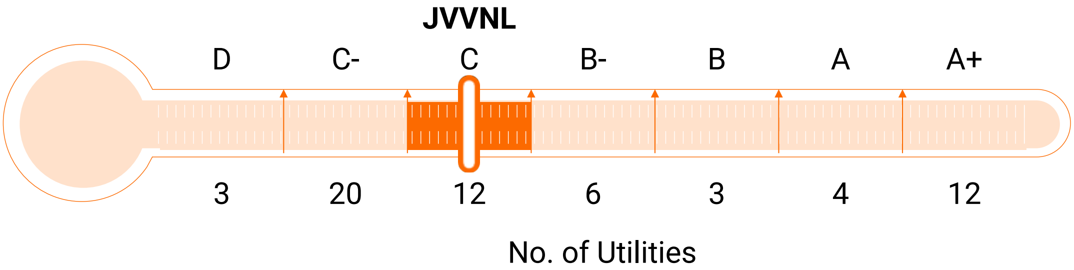
Jaipur Vidyut Vitran Nigam Limited (JVVNL)

JVVNL is a state owned discom incorporated in June 2000. It serves customers in 12 districts of Rajasthan, namely Jaipur, Dausa, Alwar, Bharatpur, Dholpur, Sawaimadhopur, Tonk, Karauli, Kota, Jhalawar and Baran & Bund. In FY21, JVVNL had a revenue of INR 21,768 crores, profit after tax of INR -661 crores and sold 25,116 million units of energy.

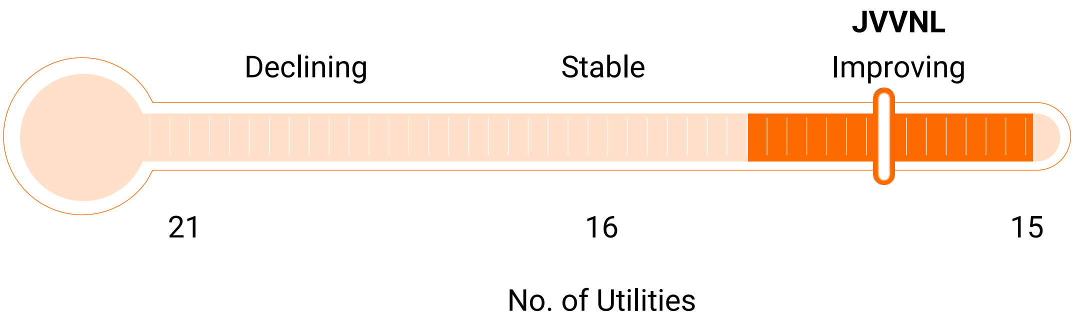
#32 **Rank**
32 out of 52

C

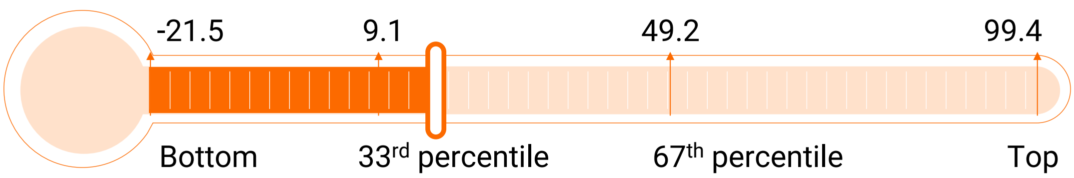
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

JVVNL has a high cash adjusted ACS-ARR gap of INR 0.94 per kWh, which lies very close to the bottom 33rd percentile boundary. The primary driver of its high ACS-ARR gap is low cash adjusted revenue, at 85% of revenue booked, which translates to ~INR 3,387 crore of unrealized revenue. JVVNL is performing well on power purchase as well as O&M costs. However, its performance on interest costs lies in the bottom tertile. JVVNL's performance on cash adjusted revenue, O&M expenses, and interest costs improved during FY19-FY21. However, its performance on power purchase costs and other expenses declined during the period.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR — Unrealized revenue — JVVNL

ACS - ARR gap Component	Amount INR '000 cr.	Trend	Amount INR / kWh	Bottom	33rd	67th	Top	JVVNL
Cash adjusted revenue	19.05 (Unrealized revenue 3.39)	⇧	5.72	77%	90%	98%	103%	85%
Power purchase cost	15.98	⇩	4.80	107%	88%	79%	55%	71%
O&M expenses	1.42	⇧	0.43	34%	14%	9%	1%	6%
Interest	3.16	⇧	0.95	21%	7%	4%	0%	14%
Other expenses	1.59	⇩	0.48					
Gap / Surplus	-3.10	⇧	0.94	2.00	0.95	0.15	-0.69	0.94

Last five columns: Distribution of percentage share of total revenue booked (Percentile)

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • Low power procurement costs, at 71%* of revenue booked • Low O&M costs, at 6%* of revenue booked	**Financial Sustainability** • Improvement required in cash adjusted revenue, currently at 85%* of revenue booked, to also improve the cash adjusted ACS-ARR gap, currently at INR 0.94 per kWh* • Reduction in days payable to gencos and transcos, currently at 239 days • Improvement in adjusted quick ratio, currently at 0.40* • Improvement in cash adjusted DSCR, currently at 0.37*
Performance Excellence • N/A	**Performance Excellence** • Significant improvement required in billing efficiency, currently at 81.0%* • Distribution losses higher than the SERC approved figure • Improvement in corporate governance (Board should constitute 1/3rd independent directors)
External Environment • Implementation of automatic pass through of fuel costs	**External Environment** • Very low tariff subsidy realization, at 72% over the last 3 financial years • Regulatory support for issuance of tariff and true-up orders on time

* 3-year weighted average

Kanpur Electricity Supply Company Limited (KESCO)

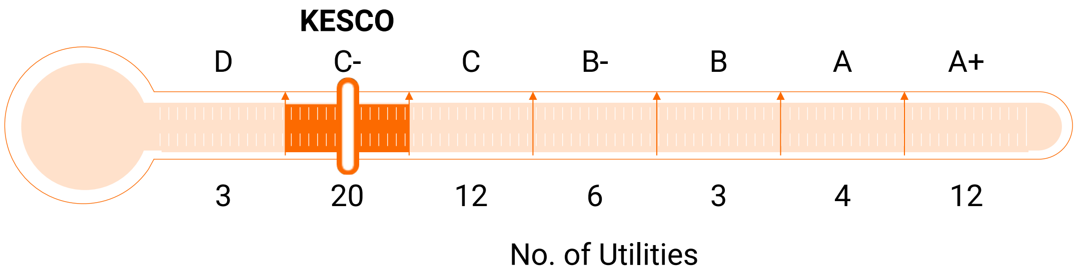
KESCO is a state owned discom incorporated in July 1999. It serves 6.57 lakh+ customers in Kanpur City (Urban). In FY21, KESCO had a revenue of INR 3,069 crores, profit after tax of INR -172 crores and sold 3,029 million units of energy.

#36

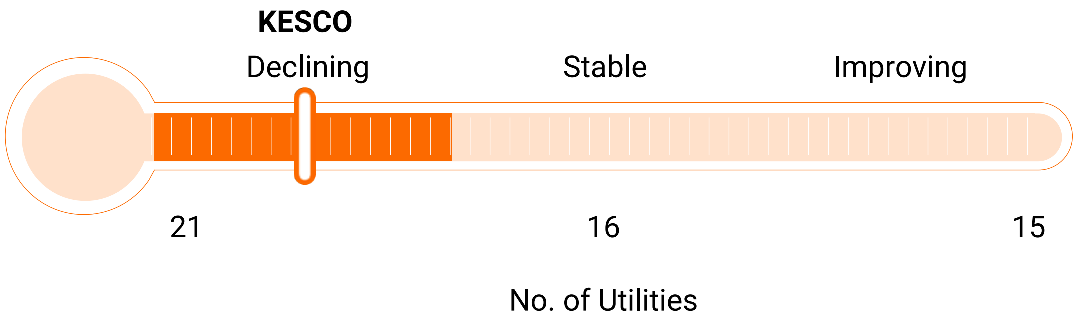
Rank
36 out of 52

C-

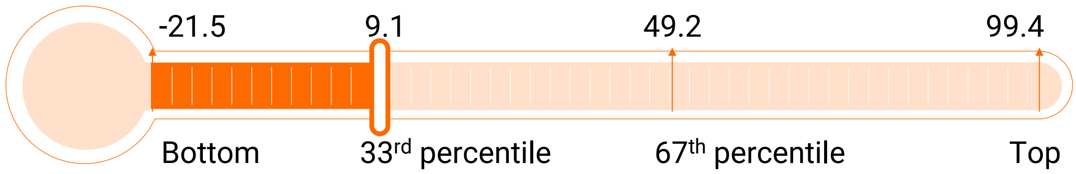
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

KESCO has a cash adjusted ACS-ARR gap of INR 2.00 per kWh, which is one of the highest in the sector. The primary driver of its high ACS-ARR gap is low cash adjusted revenue at 84% and high-power purchase costs at 88% of revenue booked. KESCO is performing averagely on O&M costs and interest costs. Its performance on all ACS-ARR gap components (except cash adjusted revenue) declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR; Unrealized revenue; KESCO

ACS - ARR gap Component	Amount INR '000 cr.	Trend	Amount INR / kWh	Bottom	33rd percentile	67th percentile	Top	KESCO
Cash adjusted revenue	2.42 (unrealized revenue 0.46)	⇧	7.04	77%	90%	98%	103%	84%
Power purchase cost	2.53	⇩	7.35	107%	88%	79%	55%	88%
O&M expenses	0.32	⇩	0.94	34%	14%	9%	1%	11%
Interest	0.20	⇩	0.60	21%	7%	4%	0%	7%
Other expenses	0.05	⇩	0.15					
Gap / Surplus	0.69	⇩	2.00	2.00	0.95	0.15	-0.69	2.00

Distribution of percentage share of total revenue booked

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • N/A	**Financial Sustainability** • Improvement of cash adjusted revenue, currently at 84%* of booked revenue • Improvement of days payable to gencos and transcos, currently at 145 days • Improvement of days receivable, currently at 417 days • Improvement of adjusted quick ratio, currently at 0.33* • Improvement of cash adjusted DSCR and leverage, currently at -1.14* and -5.99*, respectively
Performance Excellence • N/A	**Performance Excellence** • Distribution losses higher than the SERC approved losses • Adherence to Corporate Governance
External Environment • Tariff subsidies are not applicable	**External Environment** • Significant government dues, at 34% over the last 3 financial years • No loss taken over by the state government over the last 3 financial years • Delays in tariff cycle timelines

* 3-year weighted average

Kerala State Electricity Board Limited (KSEBL)

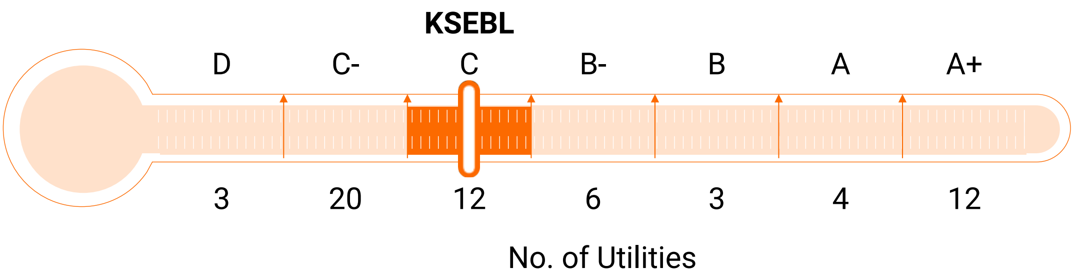
KSEBL is a state owned discom incorporated in January 2011. It serves 1.3 crore+ customers in the state of Kerala. In FY21, KSEBL had a revenue of INR 15,169 crores, profit after tax of INR -1,822 crores and sold 22,152 million units of energy.

#25

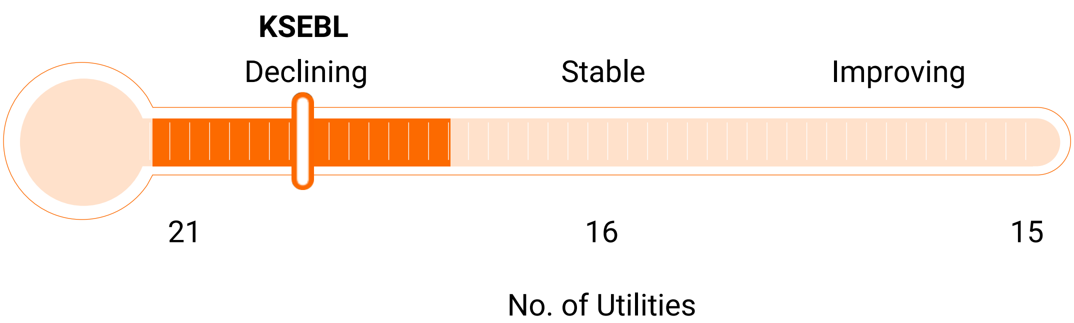
Rank
25 out of 52

C

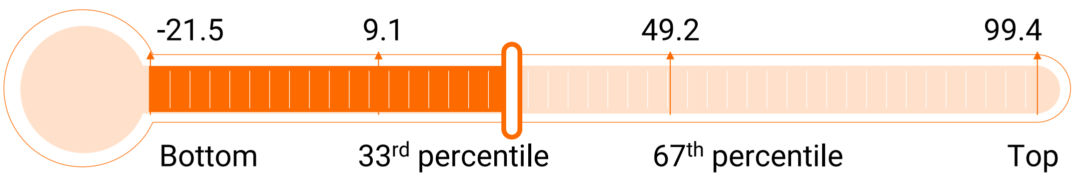
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

KSEBL has a cash adjusted ACS-ARR gap of INR 0.40 per kWh (middle tertile in the sector). It is performing well on power purchase costs (close to the 100 percentile). However, its performance on O&M costs and interest costs lie in the bottom tertile. KSEBL's performance on all ACS-ARR gap components (except cash adjusted revenue) declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR   Unrealized revenue   KSEBL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	Percentile 33rd	Percentile 67th	Top	KSEBL
Cash adjusted revenue	15.04	⇧	5.73	77%	90%	98%	103%	101%
Power purchase cost	8.19	⇩	3.12	107%	88%	79%	55%	55%
O&M expenses	5.15	⇩	1.97	34%	14%	9%	1%	34%
Interest	1.67	⇩	0.64	21%	7%	4%	0%	11%
Other expenses	1.08	⇩	0.41					
Gap / Surplus	1.06	⇩	0.40	2.00	0.95	0.15	-0.69	0.40

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • High cash adjusted revenue, at 101%* of revenue booked	**Financial Sustainability** • Improvement in adjusted quick ratio, currently at 0.32* • Improvement in cash adjusted DSCR and leverage, currently at 0.55* and 12.28*, respectively
Performance Excellence • Distribution loss levels are well below the SERC-approved figure • Good billing efficiency at 91.8%* • High collection efficiency at 98.8%*	**Performance Excellence** • Board should have 1/3rd independent directors
External Environment • Receipt of 100% of tariff subsidy over the last 3 financial years • Receipt of 100% Government dues over the last 3 financial years	**External Environment** • Delay in tariff cycle timelines • Regular implementation of automatic pass through of fuel costs needed

* 3-year weighted average

Meghalaya Power Distribution Corporation Limited (MePDCL)

MePDCL is a state owned discom incorporated in December 2009. It serves 1.6 lakh+ customers in the state of Meghalaya. In FY21, MePDCL had a revenue of INR 989 crores, profit after tax of INR -425 crores and sold 1,326 million units of energy.

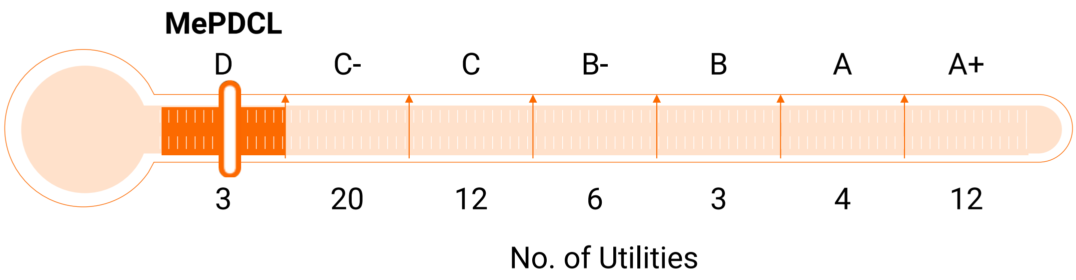
#52

Rank

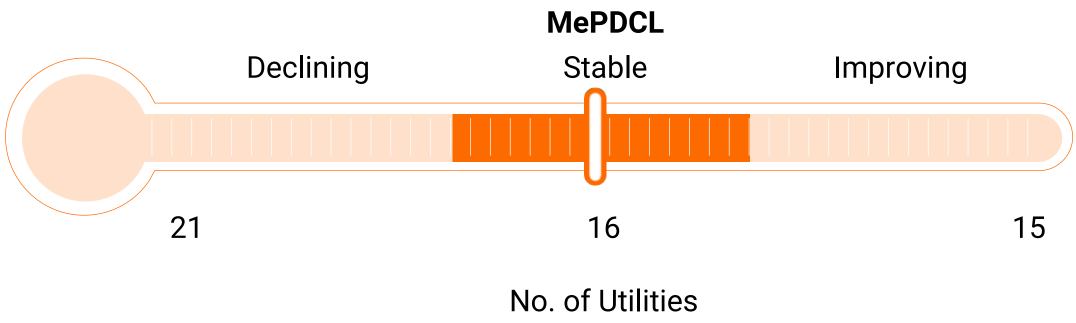
52 out of 52

D

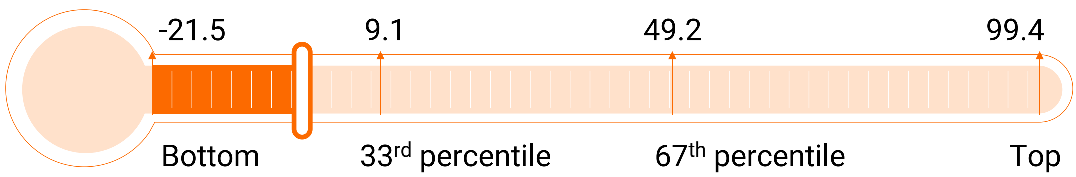
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

MePDCL has a high cash adjusted ACS-ARR gap of INR 1.63 per kWh (bottom tertile in the sector). The primary driver of its high ACS-ARR gap is high power purchase costs, O&M expenses, and interest costs (bottom tertile). However, its cash adjusted revenue lies in the top tertile. MePDCL's performance on all ACS-ARR gap components declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | MePDCL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	Percentile: 33rd	Percentile: 67th	Top	MePDCL
Cash adjusted revenue	0.96 (Unrealized revenue: 0.01)	⇩	3.92	77%	90%	98%	103%	99%
Power purchase cost	1.03	⇩	4.21	107%	88%	79%	55%	107%
O&M expenses	0.21	⇩	0.84	34%	14%	9%	1%	21%
Interest	0.08	⇩	0.32	21%	7%	4%	0%	8%
Other expenses	0.05	⇩	0.19					
Gap / Surplus	0.40	⇩	1.63	2.00	0.95	0.15	-0.69	1.63

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • N/A	**Financial Sustainability** • High power procurement costs, at 107%* of revenue booked • High O&M and interest costs, currently at 21%* and 8%* of revenue booked, respectively • Significant improvement in days receivable and payable to gencos and transcos, currently at 233 and 471 days, respectively • Significant improvement in cash adjusted DSCR and leverage, currently at -1.42* and -4.25*, respectively • Significant improvement in adjusted quick ratio, currently at 0.30*
Performance Excellence • High collection efficiency, at 99.4%*	**Performance Excellence** • Significant improvement in billing efficiency, currently at 68.7%* • Distribution losses currently at ~2.6 times the SERC-approved figure
External Environment • Receipt of 100% of tariff subsidy over the last 3 financial years	**External Environment** • Government dues at 38% for the last 3 financial years • Regulation does not allow automatic pass through of fuel costs • Delays in issuance of tariff orders

* 3-year weighted average

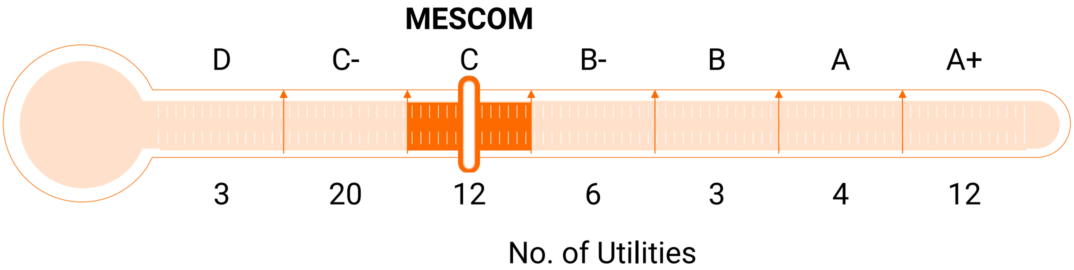
Mangalore Electricity Supply Company Limited (MESCOM)

MESCOM is a state owned discom incorporated in April 2002. It serves 25 lakh+ customers in the state of Karnataka namely in the districts of Dakshina Kannada, Udupi, Shivamogga and Chikkamagalur. In FY21, MESCOM had a revenue of INR 3,793 crores, profit after tax of INR -53 crores and sold 5,058 million units of energy.

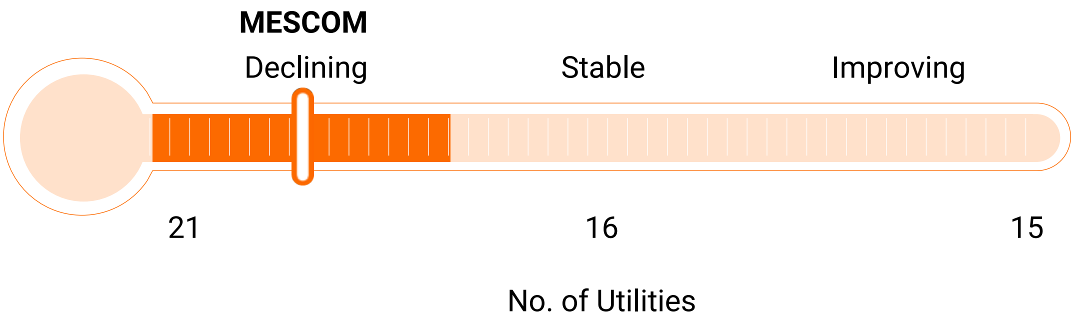
#23 **Rank**
23 out of 52

C

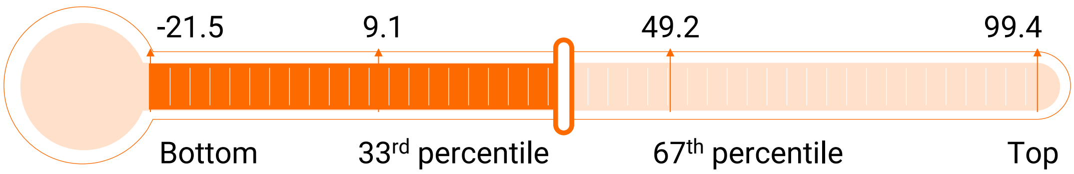
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

MESCOM has a cash adjusted ACS-ARR gap of INR 0.47 per kWh (middle tertile in the sector). It is performing well on power purchase and interest costs, but its O&M expenses lie in the bottom tertile. Its performance on all ACS-ARR gap components (except cash adjusted revenue) declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR   Unrealized revenue   MESCOM

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	Percentile 33rd	Percentile 67th	Top	MESCOM
Cash adjusted revenue	3.60 (Unrealized revenue: 0.14)	⇧	6.06	77%	90%	98%	103%	96%
Power purchase cost	2.90	⇩	4.88	107%	88%	79%	55%	77%
O&M expenses	0.68	⇩	1.14	34%	14%	9%	1%	18%
Interest	0.12	⇩	0.21	21%	7%	4%	0%	3%
Other expenses	0.19	⇩	0.31					
Gap / Surplus	0.28	⇩	0.47	2.00	0.95	0.15	-0.69	0.47

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability**
• High adjusted quick ratio, currently at 1.01*	• Improvement in days payable to gencos and transcos, currently at 151 days • Improvement of cash adjusted DSCR and leverage, currently at 0.11* and -9.35*, respectively
Performance Excellence	**Performance Excellence**
• Distribution losses lower than the SERC-approved figure	• Adherence to corporate governance i.e., Board with 1/3rd independent directors.
External Environment	**External Environment**
• Regulation allows automatic pass through of fuel costs	• Improvement in subsidy realization, currently at 84%, over the last 3 financial years • Support from the Regulator in terms of issuance of tariff order on time

* 3-year weighted average

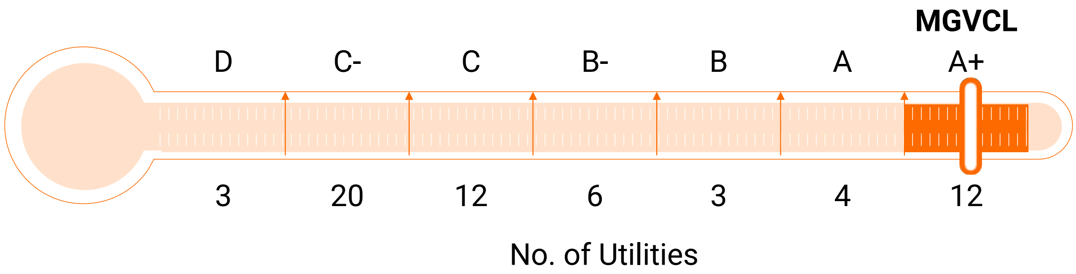
Madhya Gujarat Vij Company Limited (MGVCL)

MGVCL is a state owned discom incorporated in September 2003. It serves customers in the state of Gujarat namely in the districts of Kheda, Panch Mahal, Dahod, Chhota udepur, Vadodara, Mahisagar and Anand. In FY21, MGVCL had a revenue of INR 6,590 crores, profit after tax of INR 56 crores and sold 9,956 million units of energy.

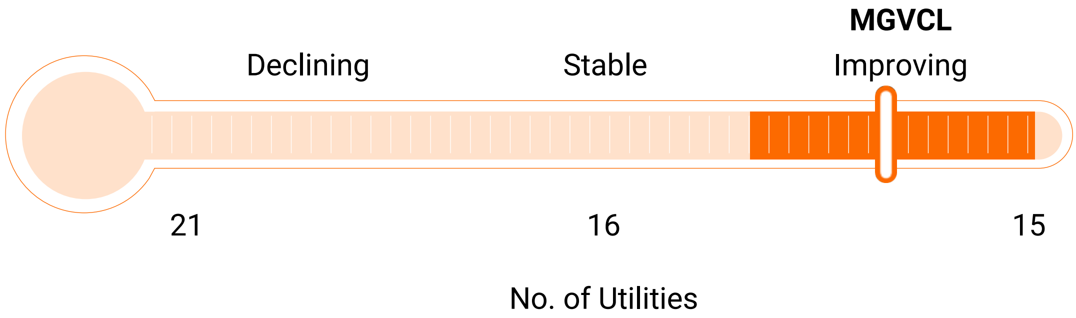
#2 **Rank**
2 out of 52

A+

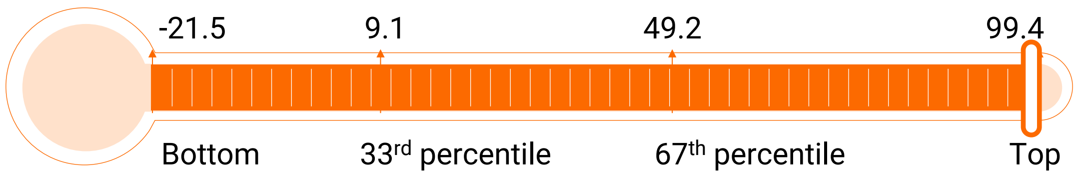
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

MGVCL has a cash adjusted ACS-ARR gap of INR -0.09 per kWh (top tertile in the sector). The primary driver of its ACS-ARR surplus is high cash adjusted revenue of 100%. MGVCL is also performing well on interest costs as well as O&M costs. However, its performance on power purchase costs lies in the middle tertile, forming 83% of the booked revenue. MGVCL's performance on cash adjusted revenue and interest costs improved during FY19-FY21. However, its performance on power purchase costs and other expenses declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR   Unrealized revenue   MGVCL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Bottom	33rd	67th	Top	MGVCL
Cash adjusted revenue	6.53 (0.01)	⇧	5.59	77%	90%	98%	103%	100%
Power purchase cost	5.46	⇩	4.67	107%	88%	79%	55%	83%
O&M expenses	0.62	⇩	0.53	34%	14%	9%	1%	9%
Interest	0.06	⇧	0.05	21%	7%	4%	0%	1%
Other expenses	0.29	⇩	0.25					
Gap / Surplus	0.11	⇧	-0.09	2.00	0.95	0.15	-0.69	-0.09

Distribution of percentage share of total revenue booked (Percentile: Bottom, 33rd, 67th, Top)

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • High cash adjusted revenue of 100%* • Very low days payable and days receivable, currently at 0.07 days & 21 days, respectively • Strong liquidity position reflected by an adjusted quick ratio of 2.48* • Adequate profits to service debts, as reflected by a DSCR of 5.72* • High Leverage at 0.30*	**Financial Sustainability** • NA
Performance Excellence • High collection efficiency, at 99.3%* • Distribution losses lower than the SERC approved figure	**Performance Excellence** • Improvement in billing efficiency, currently at 90.2%*
External Environment • Receipt of 100% of tariff subsidy over the last 3 financial years • Regulation allows automatic pass through of fuel costs • Timely issuance of tariff orders • Government dues are low, just 4% for the last 3 financial years	**External Environment** • N/A

* 3-year weighted average

MP Madhya Kshetra Vidyut Vitaran Company Limited (MPMaKVVCL)

MPMaKVVCL is a state owned discom incorporated in May 2002. It serves 47 lakh+ customers in the commissionaires of Bhopal, Hoshangabad, Gwalior and Chambal. In FY21, MPMaKVVCL had a revenue of INR 14,478 crores, profit after tax of INR -1,450 crores and sold 19,150 million units of energy.

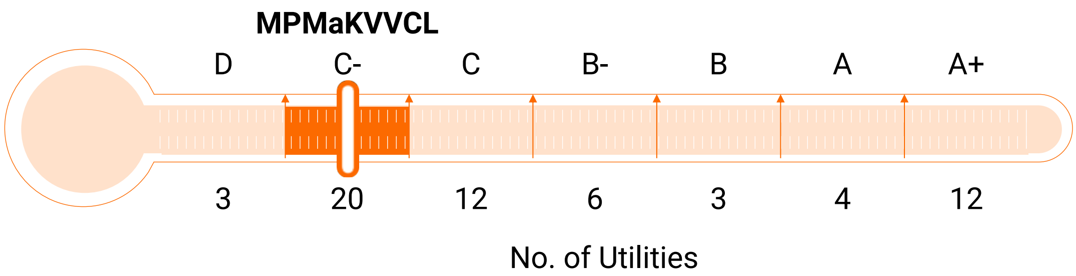
#48

Rank

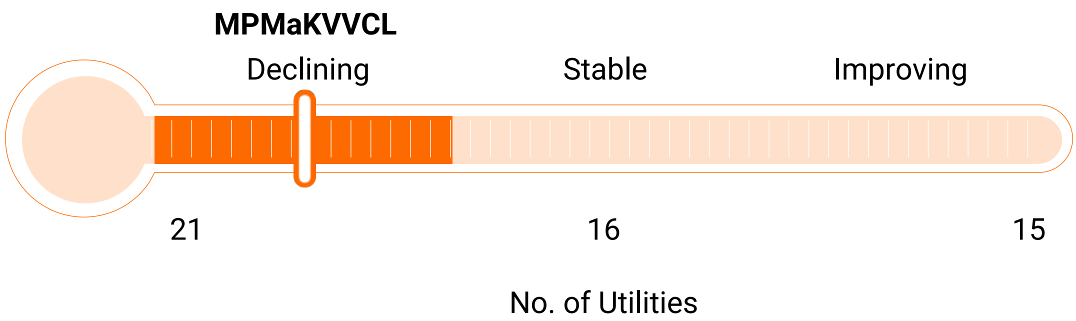
48 out of 52

C-

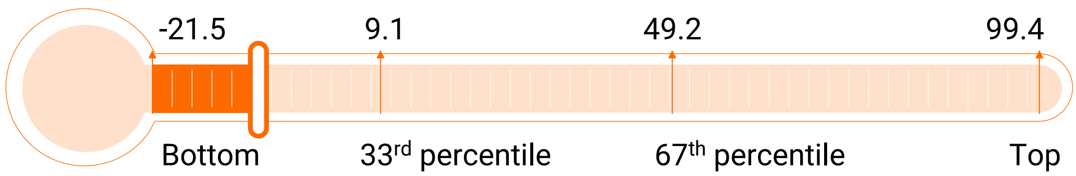
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

MPMaKVVCL has a high cash adjusted ACS-ARR gap of INR 1.56 per kWh (bottom tertile in the sector). The primary driver of its high ACS-ARR gap is low cash adjusted revenue of 83%, which translates to ~INR 2,486 crore of unrealized revenue.The cash adjusted revenue is not sufficient to meet the immediate power purchase expenses, O&M expenses, interest costs or other expenses. MPMaKVVCL's performance on all ACS-ARR gap components has improved from FY 2019 to FY 2021.

Benchmarking of ACS-ARR gap components (3-year weighted average)
(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | MPMaKVVCL

ACS - ARR gap Component	Amount INR '000 cr.	Trend	Amount INR / kWh	Bottom	33rd Percentile	67th Percentile	Top	MPMaKVVCL
Cash adjusted revenue	11.15 (Unrealized revenue: 2.49)	⇧	4.14	77%	90%	98%	103%	83%
Power purchase cost	11.41	⇧	4.22	107%	88%	79%	55%	84%
O&M expenses	1.28	⇧	0.47	34%	14%	9%	1%	9%
Interest	1.31	⇧	0.49	21%	7%	4%	0%	10%
Other expenses	1.40	⇧	0.52					
Gap / Surplus	-4.25	⇩	1.56	2.00	0.95	0.15	-0.69	1.56

Distribution of percentage share of total revenue booked

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • N/A	**Financial Sustainability** • Improvement of cash adjusted revenue, currently at 83%* of revenue booked, to improve cash adjusted ACS-ARR gap, currently at 1.56* • Improvement in days receivable, currently at 272 days • Improvement in days payable to gencos and transcos, currently at 412 days • Improvement in adjusted quick ratio, currently at 0.31* • Improvement in cash adjusted DSCR and leverage, currently at -0.23* and 29.51*, respectively
Performance Excellence • N/A	**Performance Excellence** • High distribution losses compared to the SERC approved figure • Significant improvement in billing efficiency, currently at 70.4%* • Significant improvement in collection efficiency, currently at 77.6%* • Improvement in corporate governance (one-third of the Board should comprise independent directors)
External Environment • Regulation allows automatic pass through of fuel costs	**External Environment** • Realization of tariff subsidy, 77% over the last 3 financial years • Delays in issuance of tariff orders

* 3-year weighted average

MP Paschim Kshetra Vidyut Vitaran Company Limited (MPPaKVVCL)

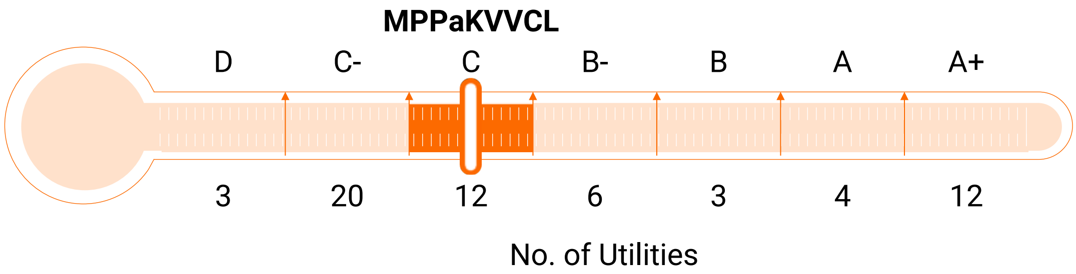
MPPaKVVCL is a state owned discom incorporated in May 2002. It serves 56 lakh+ customers in the commissionaires of Indore and Ujjain. In FY21, MPPaKVVCL had a revenue of INR 16,428 crores, profit after tax of INR 53 crores and sold 23,033 million units of energy.

#24

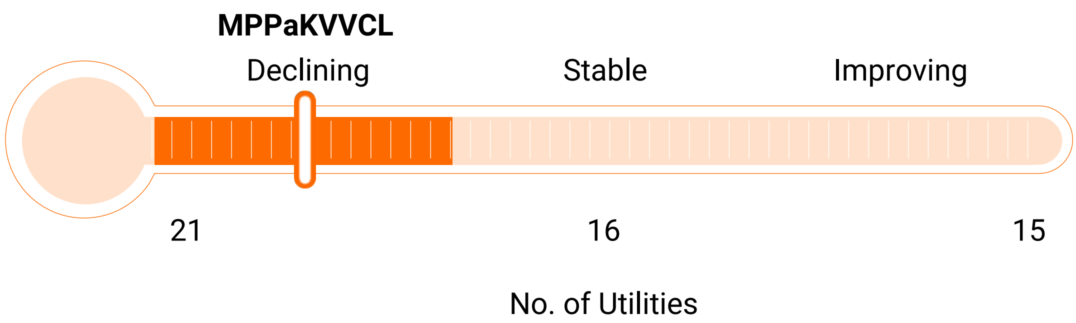
Rank
24 out of 52

C

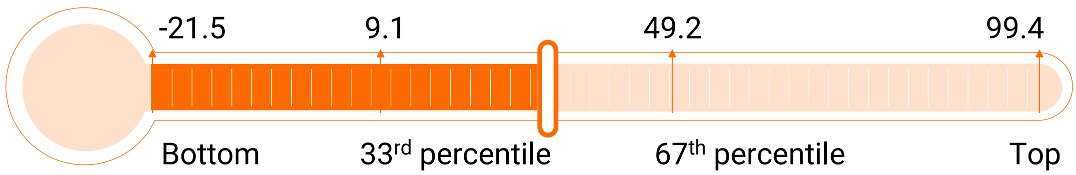
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

MPPaKVVCL has a cash adjusted ACS-ARR gap of INR 0.81 per kWh (middle tertile in the sector). The primary driver of its high ACS-ARR gap is low cash adjusted revenue of 85%, which translates to ~INR 2,452 crore of unrealized revenue. MPPaKVVCL's power purchase costs, O&M costs, and interest costs lie in the middle tertile. Its performance on all ACS-ARR gap components (except power purchase costs) improved during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | MPPaKVVCL

ACS - ARR gap Component	Amount INR '000 cr.	Trend	Amount INR / kWh	Bottom	Percentile 33rd	Percentile 67th	Top	MPPaKVVCL
Cash adjusted revenue	13.47 / 2.45	⇧	5.00	77%	90%	98%	103%	85%
Power purchase cost	12.76	⇩	4.72	107%	88%	79%	55%	80%
O&M expenses	1.53	⇧	0.57	34%	14%	9%	1%	10%
Interest	0.91	⇧	0.34	21%	7%	4%	0%	6%
Other expenses	0.48	⇧	0.18					
Gap / Surplus	2.21	⇩	0.81	2.00	0.95	0.15	-0.69	0.81

Distribution of percentage share of total revenue booked

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • Very low days payable to gencos and transcos, currently at 31 days • High adjusted quick ratio, currently at 1.48*	**Financial Sustainability** • High days receivable, currently at 132 days • Improvement in cash adjusted DSCR and leverage, currently at -0.14* and 16.48*, respectively
Performance Excellence • Distribution losses for FY21 lower than the SERC-approved figure • Adherence to corporate governance, i.e., its Board has 1/3rd independent directors	**Performance Excellence** • Significant improvement in collection efficiency, currently at 83.5%*
External Environment • 100% loss taken over by the state government over the last 3 financial years • Regulation allows automatic pass through of fuel costs	**External Environment** • 78% realization of tariff subsidies over the last 3 financial years (including arrears) • Improvement in tariff cycle delays

* 3-year weighted average

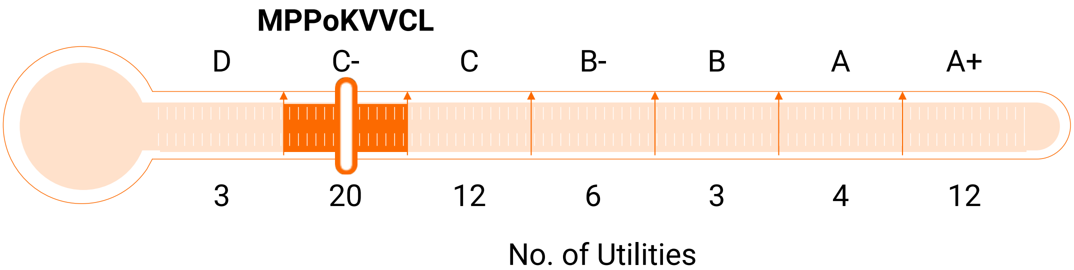
MP Poorv Kshetra Vidyut Vitaran Company Limited (MPPoKVVCL)

MPPoKVVCL is a state owned discom incorporated in May 2002. It serves 62 lakh+ customers in the commissionaires of Jabalpur, Sagar and Rewa. In FY21, MPPoKVVCL had a revenue of INR 12,053 crores, profit after tax of INR -2,754 crores and sold 16,630 million units of energy.

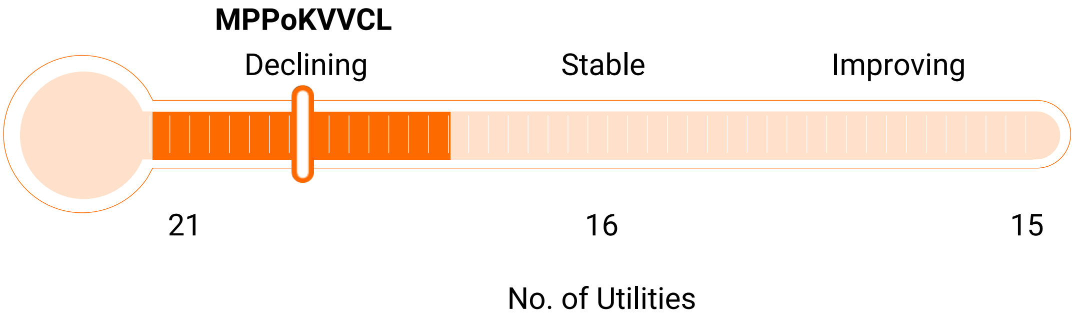
#47 **Rank**
47 out of 52

C-

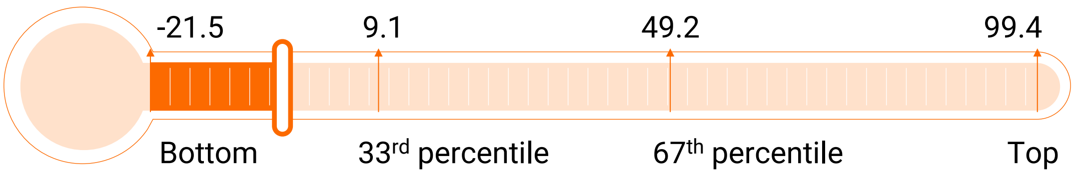
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

MPPoKVVCL has a high cash adjusted ACS-ARR gap of INR 1.89 per kWh (bottom tertile in the sector). The primary driver of its high ACS-ARR gap is low cash adjusted revenue of 83%, which translates to ~INR 2,003 crore of unrealized revenue. MPPoKVVNL's performance on all ACS-ARR gap components (except power purchase costs) improved during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)
(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR   Unrealized revenue   MPPoKVVCL

ACS - ARR gap Component	Amount INR '000 cr.	Trend	Amount INR / kWh	Bottom	33rd	67th	Top	MPPoKVVCL
				Distribution of percentage share of total revenue booked (Percentile)				
Cash adjusted revenue	9.59 (Unrealized revenue 2.00)	⇧	4.10	77%	90%	98%	103%	83%
Power purchase cost	10.76	⇩	4.57	107%	88%	79%	55%	93%
O&M expenses	1.35	⇧	0.58	34%	14%	9%	1%	12%
Interest	1.14	⇧	0.49	21%	7%	4%	0%	10%
Other expenses	0.81	⇧	0.35					
Gap / Surplus	4.48	⇩	1.89	2.00	0.95	0.15	-0.69	1.89

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • N/A	**Financial Sustainability** • Improvement of days receivable, currently at 235 days • Improvement of days payable to gencos and transcos, currently at 280 days • Improvement in adjusted quick ratio, currently at 0.35* • Improvement in cash adjusted DSCR and Leverage, currently at -0.45*and -8.49* respectively
Performance Excellence • N/A	**Performance Excellence** • High distribution losses, as compared with the SERC-approved figure • Significant improvement in billing efficiency, currently at 72.3%* • Significant improvement in collection efficiency, currently at 80.5%*
External Environment • Regulation allows automatic pass through of fuel costs • Government dues at 9% over the last 3 financial years	**External Environment** • Receipt of tariff subsidy over the last 3 financial years at 74% • Loss takeover by the state government at 12% over the last 3 financial years

* 3-year weighted average

Maharashtra State Electricity Distribution Company Limited (MSEDCL)

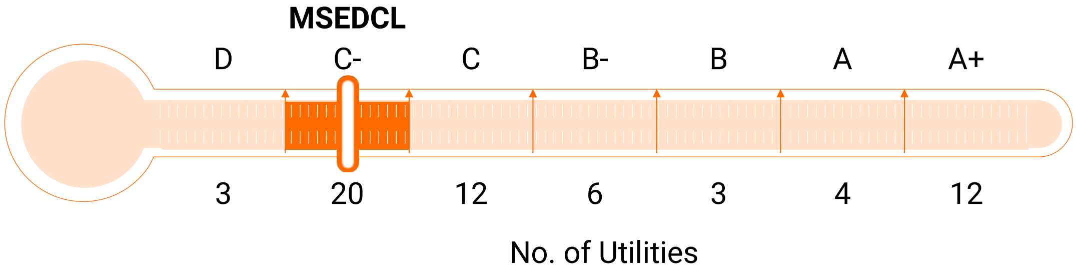
MSEDCL is a state owned discom incorporated in May 2005. It serves 2.7 crore+ customers in the state of Maharashtra except for some parts of Mumbai city. In FY21, MSEDCL had a revenue of INR 79,475 crores, profit after tax of INR -1,322 crores and sold 105,199 million units of energy.

#41

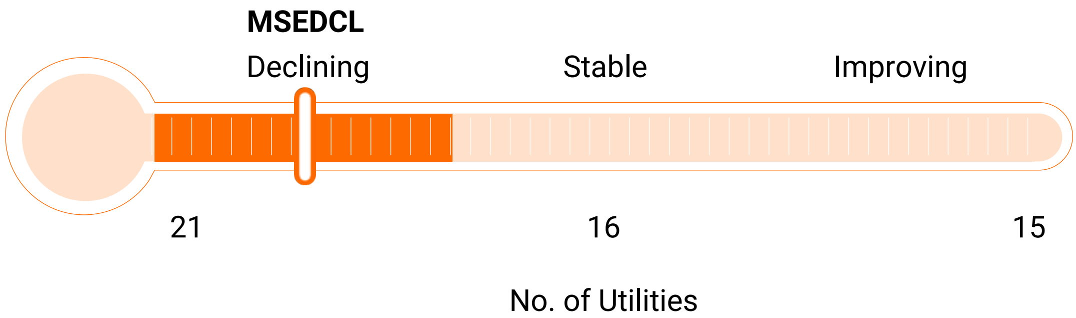
Rank
41 out of 52

C-

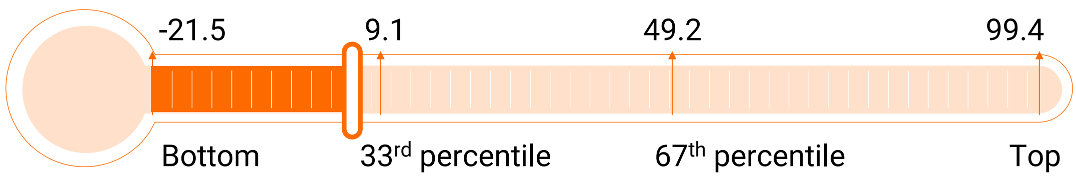
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

MSEDCL has a high cash adjusted ACS-ARR gap of INR 0.95 per kWh, which lies on the boundary of 33rd percentile. The primary driver of its high ACS-ARR gap is low cash adjusted revenue of 89%, which translates to ~INR 8,714 crore of unrealized revenue. MSEDCL is performing well on power purchase as well as O&M costs. However, its performance on interest costs lies on the 33rd percentile boundary. MSEDCL's performance on all ACS-ARR gap components (except other expenses) declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | MSEDCL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	Percentile: 33rd	Percentile: 67th	Top	MSEDCL
Cash adjusted revenue	72.36 (Unrealized revenue: 8.71)	⇩	5.44	77%	90%	98%	103%	89%
Power purchase cost	63.98	⇩	4.81	107%	88%	79%	55%	79%
O&M expenses	6.87	⇩	0.52	34%	14%	9%	1%	8%
Interest	5.28	⇩	0.40	21%	7%	4%	0%	7%
Other expenses	8.82	⇧	0.66					
Gap / Surplus	12.60	⇩	0.95	2.00	0.95	0.15	-0.69	0.95

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability**
• NA	• Improvement in Days Receivable, currently at 231 days • Improvement in days payable to gencos and transcos, currently at 171 days • Improvement in adjusted quick ratio, currently at 0.32* • Improvement in cash adjusted DSCR and leverage, currently at 0.12* and -9.3*, respectively
Performance Excellence	**Performance Excellence**
• Distribution losses lower than the SERC-approved figure	• Significant improvement in collection efficiency, currently at 89.3%* • Adherence of Corporate Governance
External Environment	**External Environment**
• Full realization of tariff subsidies over the last 3 financial years (including arrears) • Multi-year ARR and tariff structure has been approved • Regulation allows automatic pass through of fuel costs	• NA

* 3-year weighted average

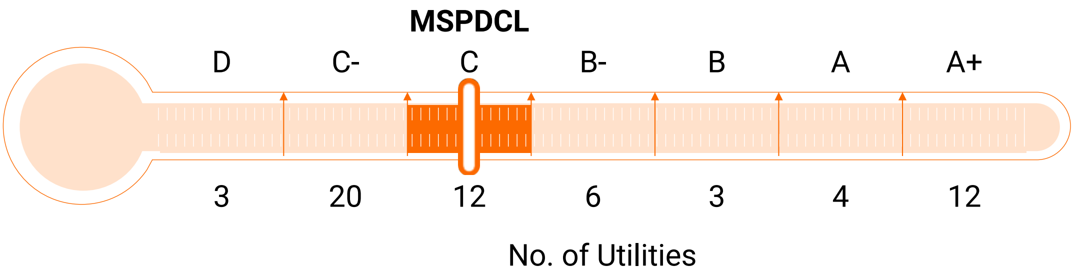
Manipur State Power Distribution Company Limited (MSPDCL)

MSPDCL is a state owned discom incorporated in February 2014. It serves 5 lakh+ customers in the state of Manipur. In FY21, MSPDCL had a revenue of INR 721 crores, profit after tax of INR -14.9 crores and sold 748 million units of energy.

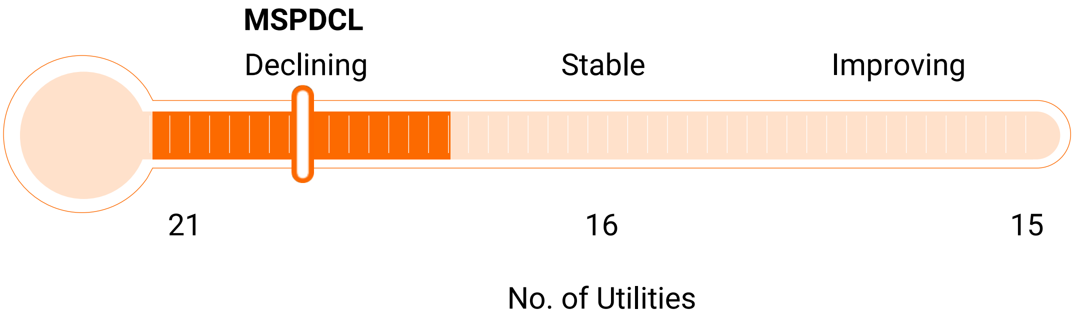
#30 **Rank**
30 out of 52

C

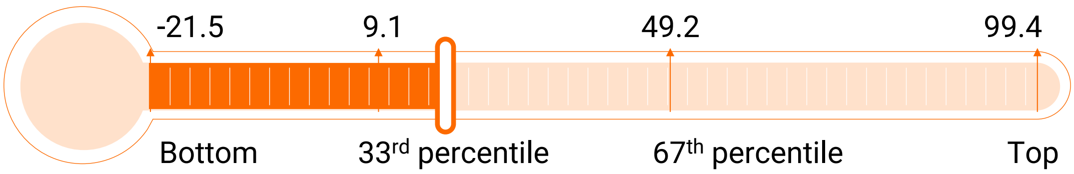
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

MSPDCL has a cash adjusted ACS-ARR gap of INR 0.51 per kWh (middle tertile in the sector). The primary driver of its ACS-ARR gap is average cash adjusted revenue of 93%, which translates to ~INR 46 crore of unrealized revenue. MSPDCL is performing averagely on power purchase as well as O&M costs (middle tertile). However, its performance on interest costs lies close to the top performer boundary. MSPDCL's performance on cash adjusted revenue and O&M expenses improved during FY19-FY21. However, its performance on power purchase costs, interest costs, and other expenses declined during the period.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | MSPDCL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	Percentile: 33rd	Percentile: 67th	Top	MSPDCL
Cash adjusted revenue	0.65 (Unrealized revenue: 0.05)	⇧	6.22	77%	90%	98%	103%	93%
Power purchase cost	0.60	⇩	5.74	107%	88%	79%	55%	86%
O&M expenses	0.08	⇧	0.78	34%	14%	9%	1%	12%
Interest	0	⇩	0.02	21%	7%	4%	0%	0%
Other expenses	0.02	⇩	0.19					
Gap / Surplus	0.05	⇩	0.51	2.00	0.95	0.15	-0.69	0.51

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability**
• Low interest costs at ~0%* of revenue booked	• Improvement in per unit power purchase at INR 5.74/kwh* • Significant improvement in days receivable, currently at 451 days • Significant improvement in cash adjusted DSCR, at -3.0* • Significant improvement in leverage, currently negative at -13.5*
Performance Excellence	**Performance Excellence**
• Distribution loss is lower than the SERC approved figure	• Significant improvement in billing efficiency, currently at 83.6%* • Significant improvement in collection efficiency, currently at 93.5%*
External Environment	**External Environment**
• Receipt of 100% of tariff subsidy over the last 3 financial years	• State government support for loss takeover • Regulatory support for timely issuance of tariff and true-up orders and implementation of automatic pass through of fuel costs

* 3-year weighted average

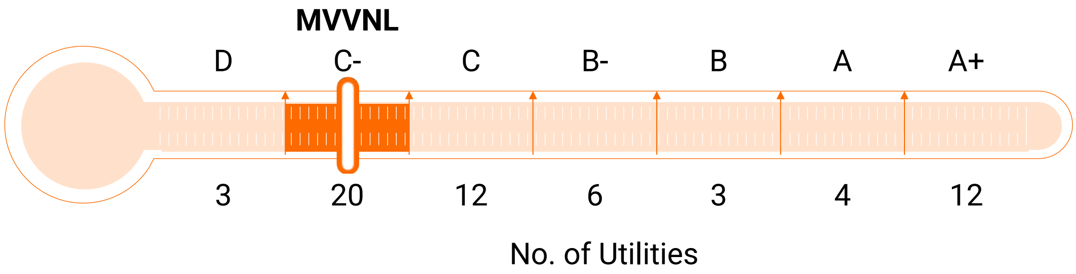
Madhyanchal Vidyut Vitran Nigam Limited (MVVNL)

MVVNL is a state owned discom incorporated in May 2003. It serves 50 lakh+ customers in the state of Uttar Pradesh mainly in the districts of Budaun, Bareilly, Pilibhit, Shahjahanpur, Lakhimpur, Hardoi, Sitapur, Unnao, Bahraich, Shrawasti, Balrampur, Gonda, Barabanki, Rae Bareli, Ayodhya, Sultanpur, Ambedkarnagar, Lucknow and Amethi. In FY21, MVVNL had a revenue of INR 15,845 crores, profit after tax of INR -926 crores and sold 18,765 million units of energy.

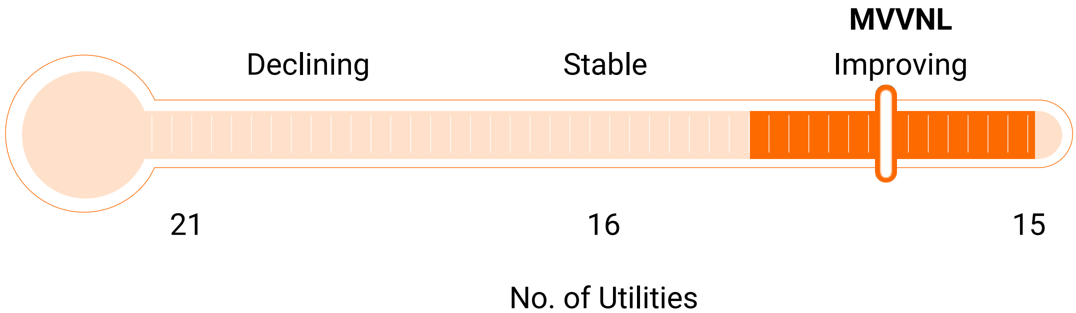
#42 **Rank**
42 out of 52

C-

Grade



ACS-ARR Gap Trajectory



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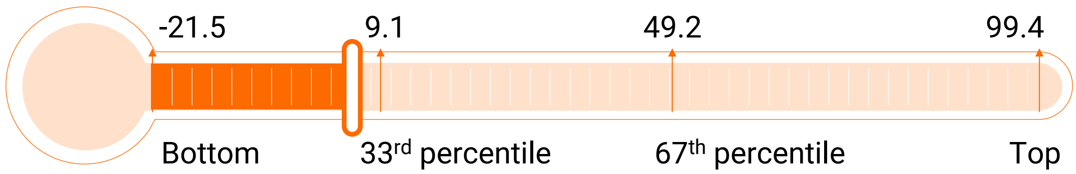


Key Insights

MVVNL has a high cash adjusted ACS-ARR gap of INR 1.52 per kWh (bottom tertile in the sector). The primary driver of its high cash adjusted ACS-ARR gap is low cash adjusted revenue at 83%. MVVNL's performance on all ACS-ARR gap components (except cash adjusted revenue) declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | MVVNL

ACS - ARR gap Component	Amount INR '000 cr.	Trend	Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	MVVNL	Percentile: 33rd	Percentile: 67th	Top
Cash adjusted revenue	12.60 (Unrealized revenue: 2.62)	⇧	5.47	77%	83%	90%	98%	103%
Power purchase cost	13.03	⇩	5.66	107%	86%	88%	79%	55%
O&M expenses	1.26	⇩	0.55	34%	8%	14%	9%	1%
Interest	1.24	⇩	0.54	21%	8%	7%	4%	0%
Other expenses	0.55	⇩	0.24					
Gap / Surplus	3.48	⇧	1.52	2.00	1.52	0.95	0.15	-0.69

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • NA	**Financial Sustainability** • Improvement in cash adjusted revenue, currently at 83%* of revenue booked, to improve the cash adjusted ACS-ARR gap, currently at INR 1.52* per kWh • High power purchase costs, currently at 86%* of the revenue booked • High days payable to gencos and transcos, currently at 271 days, and days receivables currently at 571 • Improvement in cash adjusted DSCR and leverage, currently at -0.90* and -10.04*, respectively
Performance Excellence • N/A	**Performance Excellence** • Significant improvement in billing efficiency, currently at 79.8%* • Significant improvement in collection efficiency, currently at 82.5%* • Distribution losses higher than the SERC-approved figure • Adherence to Corporate governance i.e., 1/3rd independent directors
External Environment • Receipt of 100% of tariff subsidy booked over the last 3 financial years • Regulation allows automatic pass through of fuel costs • 60% loss taken over by the state government	**External Environment** • Significant government dues of 50% for the last 3 financial years • Delays in filing of tariff petitions and issuance of tariff orders

* 3-year weighted average

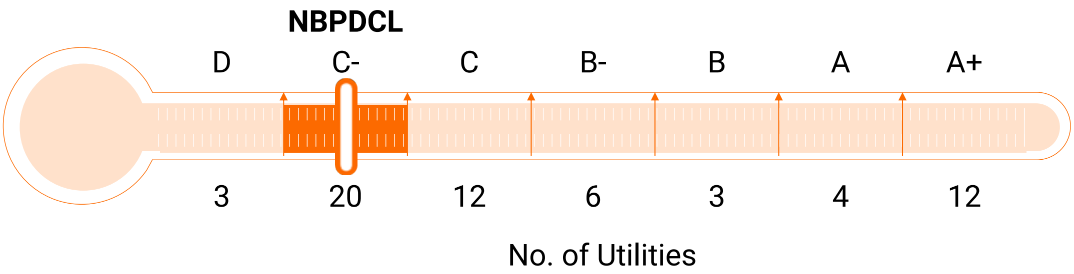
North Bihar Power Distribution Company Limited (NBPDCL)

NBPDCL is a state owned discom incorporated in July 2012. It serves 1.08 crore+ customers in 21 districts of North Bihar namely West Champaran, East Champaran, Sitamadhi, Sheohar, Muzaffarpur, Vaishali, Saran, Siwan, Gopalgunj, Mahubani, Darbhanaga, Samastipur, Begusarai, Khagaria, Saharsa, Supaul, Medhepura, Araria, Katihar, Purnea and Kishangunj. In FY21, NBPDCL had a revenue of INR 8,887 crores, profit after tax of INR -802 crores and sold 10,656 million units of energy.

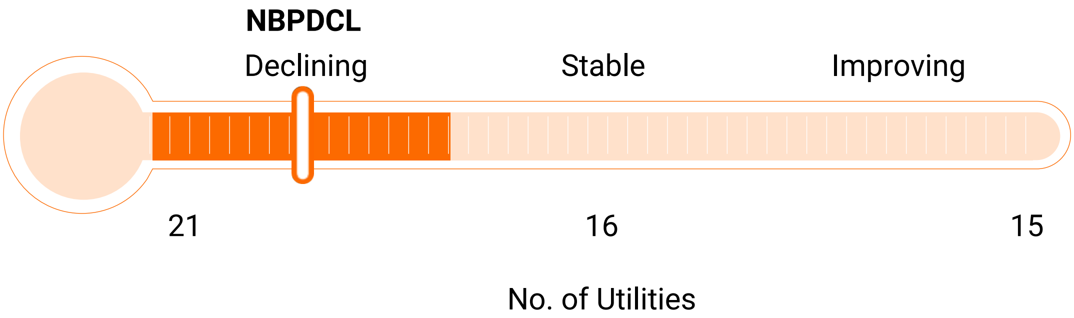
#34 **Rank**
34 out of 52

C-

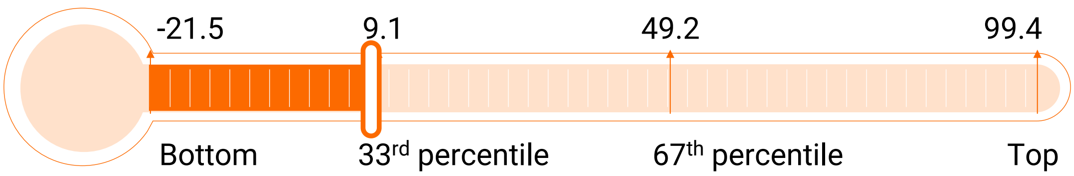
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

NBPDCL has a high cash adjusted ACS-ARR gap of INR 0.95 per kWh which falls at the 33rd percentile boundary as compared to other DISCOMs. The primary driver of the high ACS-ARR gap is high power purchase cost at 89% of revenue booked and average cash adjusted revenue at 95% of revenue booked which translates to ~INR 436 crores of unrealized revenue. NBPDCL is performing well on O&M and interest costs which fall on and above the 67th percentile boundary respectively. NBPDCL's performance on cash adjusted revenue, power purchase costs and interest costs has been declining from FY 2019 to FY 2021, while performance on O&M and other expenses has improved.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | NBPDCL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	Percentile 33rd	Percentile 67th	Top	NBPDCL
Cash adjusted revenue	7.97 (Unrealized revenue 0.44)	⇩	5.40	77%	90%	98%	103%	95%
Power purchase cost	7.44	⇩	5.03	107%	88%	79%	55%	89%
O&M expenses	0.71	⇧	0.48	34%	14%	9%	1%	8%
Interest	0.32	⇩	0.21	21%	7%	4%	0%	4%
Other expenses	0.92	⇧	0.63					
Gap / Surplus	1.42	⇩	0.95	2.00	0.95	0.15	-0.69	0.95

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • N/A	**Financial Sustainability** • Improvement in power procurement costs, currently at 89%* of revenue booked, to improve cash adjusted ACS-ARR gap, currently at INR 0.95* per kWh • Improvement in days receivable, currently at 183 days • Improvement in cash adjusted DSCR, currently at negative 0.18* • Improvement in leverage, currently at negative 2.3*
Performance Excellence • N/A	**Performance Excellence** • Significant improvement in billing efficiency, currently at 76.7%* • Distribution losses significantly higher than the SERC approved loss by ~54% in FY 2021 • Significant improvement in collection efficiency, currently at 90.3%*
External Environment • Receipt of more than 100% of tariff subsidy over the last 3 financial years • No government dues over the last 3 financial years • Issuance of tariff and true-up orders on time	**External Environment** • Regulatory support for automatic pass-through fuel cost adjustment

* 3-year weighted average

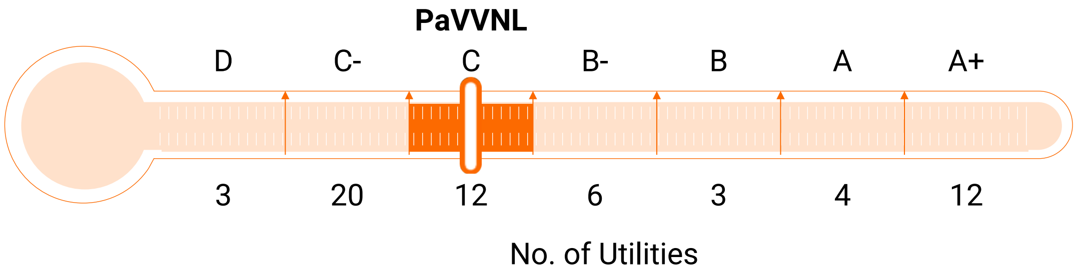
Paschimanchal Vidyut Vitran Nigam Limited (PaVVNL)

PaVVNL is a state owned discom incorporated in May 2003. It serves customers in districts of Uttar Pradesh namely Meerut, Baghpat, Ghaziabad, Gautambudh Nagar, Bulandshahar, Hapur, Muzaffarnagar, Saharanpur, Shamli, Bijnor, Moradabad, Sambhal, J.P. Nagar and Rampur. In FY21, PaVVNL had a revenue of INR 20,291 crores, profit after tax of INR -3,735 crores and sold 27,492 million units of energy.

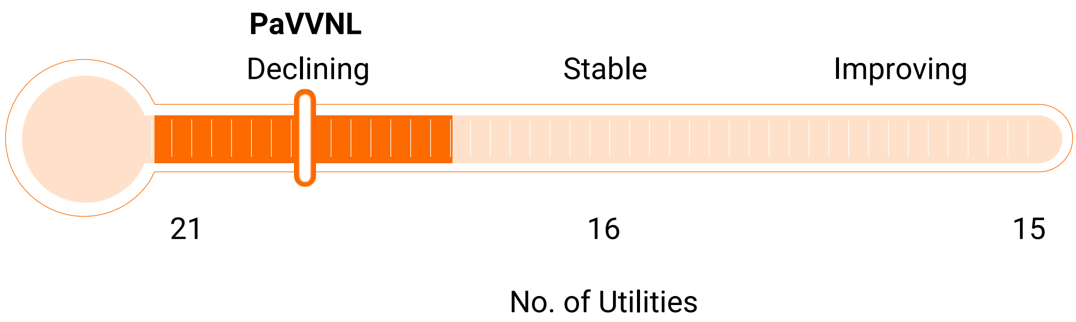
#29 **Rank**
29 out of 52

C

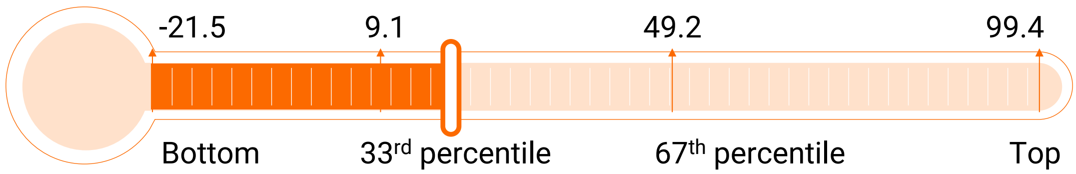
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

PaVVNL has a high cash adjusted ACS-ARR gap of INR 0.93 per kWh (middle tertile in the sector). The primary driver of its high ACS-ARR gap is high power procurement costs (which make up 97% of the booked revenue and falls in the bottom tertile). PaVVNL is performing well in terms of cash adjusted revenue and O&M costs (both fall in the top tertile). Its performance on all ACS-ARR gap costs components (except cash adjusted revenue) declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | PaVVNL

ACS - ARR gap Component	Amount INR '000 cr.	Trend	Amount INR / kWh	Bottom	33rd	67th	Top	PaVVNL
Cash adjusted revenue	19.69 / 0.43	⇧	5.85	77%	90%	98%	103%	98%
Power purchase cost	19.56	⇩	5.81	107%	88%	79%	55%	97%
O&M expenses	1.56	⇩	0.46	34%	14%	9%	1%	8%
Interest	1.14	⇩	0.34	21%	7%	4%	0%	6%
Other expenses	0.55	⇩	0.16					
Gap / Surplus	3.13	⇩	0.93	2.00	0.95	0.15	-0.69	0.93

Distribution of percentage share of total revenue booked (Percentile: Bottom, 33rd, 67th, Top)

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability**
• Strong liquidity position as reflected by an adjusted quick ration of 1*	• High power procurement costs at 97% of revenue booked* • High days receivables, currently at 215 days • Negative DSCR (-0.76) and leverage (-11.32) ratios due to operational losses*
Performance Excellence	**Performance Excellence**
• Moderately high collection efficiency, currently at 97.8%*	• Distribution losses 55% higher than SERC approved losses for FY21 • Improvement in billing efficiency, currently at 83.2%* • Adherence to Corporate Governance i.e., board having 1/3rd independent directors
External Environment	**External Environment**
• Receipt of 100% of tariff subsidy over the last 3 financial years • Regulation allows automatic pass through of fuel costs	• Delays in tariff cycle timelines

* 3-year weighted average

Paschim Gujarat Vij Company Limited (PGVCL)

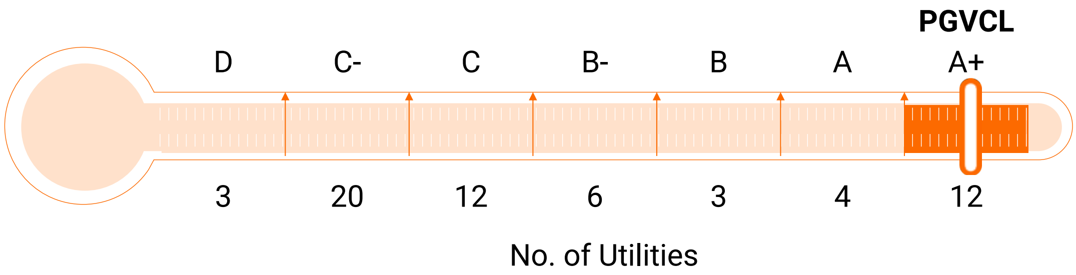
PGVCL is a state owned discom incorporated in September 2003. It serves 54 lakh+ customers in Saurashtra and Kutch regions of the state of Gujarat. In FY21, PGVCL had a revenue of INR 17,457 crores, profit after tax of INR 179 crores and sold 27,913 million units of energy.

#8

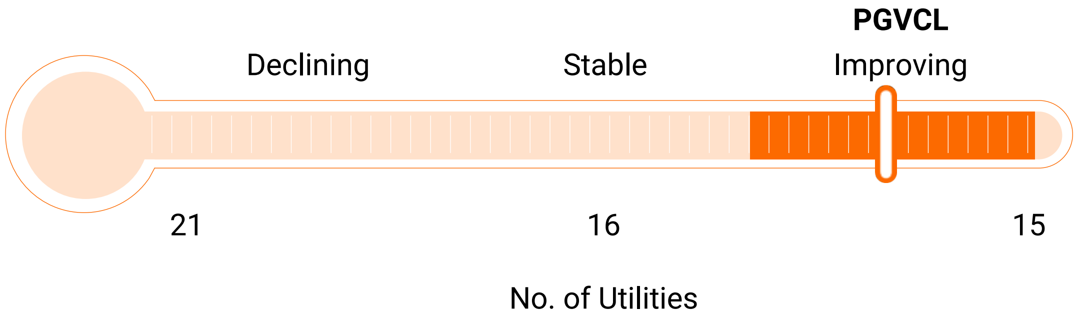
Rank
8 out of 52

A+

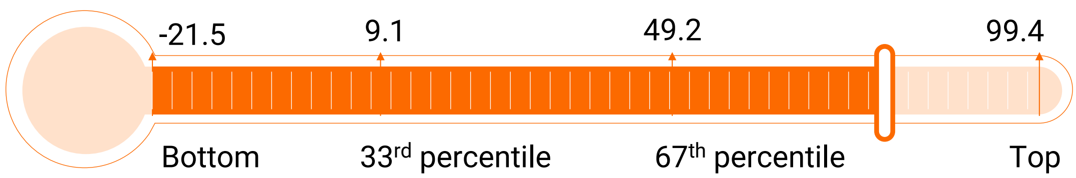
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

Weighted average value of cash adjusted ACS-ARR Gap for the three financial years i.e., FY21, FY20, and FY19 is INR -0.02 per kWh for PGVCL (top tertile in the sector). A breakdown of expenses of PGVCL shows that the cash adjusted revenue is sufficient to meet the expenses of power purchase, O&M, interest, and other expenses. PGVCL is performing well on cash adjusted revenue, O&M costs, and interest costs as these parameters lie in the top tertile. However, PGVCL performance on power purchase costs and O&M expenses declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | PGVCL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Bottom	33rd (Percentile)	67th (Percentile)	Top	PGVCL
Cash adjusted revenue	17.47 / 0.10	⇧	4.77	77%	90%	98%	103%	99%
Power purchase cost	15.18	⇩	4.14	107%	88%	79%	55%	86%
O&M expenses	1.09	⇩	0.30	34%	14%	9%	1%	6%
Interest	0.14	⇧	0.04	21%	7%	4%	0%	1%
Other expenses	0.97	⇩	0.27					
Gap / Surplus	0.08	⇧	-0.02	2.00	0.95	0.15	-0.69	-0.02

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • Very low days payable & days receivable, currently at 0.4 days & 12 days respectively • Very high AQR of 1.58* • High cash adjusted revenue of 99.5%* • ACS-ARR surplus of 0.02*	**Financial Sustainability** • Slightly higher power procurement costs at 86%* of revenue booked
Performance Excellence • Collection efficiency currently at 99.3%*	**Performance Excellence** • Scope for improvement in billing efficiency currently at 81.7%*, as currently distribution losses are higher than approved by SERC
External Environment • Receipt of 100% of tariff subsidy over the last 3 financial years • Regulation allows automatic pass through of fuel costs • Timely issuance of tariff orders	**External Environment** • Significant government dues at 33% for the last 3 financial years

* 3-year weighted average

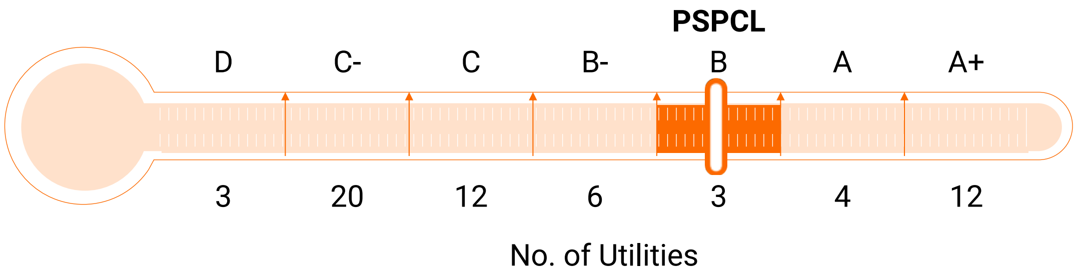
Punjab State Power Corporation Limited (PSPCL)

PSPCL is a state owned discom incorporated in April 2010. It serves 99 lakh+ customers in the state of Punjab. In FY21, PSPCL had a revenue of INR 34,283 crores, profit after tax of INR 1,446 crores and sold 49,729 million units of energy.

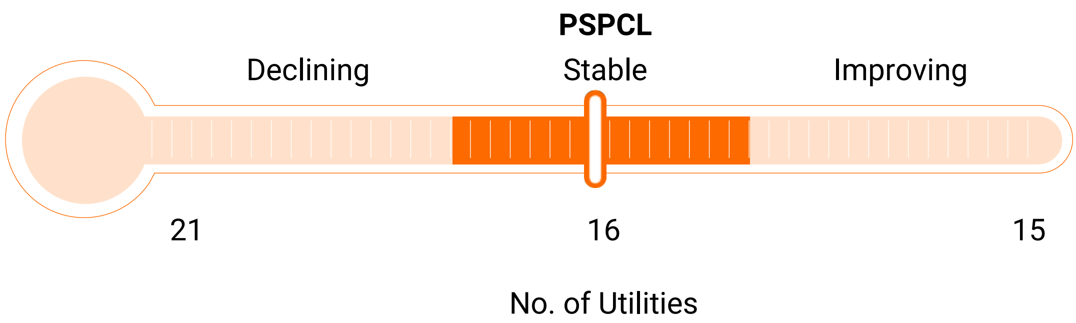
#16 **Rank**
16 out of 52

B

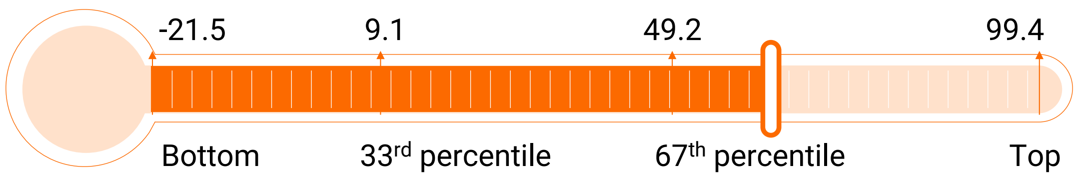
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

PSPCL has a cash adjusted ACS-ARR gap of INR 0.14 per kWh (top tertile in the sector). Its cash adjusted revenue is ~INR 32,370 crore (~96% of the revenue booked) and unrealized revenue is ~INR 1,390 crore. PSPCL has low power purchase costs, at 71% of revenue billed, but high O&M and interest costs, at 16% and 7% of the revenue billed, respectively (both in the bottom tertile). PSPCL's performance on power purchase costs, O&M expenses, and interest expenses declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | PSPCL

ACS - ARR gap Component	Amount INR '000 cr.	Trend	Amount INR / kWh	Bottom	Percentile 33rd	Percentile 67th	Top	PSPCL
Cash adjusted revenue	32.37 (Unrealized revenue: 1.39)	⇩	5.65	77%	90%	98%	103%	96%
Power purchase cost	24.03	⇧	4.20	107%	88%	79%	55%	71%
O&M expenses	5.29	⇧	0.92	34%	14%	9%	1%	16%
Interest	2.22	⇧	0.39	21%	7%	4%	0%	7%
Other expenses	1.65	⇩	0.29					
Gap / Surplus	0.82	⇩	0.14	2.00	0.95	0.15	-0.69	0.14

Distribution of percentage share of total revenue booked

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • Good cash adjusted ACS-ARR gap of 0.14* INR/kWh • High adjusted quick ratio at 0.83* • Low days payable to gencos and transcos, currently at 65 days	**Financial Sustainability** • High O&M costs, at 16%* of revenue booked • Low debt service coverage ratio, at 0.69*
Performance Excellence • Distribution losses almost in line with SERC-approved losses for FY21, at 1.02 for FY21	**Performance Excellence** • Average collection efficiency, at 94.9%* • Improvement in corporate governance, i.e., having 1/3rd independent directors on board
External Environment • High subsidy realization, i.e., 97% during last 3 financial years • Regulation allows automatic pass through of fuel costs • Very low government dues (10% for the last 3 financial years)	**External Environment** • Delays in tariff cycle timelines

* 3-year weighted average

Purvanchal Vidyut Vitaran Nigam Limited (PuVVNL)

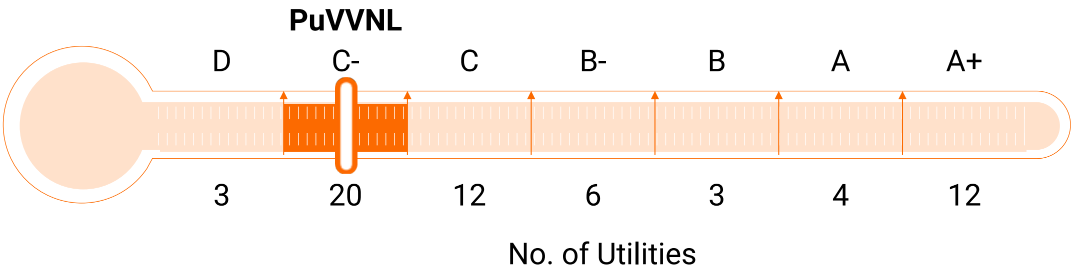
PuVVNL is a state owned discom incorporated in May 2003. It serves customers in the state of Uttar Pradesh namely in the districts of Varanasi, Ghazipur, Chandauli, Jaunpur, Sant Rabidas Nagar(Bhadohi), Mirzapur, Sonbhadra, Mau, Azamgarh, Ballia, Deoria, Kushi Nagar, Gorakhpur, Maharajganj, Sant Kabir Nagar, Basti, Sidharth Nagar, Allahabad, Pratapgarh, Fatehpur and Kaushambi . In FY21, PuVVNL had a revenue of INR 15,051 crores, profit after tax of INR -3,566 crores and sold 21,903 million units of energy.

#44

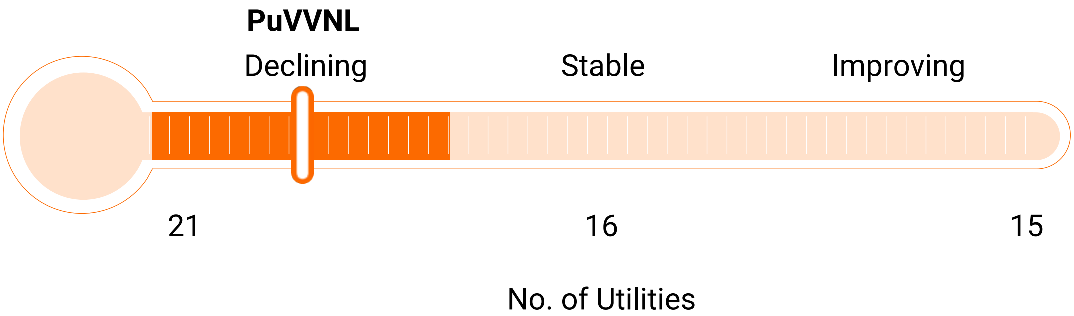
Rank
44 out of 52

C-

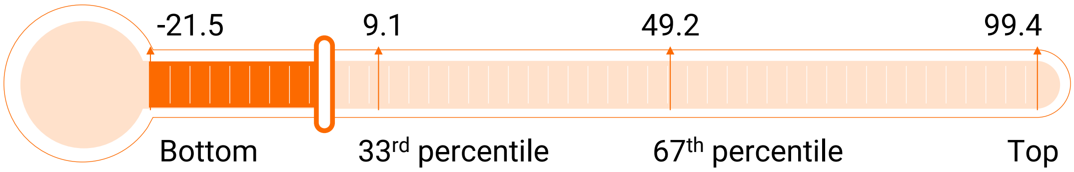
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

PuVVNL has a high cash adjusted ACS-ARR gap of INR 1.90 per kWh (bottom tertile in the sector). The primary driver of its high ACS-ARR gap is low cash adjusted revenue of 83% and high power purchase costs (90% of revenue booked). PuVVNL's cash adjusted revenue, power purchase costs and interest costs lie in the bottom tertile. PuVVNL's performance on all ACS-ARR gap components declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR; Unrealized revenue; PuVVNL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Bottom	33rd	67th	Top	PuVVNL
				Distribution of percentage share of total revenue booked (Percentile)				
Cash adjusted revenue	12.74 (Unrealized revenue 2.57)	⇩	4.69	77%	90%	98%	103%	83%
Power purchase cost	13.84	⇩	5.10	107%	88%	79%	55%	90%
O&M expenses	1.72	⇩	0.63	34%	14%	9%	1%	11%
Interest	1.59	⇩	0.58	21%	7%	4%	0%	10%
Other expenses	0.77	⇩	0.28					
Gap / Surplus	5.17	⇩	1.90	2.00	0.95	0.15	-0.69	1.90

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability**
• N/A	• Improvement of cash adjusted revenue, currently at 83%* of revenue booked, to improve the cash adjusted ACS-ARR gap, currently at INR 1.90* per kWh • High days payable to gencos and transcos, currently at 296 days, and days receivables, currently at 840 days • Improvement of cash adjusted DSCR and leverage, currently at -1.10* and -8.05* respectively
Performance Excellence	**Performance Excellence**
• N/A	• Significant improvement in billing efficiency, currently at 79.5%* • Significant improvement in collection efficiency, currently at 83.1%* • Distribution losses higher than those approved by the SERC
External Environment	**External Environment**
• Receipt of 100% of tariff subsidy over the last 3 financial years • Regulation allows automatic pass through of fuel costs	• Delays in filing of tariff petitions and issuance of tariff orders

* 3-year weighted average

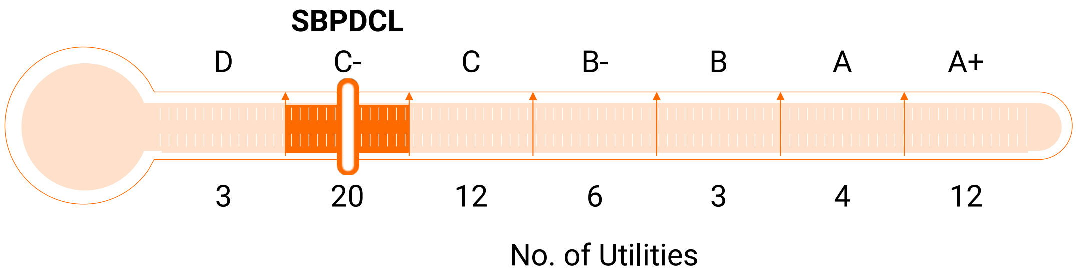
South Bihar Power Distribution Company Limited (SBPDCL)

SBPDCL is a state owned discom incorporated in June 2012. It serves customers in the state of Bihar in 17 districts of the southern region. In FY21, SBPDCL had a revenue of INR 10,513 crores, profit after tax of INR -1,140 crores and sold 13,054 million units of energy.

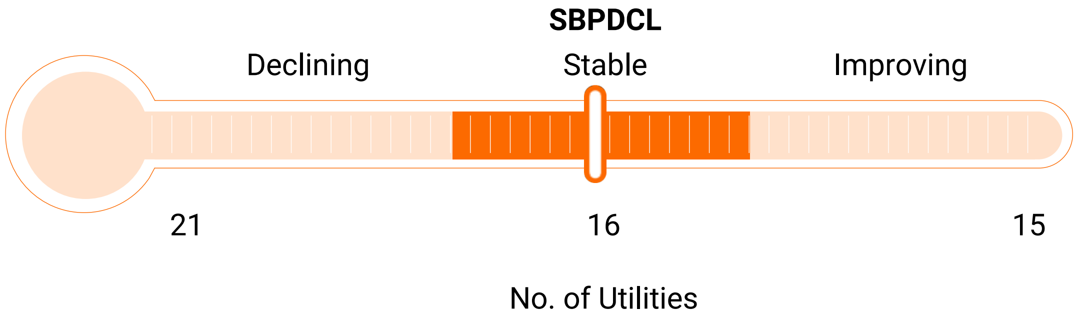
#39 **Rank**
39 out of 52

C-

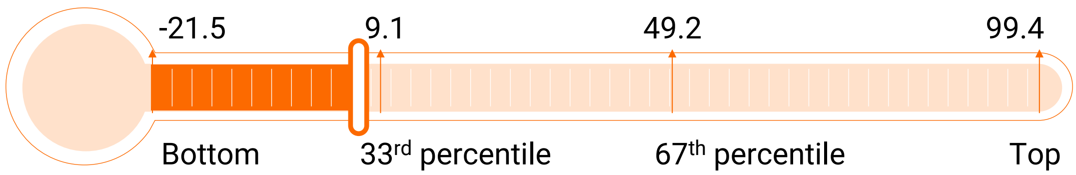
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

SBPDCL has a high cash adjusted ACS-ARR gap of INR 1.53 per kWh (bottom tertile in the sector). The primary driver of its high ACS-ARR gap is low cash adjusted revenue and high-power purchase costs, at 86% and 96% of revenue booked, respectively. SBPDCL is performing well on O&M and interest expenses (top tertile), but its performance on all ACS-ARR gap components (except cash adjusted revenue and other expenses) declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | SBPDCL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	Percentile: 33rd	Percentile: 67th	Top	SBPDCL
Cash adjusted revenue	8.31 (unrealized revenue: 1.40)	⇧	4.55	77%	90%	98%	103%	86%
Power purchase cost	9.26	⇩	5.07	107%	88%	79%	55%	96%
O&M expenses	0.85	⇩	0.46	34%	14%	9%	1%	9%
Interest	0.33	⇩	0.18	21%	7%	4%	0%	3%
Other expenses	0.65	⇧	0.36					
Gap / Surplus	2.77	⇩	1.53	2.00	0.95	0.15	-0.69	1.53

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • N/A	**Financial Sustainability** • Improvement in power procurement costs, currently at 96%* of revenue booked • Improvement of cash adjusted revenue, currently at 86%* of revenue booked, to improve the cash adjusted ACS-ARR gap, currently INR 1.53* per kWh • Improvement of cash adjusted DSCR, currently at negative 3.39* • Improvement of cash adjusted leverage, currently at negative 3.48* • Improvement in days receivable, currently at 311 days
Performance Excellence • N/A	**Performance Excellence** • Significant improvement in billing efficiency, currently at 72.4%* • Distribution losses significantly higher than SERC approved loss by ~75% in FY 2021 • Significant improvement in collection efficiency, at 82.5%* • Improvement in adherence to Corporate Governance
External Environment • High tariff subsidy realization, at 102% over the last 3 financial years • Realization of all government dues for the last 3 financial years • Issuance of tariff and true-up orders on time	**External Environment** • Regulator not allowing auto pass through of fuel costs

* 3-year weighted average

Tamil Nadu Generation & Distribution Corporation Limited (TANGEDCO)

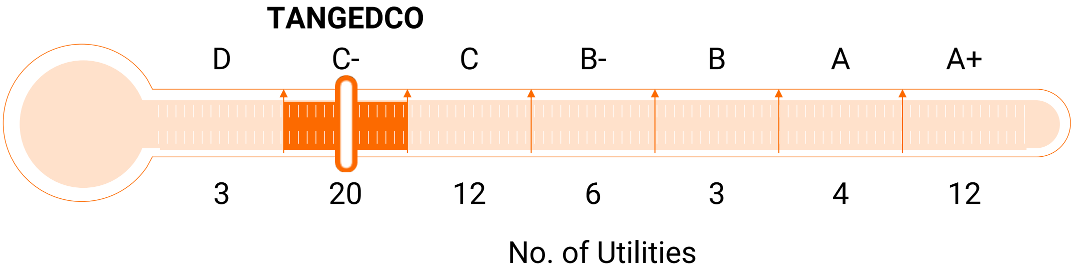
TANGEDCO is a state owned discom incorporated in December 2009. It serves 30 crore+ customers in the state of Tamil Nadu. In FY21, TANGEDCO had a revenue of INR 49,785 crores, profit after tax of INR -13,407 crores and sold 73,622 million units of energy.

#46

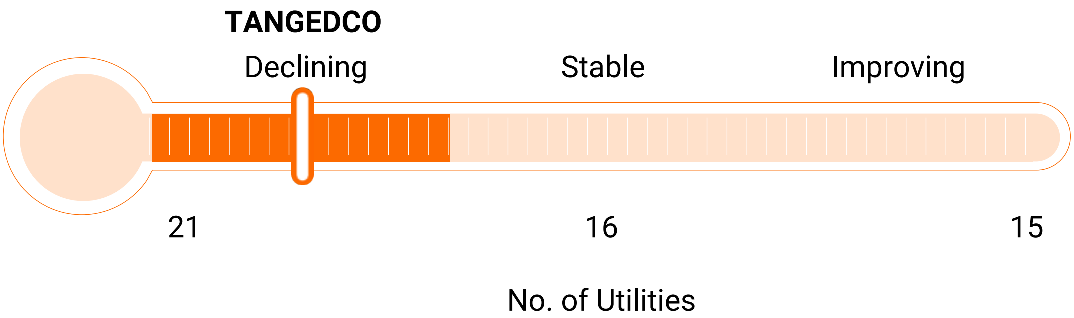
Rank
46 out of 52

C-

Grade



ACS-ARR Gap Trajectory



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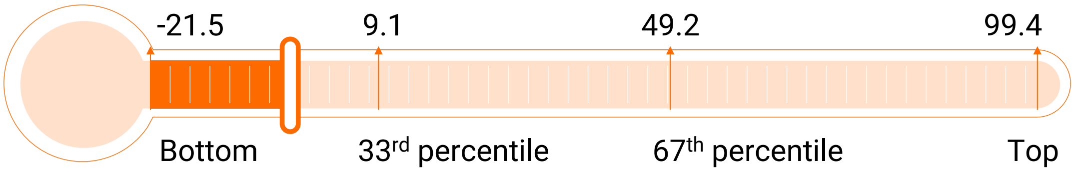


Key Insights

TANGEDCO has a very high cash adjusted ACS-ARR gap of INR 2.00 per kWh (one of the highest in the sector). The primary driver of its high ACS-ARR gap is low cash adjusted revenue at 90% of revenue booked. This is sufficient just to cover its power purchase costs, which lie in the middle tertile. Another main reason for the high ACS-ARR gap at TANGEDCO is persisting non-cost-reflective tariffs in the state since FY18 (due to non-revision of tariffs). TANGEDCO's performance on interest as well as O&M costs lie in the bottom tertile. Its performance on all ACS-ARR gap components (except cash adjusted revenue and power purchase costs) declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | TANGEDCO

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	Percentile 33rd	Percentile 67th	Top	TANGEDCO
Cash adjusted revenue	45.32 (unrealized revenue 5.19)	⇧	5.00	77%	90%	98%	103%	90%
Power purchase cost	40.82	⇧	4.50	107%	88%	79%	55%	81%
O&M expenses	9.79	⇩	1.08	34%	14%	9%	1%	19%
Interest	10.08	⇩	1.12	21%	7%	4%	0%	20%
Other expenses	2.75	⇩	0.30					
Gap / Surplus	18.12	⇩	2.00	2.00	0.95	0.15	-0.69	2.00

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • N/A	**Financial Sustainability** • Significant improvement in cash adjusted revenue, currently at 90%* of revenue booked, to improve the cash adjusted ACS-ARR gap, currently at INR 2.00* per kWh • Significant improvement in cash adjusted DSCR and leverage, currently at -0.51* and -26.32*, respectively • Reduction in days payable to gencos and transcos, currently at 212 days • Improvement in the adjusted quick ratio, at 0.58*
Performance Excellence • Lower distribution losses than the SERC approved figure • High collection efficiency, at 98.5%*	**Performance Excellence** • Improvement in billing efficiency, currently at 86.6%*
External Environment • Receipt of 100% tariff subsidy over the last 3 financial years	**External Environment** • Significant government dues – 32% for the last 3 financial years • No tariff and true-up orders issued since FY18 • Regulatory support for implementation of auto pass through of fuel costs

* 3-year weighted average

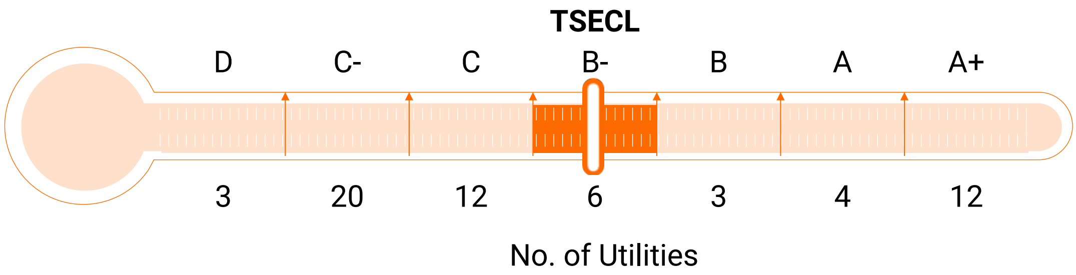
Tripura State Electricity Corporation Limited (TSECL)

TSECL is a state owned discom incorporated in June 2004. It serves 9.3 lakh+ customers in the state of Tripura. In FY21, TSECL had a revenue of INR 1,468 crores, profit after tax of INR 14.8 crores and sold 982 million units of energy.

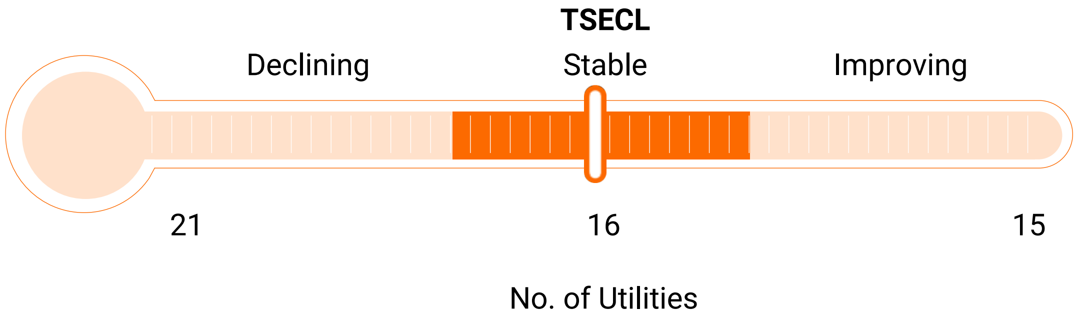
#22 **Rank**
22 out of 52

B-

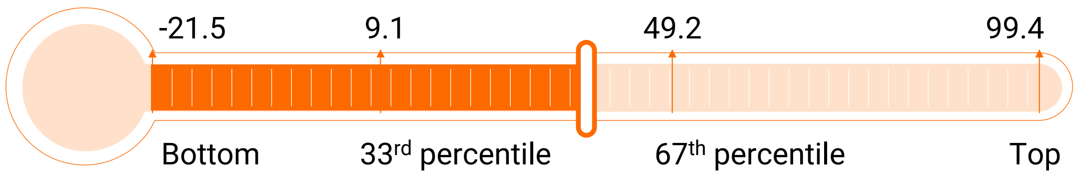
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

TSECL has a fair cash adjusted ACS-ARR gap of INR 0.19 per kWh which lies between the 67th and 33rd percentiles as compared to other DISCOMs. The primary driver of the ACS-ARR gap is high O&M cost at 16% of revenue booked, which lies below the 33rd percentile boundary. High O&M cost may also be due to the presence of the power generation business. All the components of ACS-ARR gap except interest costs & cash adjusted revenue have been declining since FY 2019.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | TSECL

ACS - ARR gap Component	Amount INR '000 cr.	Trend	Amount INR / kWh	Bottom	33rd Percentile	67th Percentile	Top	TSECL
Cash adjusted revenue	1.42 (Unrealized revenue: 0.06)	⇧	4.59	77%	90%	98%	103%	96%
Power purchase cost	1.20	⇩	3.87	107%	88%	79%	55%	81%
O&M expenses	0.24	⇩	0.77	34%	14%	9%	1%	16%
Interest	0.02	⇧	0.05	21%	7%	4%	0%	1%
Other expenses	0.03	⇩	0.08					
Gap / Surplus	0.06	⇩	0.19	2.00	0.95	0.15	-0.69	0.19

(Distribution of percentage share of total revenue booked)

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • Strong working capital management reflected by 3-year weighted average Adjusted Quick Ratio of 1.80 • Fair Days Payable to GenCos & TransCos, currently at 63 days	**Financial Sustainability** • Significant improvement in cash adjusted Debt Service Coverage Ratio, currently at -0.43, 3-year weighted average • Significant improvement in cash adjusted Leverage Ratio, currently at -13.75, 3-year weighted average
Performance Excellence • N/A	**Performance Excellence** • High distribution loss, exceeding SERC approved loss by ~42% in FY 2021 • Improvement in Billing Improvement in Collection Efficiency, currently at 89.1% 3-year weighted average • Adherence to Corporate Governance i.e., board with 1/3rd independent directors
External Environment • Profitable and therefore does not require any loss takeover by the state government • Regulation allows automatic pass through of fuel costs	**External Environment** • Only 41% of the tariff subsidy booked has been realized in past 3 years • Regulatory support for timely issuance of tariff and true-up orders

* 3-year weighted average

Northern Power Distribution Company of Telangana Limited (TSNPDCL)

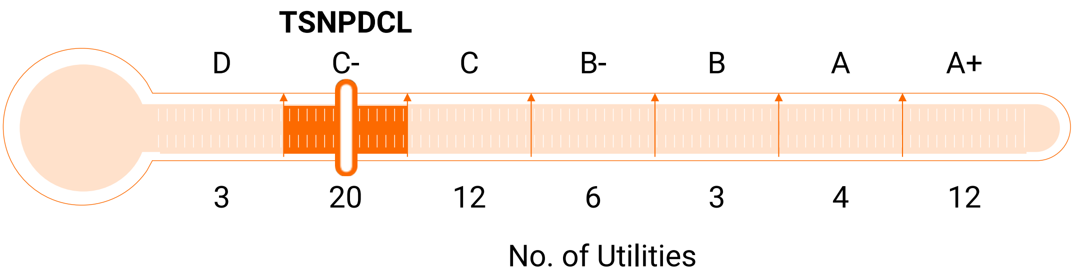
TSNPDCL is a state owned discom incorporated in March 2000. It serves 61.7 lakh+ customers in 17 districts of North Telangana. In FY21, TSNPDCL had a revenue of INR 11,699 crores, profit after tax of INR -2,440 crores and sold 18,774 million units of energy.

#38

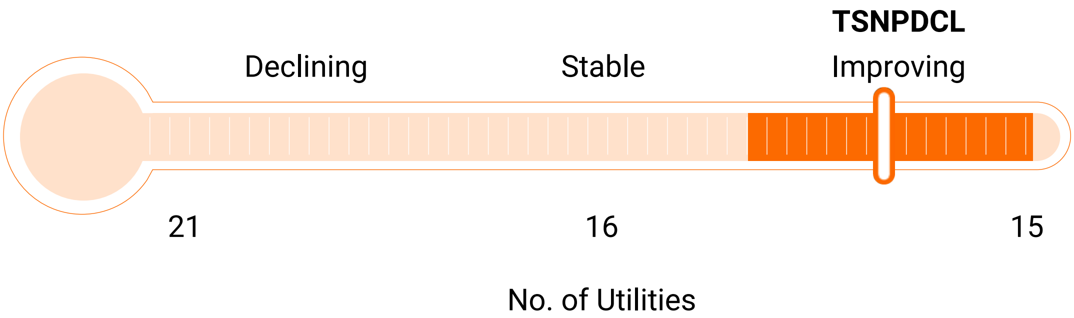
Rank
38 out of 52

C-

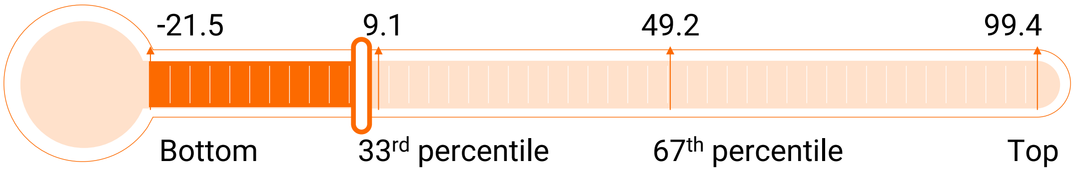
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

TSNPDCL has a high cash adjusted ACS-ARR gap at 1.31 (bottom tertile in the sector). The primary driver for its high gap is high power purchase costs and O&M costs, together accounting for 110% of booked revenue and falling below the 33rd percentile boundary. While TSNPDCL's performance on cash adjusted revenue and power purchase costs improved during FY19-FY21, its performance on O&M costs and interest costs declined.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | TSNPDCL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	Percentile: 33rd	Percentile: 67th	Top	TSNPDCL
Cash adjusted revenue	11.19 (Unrealized revenue: 0.67)	⇧	5.09	77%	90%	98%	103%	95%
Power purchase cost	11.14	⇧	5.07	107%	88%	79%	55%	94%
O&M expenses	1.91	⇩	0.87	34%	14%	9%	1%	16%
Interest	0.65	⇩	0.30	21%	7%	4%	0%	6%
Other expenses	0.36	⇧	0.16					
Gap / Surplus	2.87	⇧	1.31	2.00	0.95	0.15	-0.69	1.31

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • N/A	**Financial Sustainability** • Improvement in power purchase costs, currently at 94%* of revenue booked • Improvement in O&M costs, currently at 16%* of booked revenue • Improvement in cash adjusted ACS-ARR gap, currently at INR 1.31* per kWh • High days receivable, currently at 275 days • High days payable to gencos and transcos, currently at 260 days • Improvement in cash adjusted DSCR and leverage, currently at -1.67* and -15.21*, respectively
Performance Excellence • Distribution losses lower than the SERC-approved figure	**Performance Excellence** • Improvement in collection efficiency, currently at 89.7%*
External Environment • N/A	**External Environment** • Low tariff subsidy realization, currently at 89% • Significant government dues, at 54% for the last 3 financial years • Operational viability support needed from the State Government • Regulation does not allow automatic pass through of fuel costs • Regulatory support needed for issuance of tariff and true-up orders on time

* 3-year weighted average

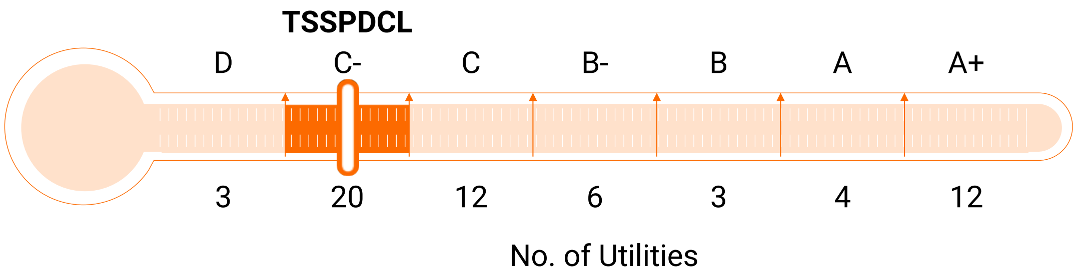
Southern Power Distribution Company of Telangana Limited (TSSPDCL)

TSSPDCL is a state owned discom incorporated in June 2014. It serves 97.5 lakh+ customers in 15 districts in the state of Telangana namely Mahabubnagar, Narayanpet, Nalgonda, Yadadri Bhuvanagiri, Suryapet, Siddipet, Medchal, Wanaparthy, Nagarkarnool, Jogulamba Gadwal, SangaReddy, Medak, Hyderabad, Vikarabad and Rangareddy. In FY21, TSSPDCL had a revenue of INR 24,144 crores, profit after tax of INR -4,246 crores and sold 38,275 million units of energy.

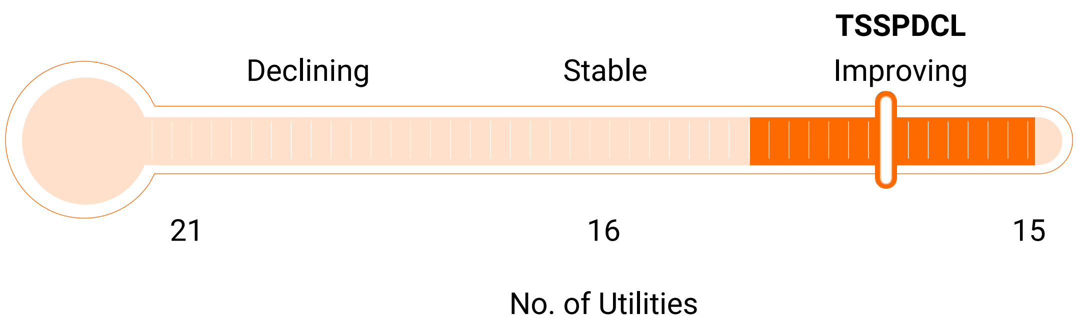
#45 **Rank**
45 out of 52

C-

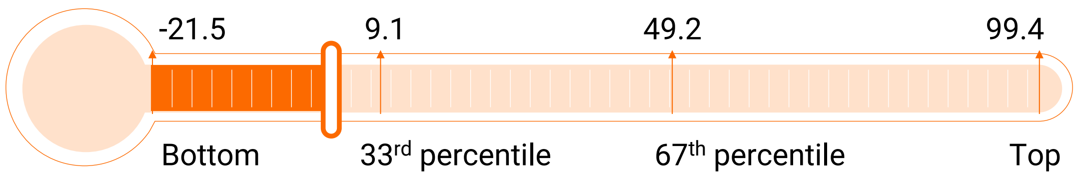
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

TSSPDCL has a high cash adjusted ACS-ARR gap of INR 1.63 per kWh (bottom tertile in the sector). The primary driver of its high ACS-ARR gap is low cash adjusted revenue and high power purchase costs (both in the bottom tertile). TSSPDCL's O&M costs and interest costs are average (middle tertile). While its performance on cash adjusted revenue and power purchase costs improved during FY19-FY21, its performance on O&M costs and interest costs declined during the period.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | TSSPDCL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	33rd Percentile	67th Percentile	Top	TSSPDCL
Cash adjusted revenue	21.80 (Unrealized revenue: 2.47)	⇧	4.81	77%	90%	98%	103%	90%
Power purchase cost	24.17	⇧	5.34	107%	88%	79%	55%	100%
O&M expenses	2.52	⇩	0.56	34%	14%	9%	1%	10%
Interest	1.71	⇩	0.38	21%	7%	4%	0%	7%
Other expenses	0.79	⇧	0.17					
Gap / Surplus	7.40	⇧	1.63	2.00	0.95	0.15	-0.69	1.63

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • N/A	**Financial Sustainability** • High power purchase costs, at 100%* of revenue booked • Improvement of revenue realization, currently at 90%*, to improve the cash adjusted ACS-ARR gap, currently at INR 1.63* per kWh • Improvement of cash adjusted DSCR and leverage, currently at -1.81* and -3.44*, respectively • Improvement in days payable to gencos and transcos, currently at 306 days • Improvement in adjusted quick ratio, currently at 0.26*
Performance Excellence • Low distribution losses, as compared with the SERC-approved figure • High billing efficiency of 93.2%*	**Performance Excellence** • Improvement in collection efficiency, currently at 91.0%*
External Environment • N/A	**External Environment** • Low tariff subsidy realization, currently at 89% for the last 3 financial years • Significant government dues, at 37% for the last 3 financial years • Regulatory support needed for implementation of automatic pass through of fuel costs • Regulatory support needed for issuance of tariff and true-up orders

* 3-year weighted average

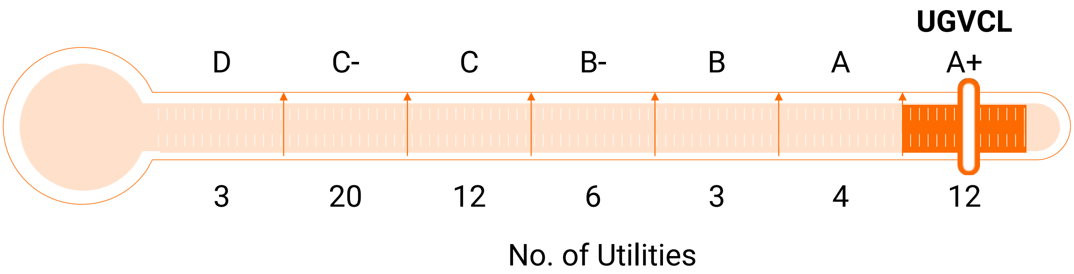
Uttar Gujarat Vij Company Limited (UGVCL)

UGVCL is a state owned discom incorporated in September 2003. It serves 38 lakh+ customers in six full districts in northern region of Gujarat and three-part districts in western and central areas. In FY21, UGVCL had a revenue of INR 12,945 crores, profit after tax of INR 74 crores and sold 22,822 million units of energy.

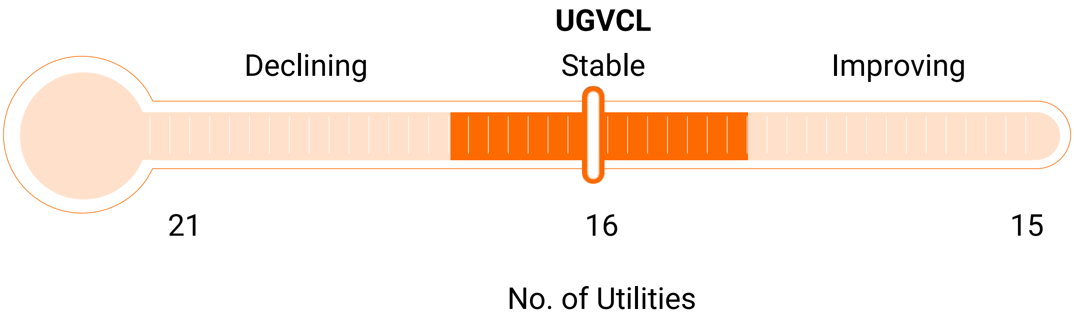
#4 **Rank**
4 out of 52

A+

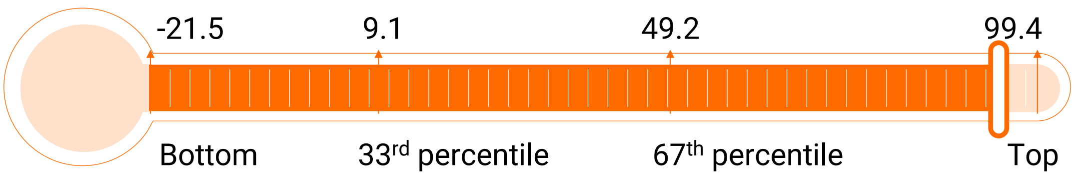
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

UGVCL has a cash adjusted ACS-ARR surplus of INR 0.02 per kWh (top tertile in the sector). The primary driver of the ACS-ARR surplus is high cash adjusted revenue (99% of revenue booked) and low O&M and interest expenses (5% & 1% of revenue booked, respectively). UGVCL's power purchase costs lie in the bottom percentile, forming 90% of the revenue booked. Its performance on power purchase and O&M expenses declined during FY19-FY21, but its performance on cash adjusted revenue and interest costs improved during the period.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR ☐ Unrealized revenue ☐ UGVCL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Bottom	Percentile 33rd	Percentile 67th	Top	UGVCL
Cash adjusted revenue	12.82 (0.07)	⇧	4.84	77%	90%	98%	103%	99%
Power purchase cost	11.62	⇩	4.39	107%	88%	79%	55%	90%
O&M expenses	0.68	⇩	0.26	34%	14%	9%	1%	5%
Interest	0.09	⇧	0.03	21%	7%	4%	0%	1%
Other expenses	0.36	⇩	0.14					
Gap / Surplus	0.05	⇧	-0.02	2.00	0.95	0.15	-0.69	-0.02

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • ACS-ARR surplus, currently at 0.02* • Low O&M and interest costs, currently at 5%* & 1%* of revenue booked • Strong working capital management resulting in days receivable of 32 days and 0 days payable to gencos and transcos • 0 days payable resulting into high adjusted quick ratio, currently at 1.80* • High cash adjusted revenue resulting in strong adjusted DSCR and leverage, currently at 4.50* & 0.18*, respectively	**Financial Sustainability** • High power purchase costs, currently at 90%* of revenue booked
Performance Excellence • Distribution losses (at 6.8% for FY21) lower than the SERC-approved figure of 9.6% • High billing efficiency, currently at 92.6%* • High collection efficiency, currently at 99.4%*	**Performance Excellence** • N/A
External Environment • Receipt of 100% of tariff subsidy over the last 3 financial years • Regulation allows automatic pass through of fuel costs • Adherence to tariff cycle timelines	**External Environment** • N/A

* 3-year weighted average

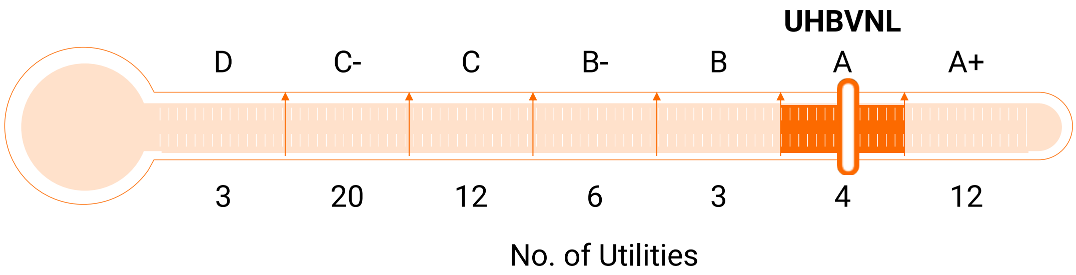
Uttar Haryana Bijli Vitran Nigam Limited (UHBVNL)

UHBVNL is a state owned discom incorporated in March 1999. It serves 33 lakh+ customers in the northern region in the state of Haryana. In FY21, UHBVNL had a revenue of INR 12,573 crores, profit after tax of INR 397 crores and sold 17,560 million units of energy.

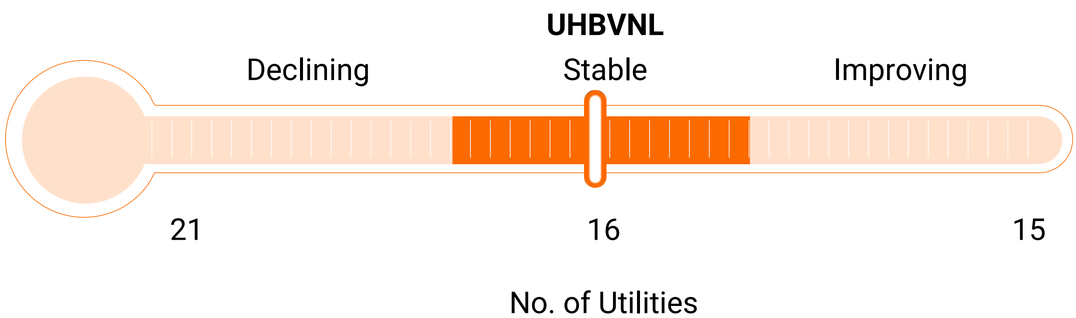
#14 **Rank**
14 out of 52

A

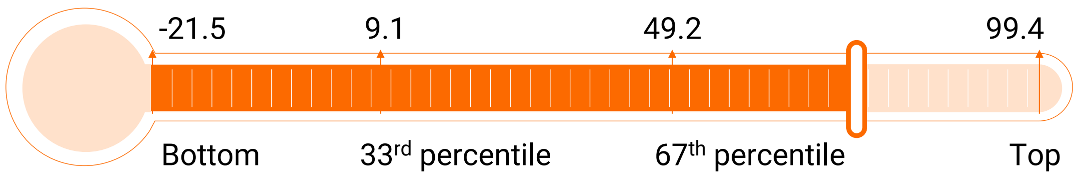
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

UHBVNL has a cash adjusted ACS-ARR surplus of INR 0.24 INR per kWh (top tertile), driven mainly by high cash adjusted revenue (102% of the revenue booked) and partly by low power purchase and interest expenses (which fall on the 67th percentile boundary). UHBVNL's performance on all components of the ACS-ARR gap (except cash adjusted revenue and O&M expenses) improved during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | UHBVNL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	Percentile: 33rd	Percentile: 67th	Top	UHBVNL
Cash adjusted revenue	13.40	⇩	5.85	77%	90%	98%	103%	102%
Power purchase cost	10.44	⇧	4.56	107%	88%	79%	55%	79%
O&M expenses	1.32	⇩	0.58	34%	14%	9%	1%	10%
Interest	0.54	⇧	0.24	21%	7%	4%	0%	4%
Other expenses	0.56	⇧	0.24					
Gap / Surplus	0.54	⇩	-0.24	2.00	0.95	0.15	-0.69	-0.24

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability**
• High cash adjusted revenue, currently at 102%*, resulting in an ACS-ARR surplus of 0.24* • Low days receivable, currently at 14 days • Low days payable to gencos and transcos, currently at 53 days • High leverage, currently at 2.46*	• Improvement in adjusted quick ratio, currently at 0.32*
Performance Excellence	**Performance Excellence**
• Lower distribution losses than the SERC approved figure • High collection efficiency, currently at 99.4%*	• Improvement in billing efficiency, currently at 82%*
External Environment	**External Environment**
• Receipt of 100% of tariff subsidy over the last 3 financial years • Adherence to tariff cycle timelines • Regulation allows automatic pass through of fuel costs	• N/A

* 3-year weighted average

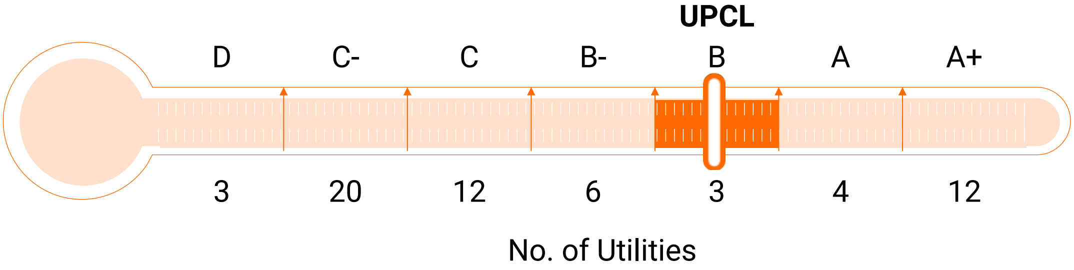
Uttarakhand Power Corporation Limited (UPCL)

UPCL is a state owned discom incorporated in February 2001. It serves 26.1 lakh+ customers in the state of Uttarakhand. In FY21, UPCL had a revenue of INR 6,542 crores, profit after tax of INR -152 crores and sold 11,433 million units of energy.

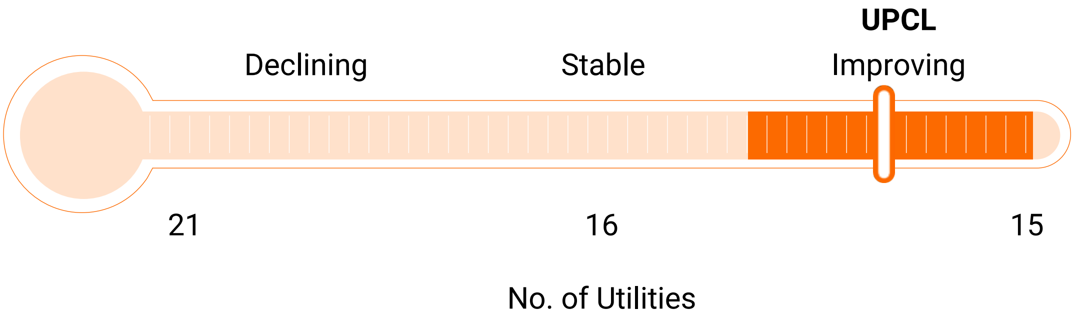
#17 **Rank**
17 out of 52

B

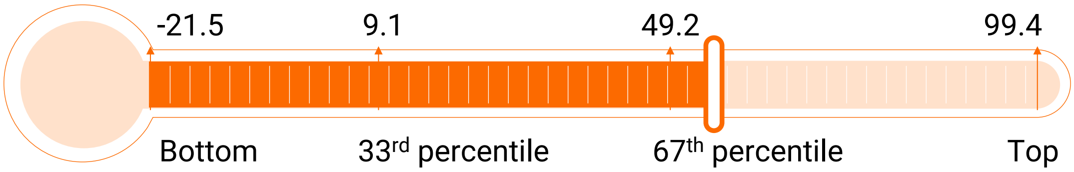
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

UPCL has a cash adjusted ACS-ARR gap of INR 0.28 per kWh (middle tertile in the sector). One of the drivers for its ACS-ARR gap is its high power purchase costs, which constitute 89% of the cash adjusted revenue. UPCL is performing well on O&M costs as well as interest costs, both of which lie in the top tertile, but its power purchase lie in the bottom tertile. All the components of the cash adjusted ACS-ARR gap for UPCL improved during FY19-FY21, except O&M and other expenses.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR   Unrealized revenue   UPCL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	Percentile 33rd	Percentile 67th	Top	UPCL
Cash adjusted revenue	6.48 (Unrealized revenue: 0.12)	⇧	4.54	77%	90%	98%	103%	98%
Power purchase cost	5.87	⇧	4.10	107%	88%	79%	55%	89%
O&M expenses	0.58	⇩	0.41	34%	14%	9%	1%	9%
Interest	0.20	⇧	0.14	21%	7%	4%	0%	3%
Other expenses	0.24	⇩	0.17					
Gap / Surplus	0.40	⇧	0.28	2.00	0.95	0.15	-0.69	0.28

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • Low O&M and interest expenses, at 9%* and 3%* of revenue booked, respectively • ACS-ARR Gap of 0.28* INR/kWh • Low days receivables of 59 days • Low days payable to gencos and transcos of 43 days • Low leverage, currently at 1.01*	**Financial Sustainability** • Insufficient liquid assets to cover current liabilities, resulting in a low adjusted quick ratio, currently at 0.23* • Insufficient cash flow to cover current debt obligations, resulting in a low DSCR, currently at 0.52 *
Performance Excellence • 1/3rd directors on the board are independent directors	**Performance Excellence** • Improvement in billing efficiency, currently at 86.1%*
External Environment • Tariff subsidy not applicable • Regulation allows automatic pass through of fuel costs	**External Environment** • Significant government dues, at 38% for the last 3 financial years • Delays in tariff cycle timelines • Improvement in operational viability through government support

* 3-year weighted average

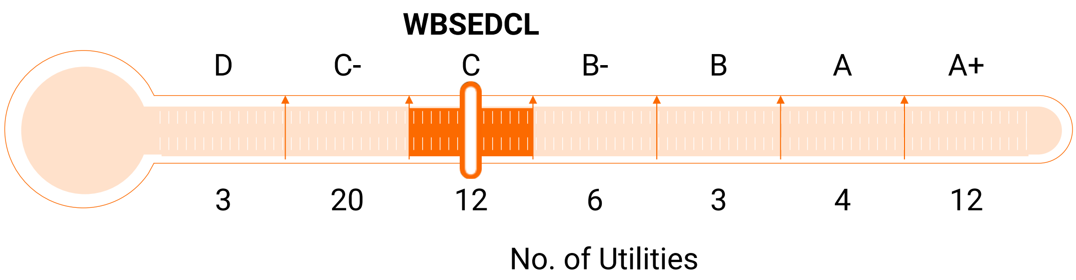
West Bengal State Electricity Distribution Company Limited (WBSEDCL)

WBSEDCL is a state owned discom incorporated in February 2007. It serves 2.08 crore+ customers in the state of West Bengal excluding some districts served by CESC and IPCL. In FY21, WBSEDCL had a revenue of INR 22,831 crores, profit after tax of INR -190 crores and sold 29,641 million units of energy.

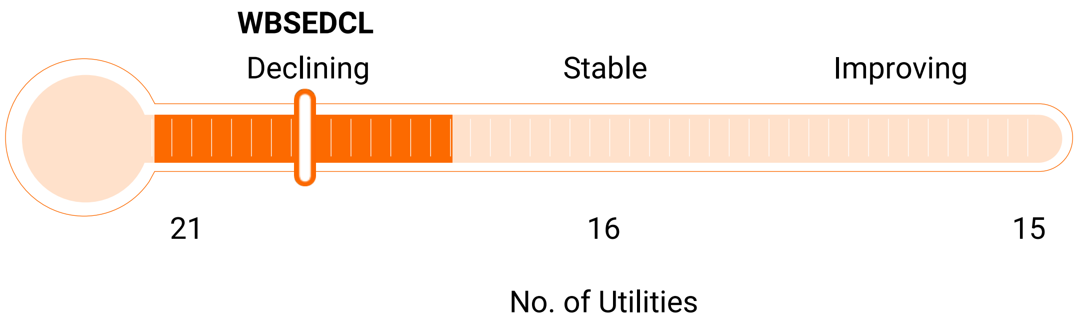
#28 **Rank**
28 out of 52

C

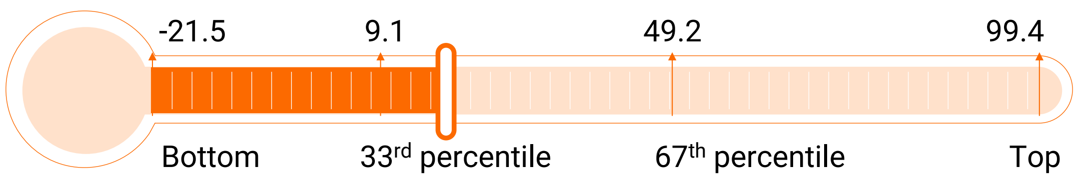
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

WBSEDCL has a high cash adjusted ACS-ARR gap of INR 0.78 per kWh (middle tertile in the sector). Its cash adjusted revenue is sufficient to meet the immediate expenses of power purchase, but falls short to meet O&M and other costs. WBSEDCL is performing averagely on O&M and interest costs (middle tertile), but its power purchase expenses fall below the 33rd percentile boundary. Its performance on all ACS-ARR gap components declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | WBSEDCL

ACS - ARR gap Component	Amount INR '000 cr.	Trend	Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	Percentile: 33rd	Percentile: 67th	Top	WBSEDCL
Cash adjusted revenue	22.65 (Unrealized revenue: 0.25)	⇩	5.17	77%	90%	98%	103%	99%
Power purchase cost	20.52	⇩	4.69	107%	88%	79%	55%	90%
O&M expenses	2.84	⇩	0.65	34%	14%	9%	1%	12%
Interest	1.54	⇩	0.35	21%	7%	4%	0%	7%
Other expenses	1.19	⇩	0.27					
Gap / Surplus	-3.44	⇩	0.78	2.00	0.95	0.15	-0.69	0.78

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • High revenue realization at 99%* of revenue booked	**Financial Sustainability** • Improvement in power purchase costs, currently at 90%* of revenue booked, to improve the cash adjusted ACS-ARR gap • Improvement in days payable to gencos and transcos, currently at 91 • Improvement in adjusted quick ratio, currently at 0.30* • Improvement in cash adjusted DCSR, currently at -0.21*
Performance Excellence • High collection efficiency, currently at 99.2%* • Adhering to corporate governance, i.e., board has 1/3rd independent directors	**Performance Excellence** • Significant improvement in billing efficiency, currently at 79.3%* • Actual distribution losses are higher than SERC approved
External Environment • Receipt of 101% of tariff subsidy over the last 3 financial years • Implementation of automatic pass-through of fuel costs	**External Environment** • No loss taken over by the state government in FY21 • Delays in issuance of tariff and true-up orders

* 3-year weighted average

B. Private Discoms

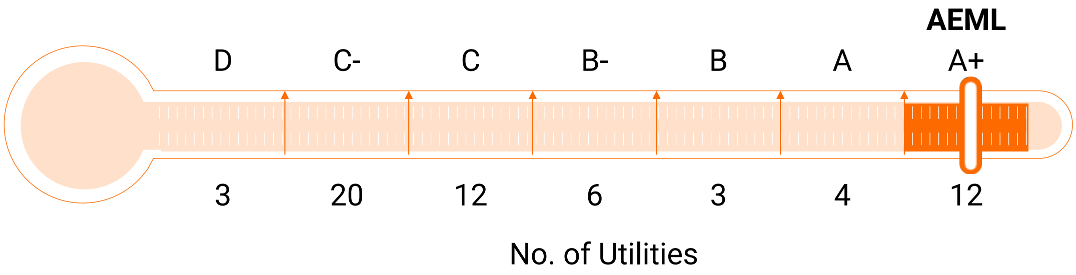
Adani Electricity Mumbai Limited (AEML)

AEML is a privately owned discom incorporated in September 2008. It serves 30 lakh+ customers in 7 divisions of Mumbai City, namely, Mira Bhayandar, Borivali, Malad, Andheri, Bandra, Powai & Chembur. In FY21, AEML had a revenue of INR 6,471 crores, profit after tax of INR 259 crores and sold 10,538 million units of energy.

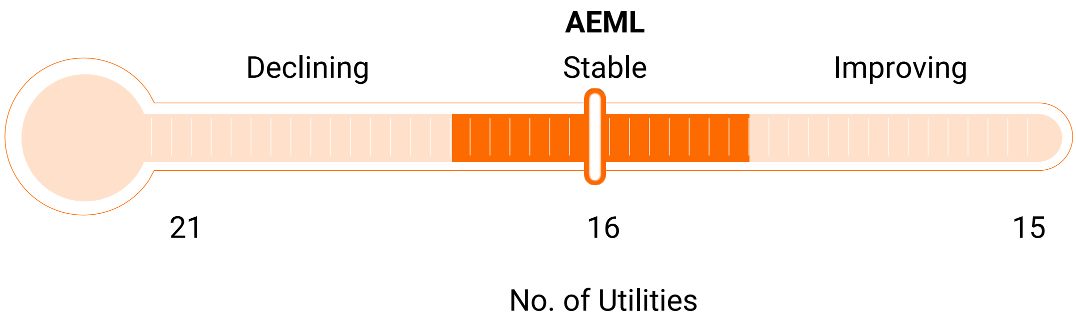
#6 **Rank**
6 out of 52

A+

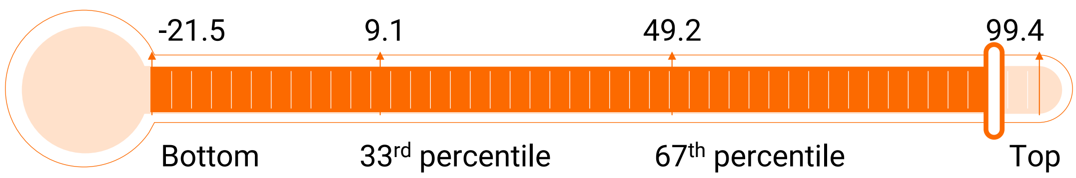
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

AEML has a low cash adjusted ACS-ARR surplus of INR 0.35 per kWh (top tertile in the sector). The primary drivers of the ACS-ARR surplus are high cash adjusted revenue and low power purchase costs. However, AEML's O&M expenses are high (bottom tertile). The low power purchase and high O&M costs can be explained by the presence of an integrated generation, transmission, and distribution business. AEML's performance on all ACS-ARR gap components (except power purchase costs) declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)
(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | AEML

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Percentile Bottom	33rd	67th	Top	AEML
Cash adjusted revenue	6.39	⇩	7.42	77%	90%	98%	103%	100%
Power purchase cost	4.10	⇧	4.76	107%	88%	79%	55%	64%
O&M expenses	1.39	⇩	1.63	34%	14%	9%	1%	22%
Interest	0.20	⇩	0.23	21%	7%	4%	0%	3%
Other expenses	0.38	⇩	0.45					
Gap / Surplus	0.32	⇩	-0.35	2.00	0.95	0.15	-0.69	-0.35

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability**
• Low power procurement costs, at 64%* of revenue booked • Good cash adjusted ACS-ARR surplus, at INR 0.35* per kWh • Low days receivable, currently at 35 days • Strong cash adjusted DSCR at 1.24*	• Reduction in days payable to gencos and transcos, currently at 153 days • Improvement in adjusted quick ratio, currently at 0.74*
Performance Excellence	**Performance Excellence**
• High billing efficiency at 92.3%* • High collection efficiency at 99.1%*	• Improvement in corporate governance (board should constitute 1/3rd independent directors)
External Environment	**External Environment**
• No tariff subsidy applicable • No losses required to be taken over by the state government • Regulation allows automatic pass through of fuel costs • Multi-year ARR and tariff structure has been approved	• N/A

* 3-year weighted average

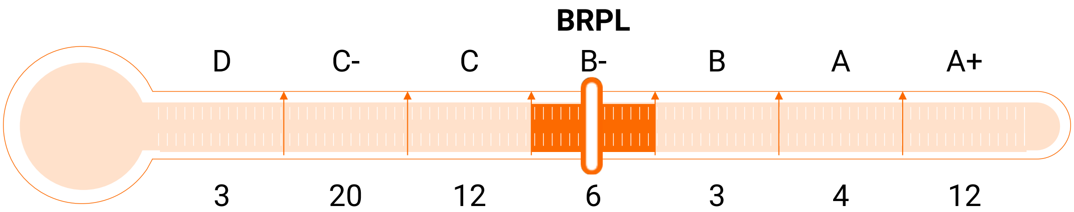
BSES Rajdhani Power Ltd (BRPL)

BRPL is a public-private partnership incorporated in July 2001. It serves 27 lakhs+ customers in 22 divisions across South and West Delhi, including Alaknanda, Dwarka, Hauz Khas, Jaffarpur, JanakPuri, Khanpur, Mundka, Najafgarh, Nangloi, Nehru Place, New Friends Colony, Nizamuddin, Palam, Punjabi Bagh, R.K. Puram, Saket, SaritaVihar, Tagore Garden, Vasant Kunj, VikasPuri, Uttam Nagar & Mohan Garden. In FY21, BRPL had a revenue of INR 9,008 crores, profit after tax of INR 769 crores and sold 11,052 million units of energy.

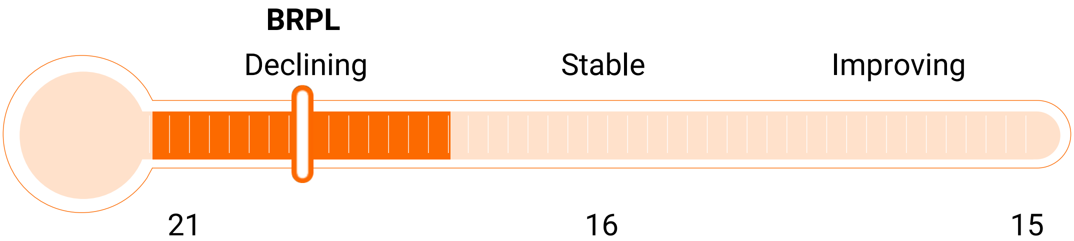
#21 **Rank**
21 out of 52

B-

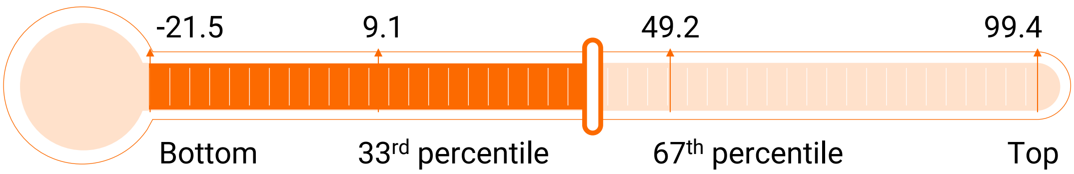
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

BRPL has an average cash adjusted ACS-ARR gap of INR 0.55 per kWh (bottom tertile in the sector). A breakdown of its expenses shows that the cash adjusted revenue is sufficient to meet the immediate expenses of power purchase, O&M costs, and other expenses, but falls short to cover interest costs. BRPL's performance on all ACS-ARR gap components declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR; Unrealized revenue; BRPL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	Percentile 33rd	Percentile 67th	Top	BRPL
Cash adjusted revenue	9.43 (Unrealized revenue: 0.11)	⇩	7.01	77%	90%	98%	103%	99%
Power purchase cost	7.38	⇩	5.49	107%	88%	79%	55%	77%
O&M expenses	1.00	⇩	0.75	34%	14%	9%	1%	11%
Interest	1.36	⇩	1.02	21%	7%	4%	0%	14%
Other expenses	0.39	⇩	0.29					
Gap / Surplus	0.71	⇩	0.55	2.00	0.95	0.15	-0.69	0.55

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • High cash adjusted revenue at 99%* • Low days receivable, currently at 21 days • Very high cash adjusted leverage, currently at 1.69*	**Financial Sustainability** • Improvement in days payable to gencos and transcos, currently at 489 days • Improvement in adjusted quick ratio, currently at 0.13
Performance Excellence • Distribution loss levels are lower than the SERC approved figure • Good billing efficiency at 92.2%*	**Performance Excellence** • N/A
External Environment • No losses required to be taken over by state government • Regulation allows automatic pass through of fuel costs • 0% government dues for the last 3 financial years	**External Environment** • Regulatory support needed for issuance of tariff and true-up orders on time

*3-year weighted average

BSES Yamuna Power Ltd (BYPL)

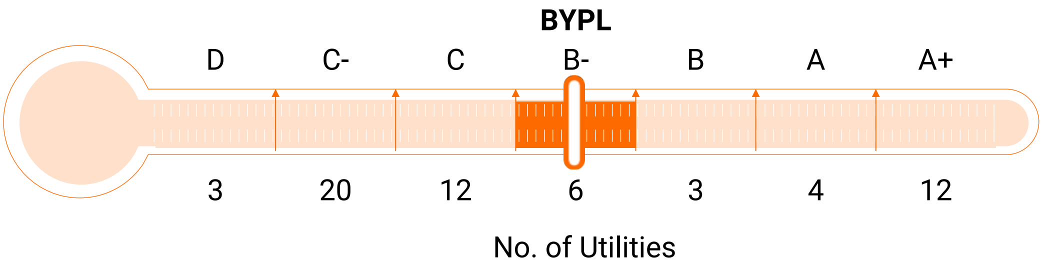
BYPL is a public-private partnership incorporated in July 2001. It serves 16.8 lakhs+ customers in 14 divisions across Central & East Delhi including Chandni Chowk, Darya Ganj, Dilshad Garden, Jhilmil, Karawal Nagar, Krishna Nagar, Laxmi Nagar, Mayur Vihar, Vasundhara Enclave, Nandnagri, Pahar Ganj, Patel Nagar, Shankar Road and Yamuna Vihar. In FY21, BYPL had a revenue of INR 4,897 crores, profit after tax of INR 411 crores and sold 5,872 million units of energy.

#20

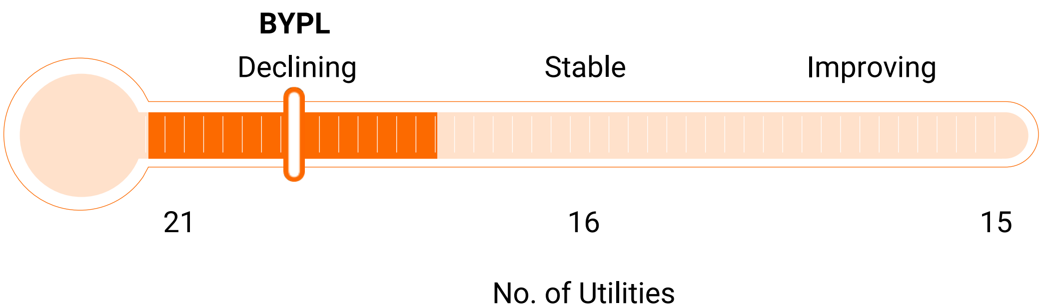
Rank
20 out of 52

B-

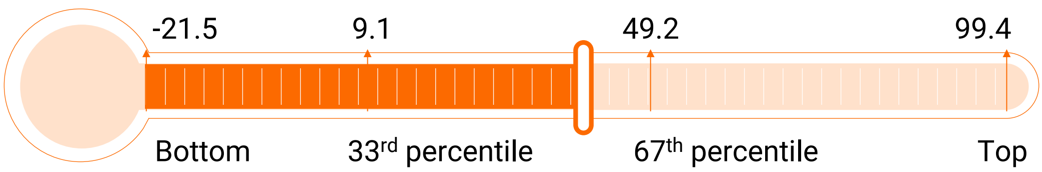
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

BYPL has an average cash adjusted ACS-ARR gap of INR 0.49 per kWh (middle tertile in the sector). The primary driver of the ACS-ARR gap is comparatively high interest costs and O&M costs, which lie below or at the 33rd percentile boundary. BYPL's performance on all ACS-ARR gap components declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | BYPL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	33rd Percentile	67th Percentile	Top	BYPL
Cash adjusted revenue	5.17 (Unrealized revenue: 0.04)	⇩	6.52	77%	90%	98%	103%	99%
Power purchase cost	3.53	⇩	4.45	107%	88%	79%	55%	68%
O&M expenses	0.70	⇩	0.89	34%	14%	9%	1%	14%
Interest	1.09	⇩	1.39	21%	7%	4%	0%	21%
Other expenses	0.22	⇩	0.28					
Gap / Surplus	0.37	⇩	0.49	2.00	0.95	0.15	-0.69	0.49

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability**
• High cash adjusted revenue, at 99%* of revenue booked • Low days receivables, currently at 26 days • Fair cash adjusted leverage ratio, currently at 1.39*	• Significant improvement in days payable to gencos and transcos, currently at 897 days • Significant improvement in adjusted quick ratio, currently at 0.06*
Performance Excellence	**Performance Excellence**
• Distribution loss levels are lower than the SERC approved figure • Good collection efficiency at 98.9%* • Good billing efficiency, currently at 91.6%*	• N/A
External Environment	**External Environment**
• No losses required to be taken over • Regulation allows automatic pass through of fuel costs • No government dues over the last 3 financial years	• Regulatory support needed for issuance of tariff and true-up orders on time

* 3-year weighted average

CESC Limited (CESC)

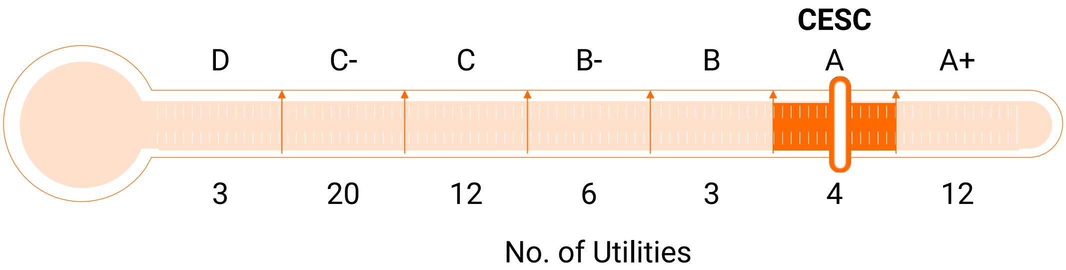
CESC is a privately owned discom incorporated in March 1978. It serves 29 lakhs+ customers in areas of Kolkata and Howarah. In FY21, CESC had a revenue of INR 7,102 crores, profit after tax of INR 814 crores and sold 8,930 million units of energy.

#15

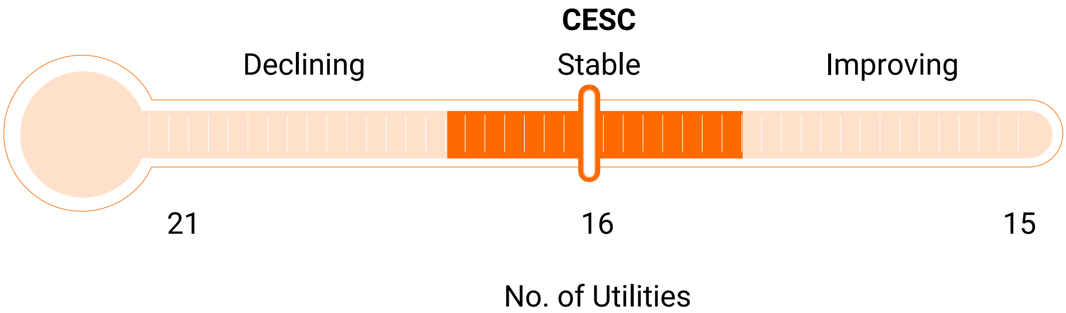
Rank
15 out of 52

A

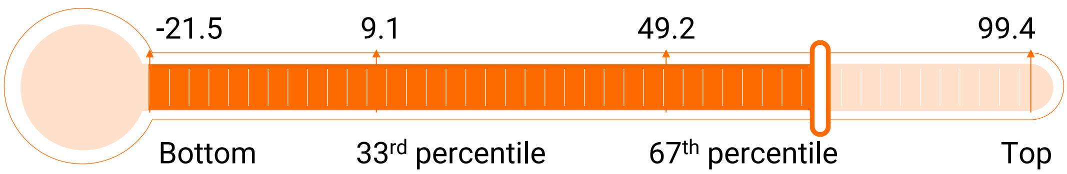
Grade



ACS-ARR Gap Trajectory



Integrated Score

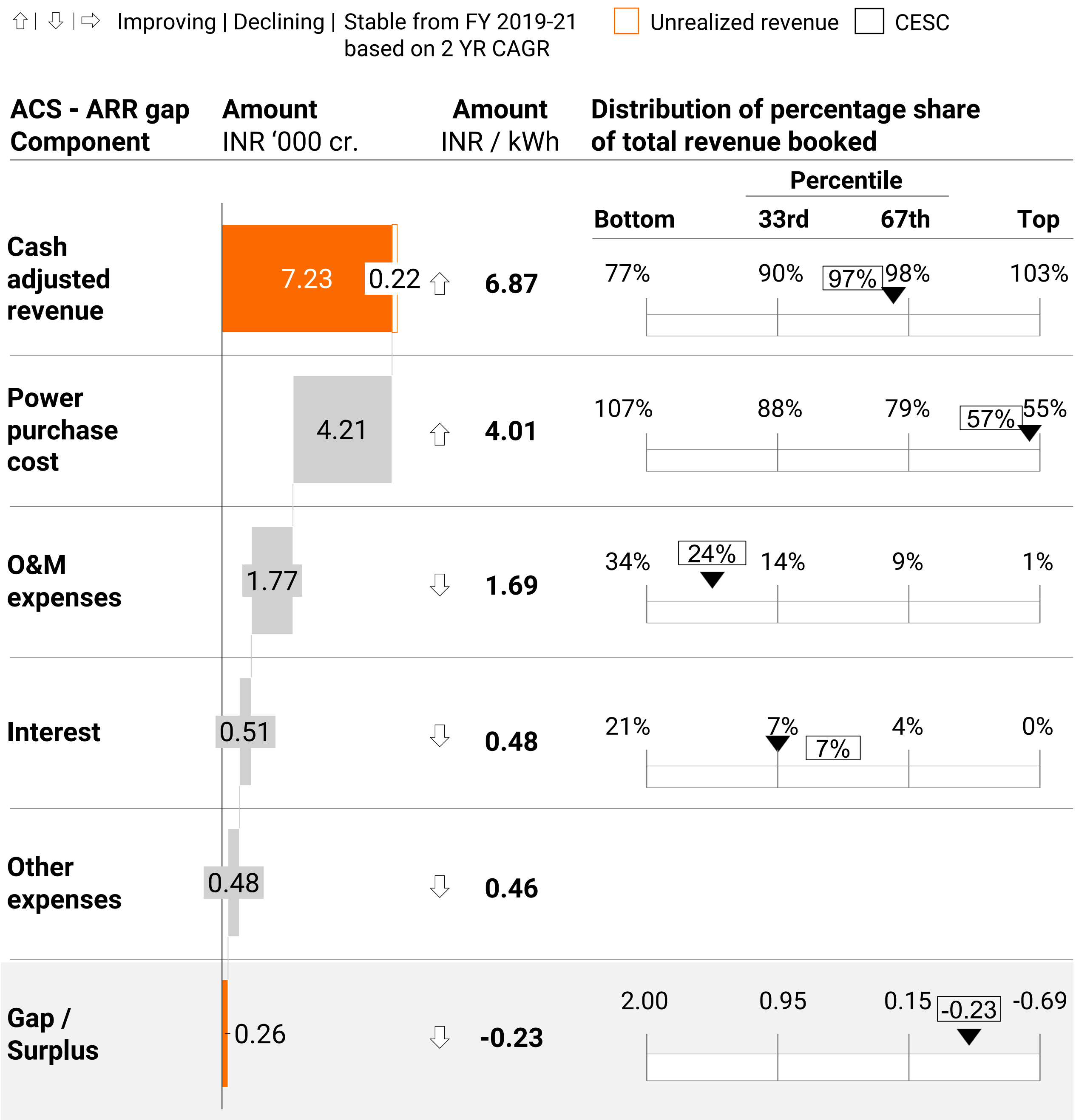


Key Insights

CESC has a cash adjusted ACS-ARR surplus of INR 0.23 per kWh (top tertile in the sector). The primary driver of its ACS-ARR surplus is high cash adjusted revenue of 97%. CESC is performing well on power purchase costs. However, its interest costs as well as O&M costs lie in the bottom tertile. CESC's performance on all ACS-ARR components (except power purchase costs and cash adjusted revenue) declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)



Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • Cash adjusted ACS-ARR surplus is 0.23 INR/kWh* • Low days payable to gencos and transcos, currently at 62 days	**Financial Sustainability** • Improvement in DSCR, currently at 0.75* • Improvement in O&M expenses, currently at 24%* of revenue booked
Performance Excellence • Distribution loss levels are lower than the SERC approved figure. • High billing efficiency, currently at 91.2%* • Adherence to Corporate Governance	**Performance Excellence**
External Environment • Low state government dues, at 9% over the last 3 financial years • Regulation allows automatic pass through of fuel costs	**External Environment** • Delays in tariff cycle timelines

* 3-year weighted average

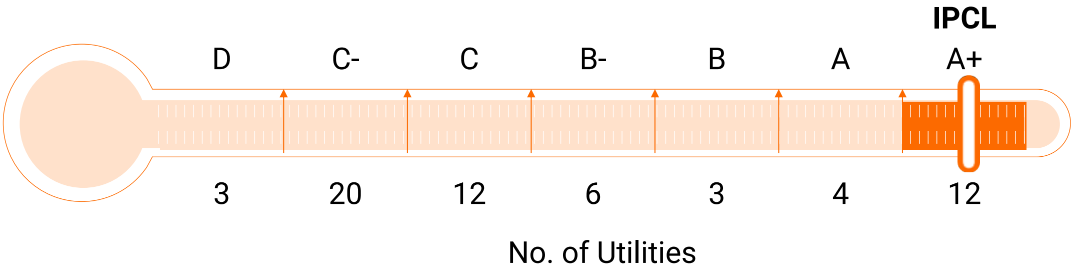
India Power Corporation Limited (IPCL)

IPCL is a privately owned discom incorporated in July 1919. It serves 6000+ customers in the state of West Bengal in Asansol – Ranigunj area. In FY21, IPCL had a revenue of INR 518 crores, profit after tax of INR 26.66 crores and sold 847 million units of energy.

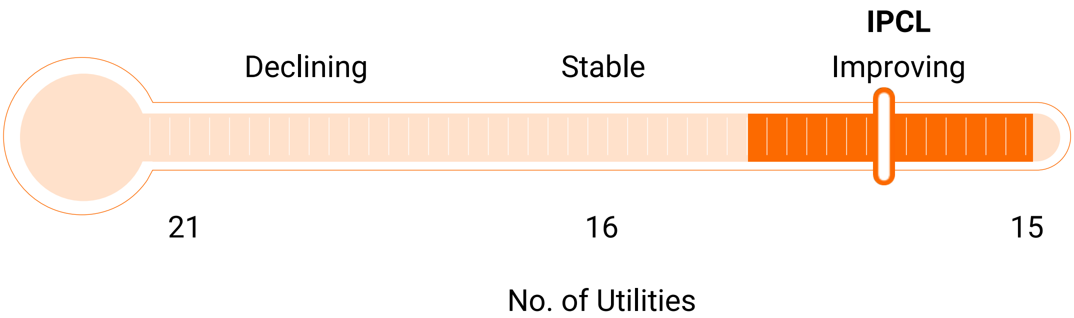
#10 **Rank**
10 out of 52

A+

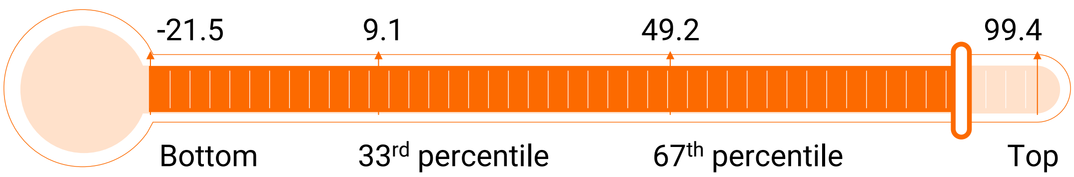
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

IPCL has a cash adjusted ACS-ARR surplus of INR 0.26 per (top tertile in the sector). IPCL is performing well on cash adjusted revenue and power purchase costs. However, its performance on O&M costs and interest costs lie in the bottom tertile. IPCL's performance on power purchase costs, O&M costs and interest costs improved during FY19-FY21. However, its performance on cash adjusted revenue and other expenses declined during the period.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | IPCL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Bottom	33rd	67th	Top	IPCL
Cash adjusted revenue	0.52 (Unrealized revenue: 0)	⇩	6.00	77%	90%	98%	103%	100%
Power purchase cost	0.35	⇧	3.99	107%	88%	79%	55%	66%
O&M expenses	0.08	⇧	0.91	34%	14%	9%	1%	15%
Interest	0.05	⇧	0.52	21%	7%	4%	0%	9%
Other expenses	0.03	⇩	0.32					
Gap / Surplus	0.02	⇧	-0.26	2.00	0.95	0.15	-0.69	-0.26

Distribution of percentage share of total revenue booked (Percentile: Bottom, 33rd, 67th, Top)

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • ACS-ARR surplus of 0.26* • High cash adjusted revenue, at 100%* of the revenue booked • Low power procurement costs at 66%* of the revenue booked • High adjusted quick ratio, currently at 1.11*	**Financial Sustainability** • NA
Performance Excellence • Billing efficiency at 96.6%* • Collection efficiency at 99.4%*	**Performance Excellence** • N/A
External Environment • No tariff subsidy realization rate applicable • Low government dues, at 7% of amount billed to the government over the last 3 financial years • Regulation allows automatic pass through of fuel costs	**External Environment** • Regulatory support needed for issuance of tariff and true-up orders on time

* 3-year weighted average

Noida Power Company Ltd. (NPCL)

NPCL is a joint venture with public-private partnership incorporated in June 1992. It serves 1.07 lakh+ customers in Greater Noida. In FY21, NPCL had a revenue of INR 1,720 crores, profit after tax of INR 101 crores and sold 2,012 million units of energy.

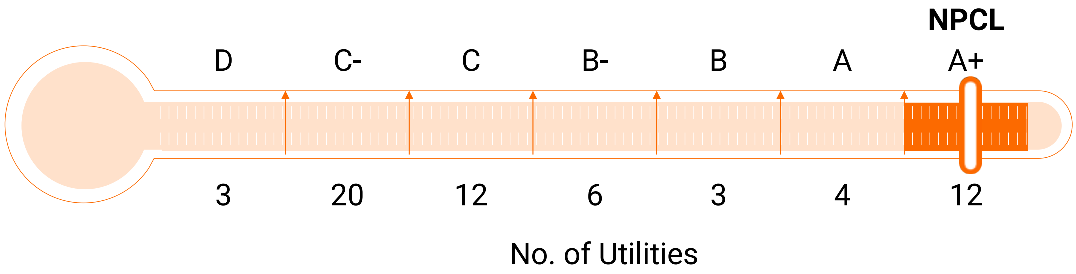
#7

Rank

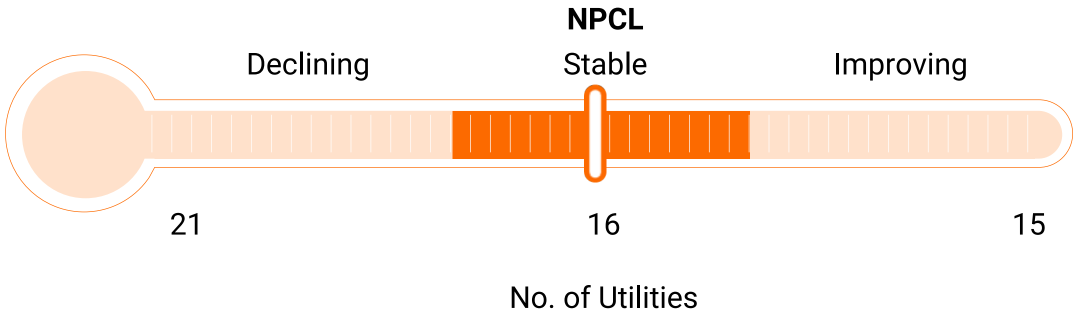
7 out of 52

A+

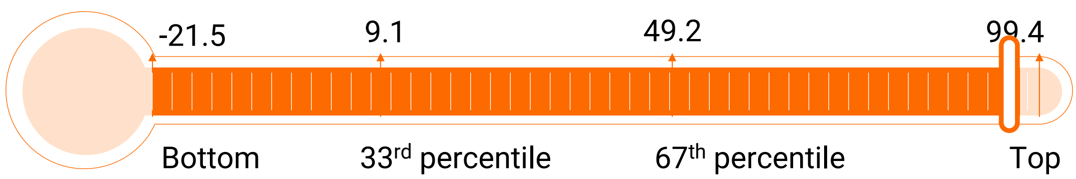
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

NPCL's cash adjusted ACS-ARR gap during FY19-FY21 was -0.58 (top tertile in the sector). A breakdown of its expenses shows that its cash adjusted revenue is sufficient to meet all expenses, including power purchase, O&M, interest, and other expenses. All its ACS-ARR gap components lie in the top tertile. NPCL's performance on all ACS-ARR components (except other expenses) also improved during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)
(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

☐ Unrealized revenue ☐ NPCL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked – Percentile: Bottom	33rd	67th	Top	NPCL
Cash adjusted revenue	1.68 (0.02)	⇧	7.18	77%	90%	98%	103%	99%
Power purchase cost	1.19	⇧	5.09	107%	88%	79%	55%	70%
O&M expenses	0.12	⇧	0.50	34%	14%	9%	1%	7%
Interest	0.02	⇧	0.07	21%	7%	4%	0%	1%
Other expenses	0.22	⇩	0.95					
Gap / Surplus	0.13	⇩	-0.58	2.00	0.95	0.15	-0.69	-0.58

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • Low days receivable and days payable to gencos and transcos, currently at 20 and 58 days, respectively • ACS-ARR surplus of 0.58* • Adjusted quick ratio of 1.10* • Very high DSCR of 24.71* • Leverage at 0*, supported by a debt-free balance sheet	**Financial Sustainability** • N/A
Performance Excellence • Billing efficiency of 91.7%*	**Performance Excellence** • Distribution losses marginally higher than the SERC-approved figure • Adherence to corporate governance, i.e., Board should have 1/3rd independent directors
External Environment • No losses required to be taken over by the state government • Regulation allows automatic pass through of fuel costs	**External Environment** • Regulatory support for timely issuance of tariff and true-up orders

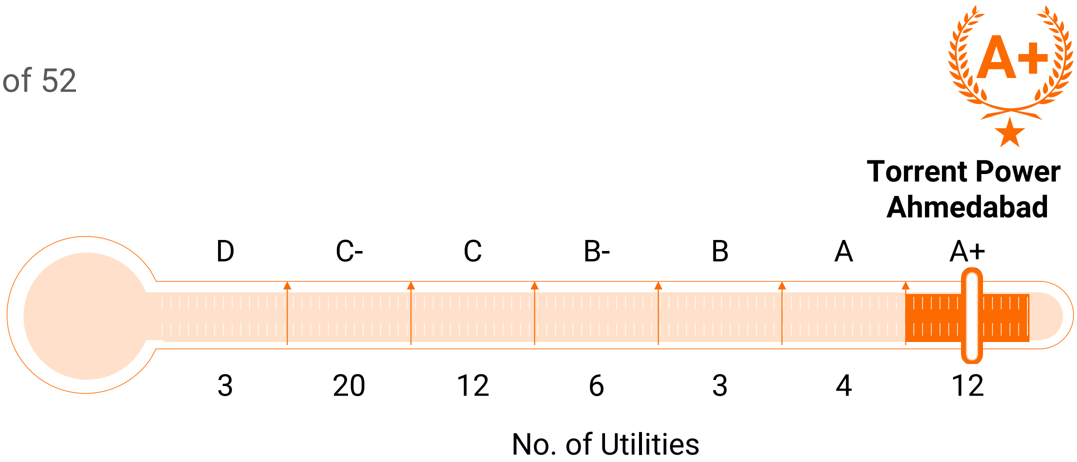
* 3-year weighted average

Torrent Power Ahmedabad (Torrent Power Ahmedabad)

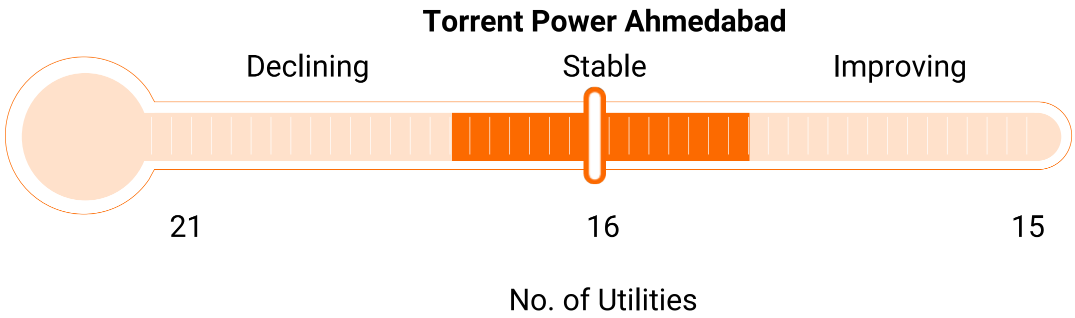
Torrent Power Ahmedabad is a privately owned discom incorporated in April 2004. It serves 17.8 lakh+ customers in the cities of Ahmedabad and Gandhinagar. In FY21, Torrent Power Ahmedabad had a revenue of INR 5,351 crores, profit after tax of INR 449 crores and sold 6,947 million units of energy.

#5 **Rank**
5 out of 52

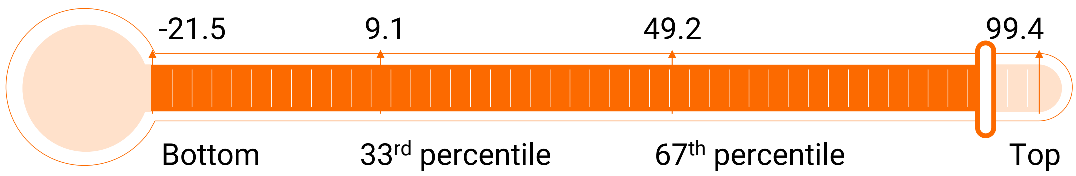
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

Torrent Power Ahmedabad has a negative cash adjusted ACS-ARR gap of -0.52 INR/kWh (top tertile in the sector). It is performing well on cash-adjusted revenue, with an unrealized revenue of only ~INR 30 crore. It is also performing well on power purchase costs and O&M costs. However, its interest costs lie in the middle tertile.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

☐ Unrealized revenue ☐ Torrent Power Ahmedabad

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Bottom	33rd	67th	Top	Torrent Power Ahmedabad
				Distribution of percentage share of total revenue booked (Percentile)				
Cash adjusted revenue	5.57 (Unrealized revenue: 0.03)	⇧	7.19	77%	90%	98%	103%	100%
Power purchase cost	4.27	⇧	5.50	107%	88%	79%	55%	76%
O&M expenses	0.35	⇩	0.45	34%	14%	9%	1%	6%
Interest	0.27	⇩	0.35	21%	7%	4%	0%	5%
Other expenses	0.28	⇩	0.37					
Gap / Surplus	0.40	⇧	-0.52	2.00	0.95	0.15	-0.69	-0.52

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability**
• Good cash adjusted ACS-ARR gap of -0.52* INR/kWh • Low Days receivables, currently at 35 days • Low Days Payable to GenCos & TransCos, currently at 47 days • Adjusted Quick Ratio, currently at 0.76* • High Cash adjusted Debt Service Coverage Ratio, currently at 1.88*	• N/A
Performance Excellence	**Performance Excellence**
• High collection efficiency, currently at 99.5%* • High billing efficiency, at 94.3%* • Low distribution losses over SERC approved • Adherence to Corporate Governance i.e., Board with 1/3rd independent directors	• N/A
External Environment	**External Environment**
• Regulation allows automatic pass through of fuel costs • Government Dues less than 1% for the last three years • Timely issuance of tariff orders	• N/A

* 3-year weighted average

Torrent Power Surat (Torrent Power Surat)

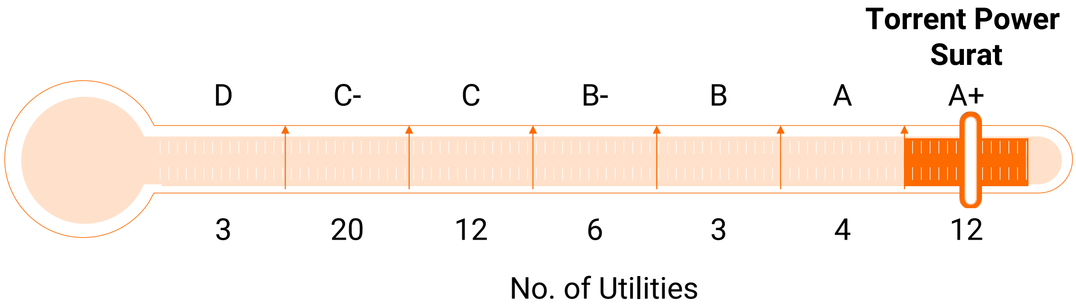
Torrent Power Surat is a privately owned discom incorporated in April 2004. It serves customers in the city of Surat. In FY21, Torrent Power Surat had a revenue of INR 1,961 crores, profit after tax of INR 206 crores and sold 2,604 million units of energy.

#9

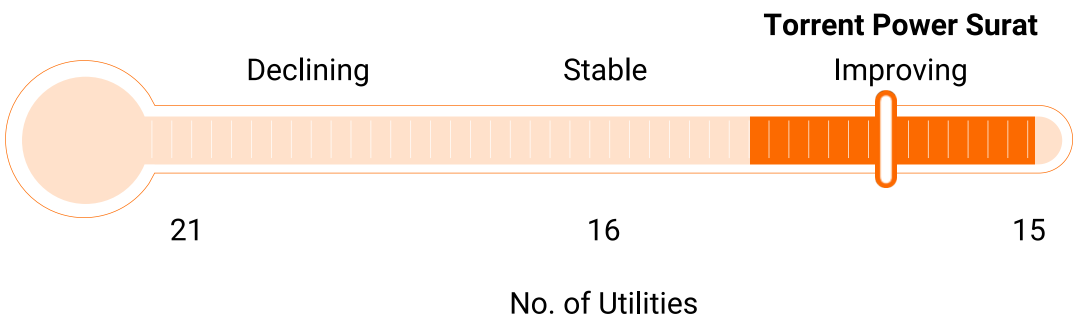
Rank
9 out of 52

A+

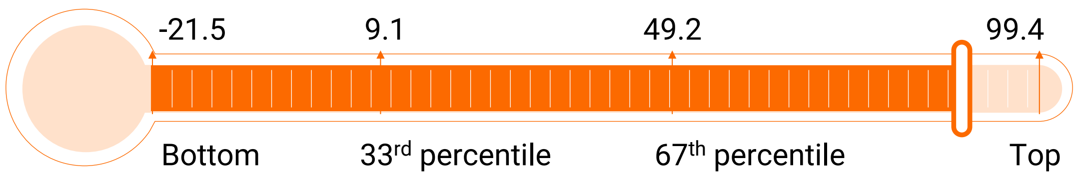
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

Torrent Power Surat has a cash adjusted ACS-ARR gap of INR -0.51 per kWh (top tertile in the sector). The primary driver of its ACS-ARR surplus is high cash adjusted revenue of 99% (top tertile). Torrent Power Surat's performance on all ACS-ARR components (except cash adjusted revenue and power purchase costs) declined during FY19-FY21.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | Torrent Power Surat

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Bottom	33rd Percentile	67th Percentile	Top	Torrent Power Surat
Cash adjusted revenue	2.08 (Unrealized revenue: 0.02)	⇧	6.96	77%	90%	98%	103%	99%
Power purchase cost	1.66	⇧	5.52	107%	88%	79%	55%	79%
O&M expenses	0.13	⇩	0.43	34%	14%	9%	1%	6%
Interest	0.07	⇩	0.23	21%	7%	4%	0%	3%
Other expenses	0.08	⇩	0.26					
Gap / Surplus	-0.15	⇧	-0.51	2.00	0.95	0.15	-0.69	-0.51

Distribution of percentage share of total revenue booked

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • High cash adjusted ACS-ARR surplus of -INR 0.51* per kWh • Low power purchase expenses, currently at 79%* of revenue booked • Low days receivable, at 39 days • Low days payable to gencos and transcos (65 days) • Good DSCR (cash adjusted) and leverage at 2.34* & 2.25*, respectively	**Financial Sustainability** • Improvement in adjusted quick ratio, currently at 0.76*
Performance Excellence • High billing efficiency, currently at 96.2%* • High collection efficiency, currently at 99.0%* • Adherence to corporate governance, i.e., board has 1/3rd independent directors	**Performance Excellence** • N/A
External Environment • Non dependence on tariff subsidy • Regulation allows automatic pass through of fuel costs • Low government dues at 1% for the last three financial years	**External Environment** • N/A

* 3-year weighted average

Tata Power Delhi Distribution Co Ltd (TPDDL)

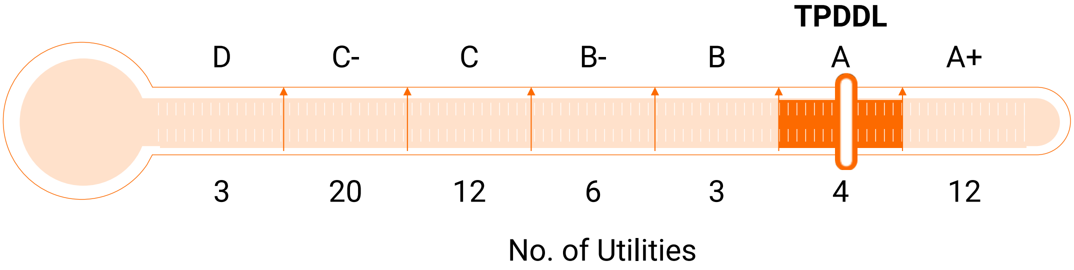
TPDDL is a privately owned discom incorporated in July 2001. It serves 26 lakh+ customers in the north and northwest parts of Delhi. In FY21, TPDDL had a revenue of INR 7,123 crores, profit after tax of INR 428 crores and sold 8,310 million units of energy.

#13

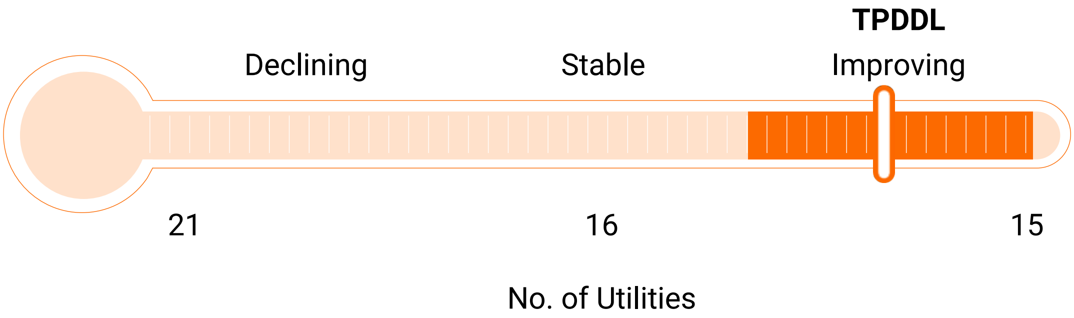
Rank
13 out of 52

A

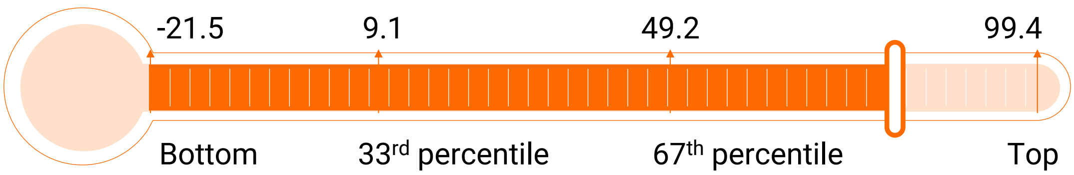
Grade



ACS-ARR Gap Trajectory



Integrated Score

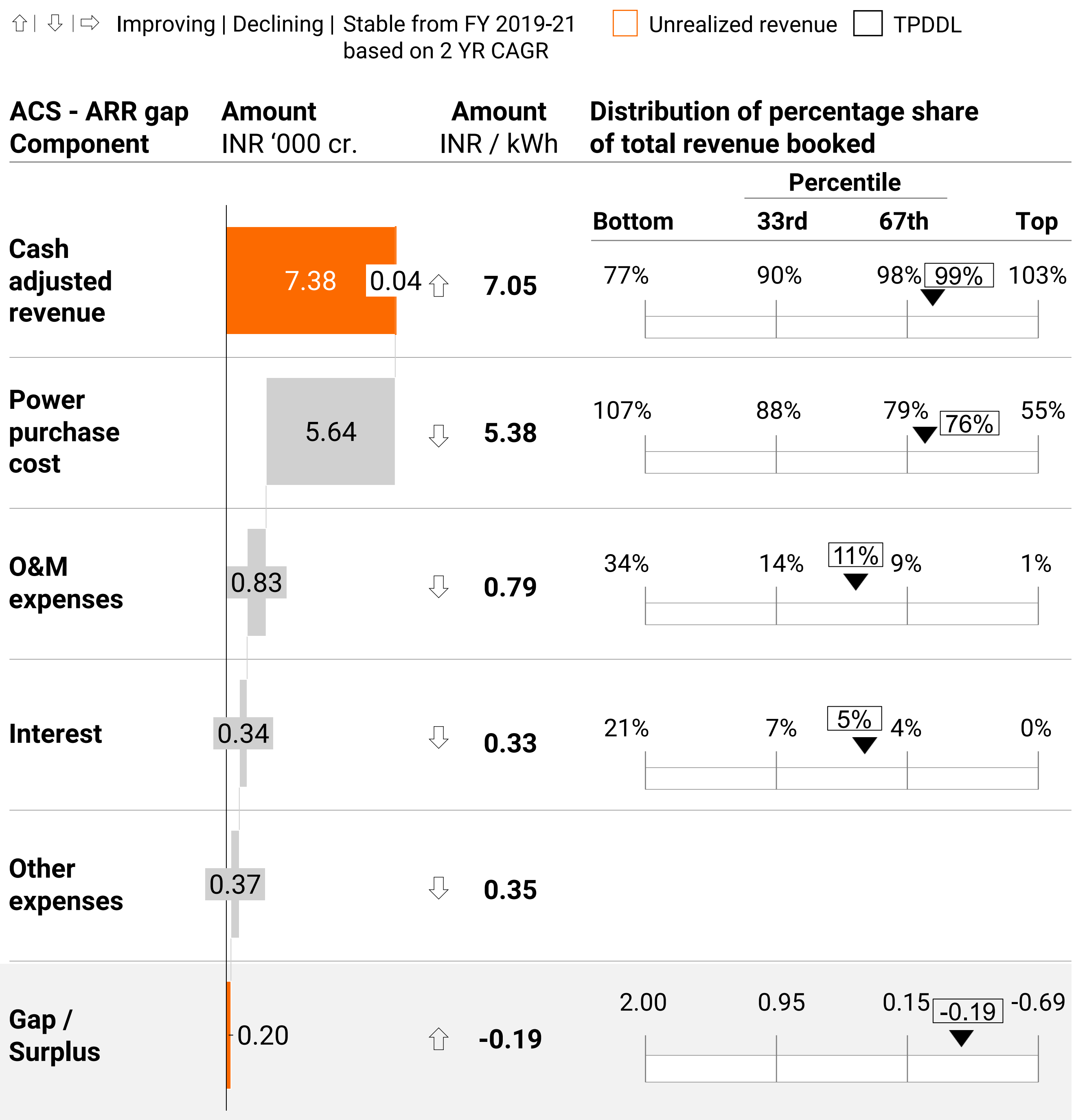


Key Insights

TPDDL has a cash adjusted ACS-ARR gap of INR -0.19 per kWh (top tertile in the sector). The primary driver of its ACS-ARR surplus is high cash adjusted revenue and low power purchase costs. TPDDL is performing well on power purchase costs (top tertile). However, its O&M costs and interest costs lie in the middle tertile. TPDDL's performance on cash adjusted revenue improved during FY19-FY21. However, its performance on O&M costs, power purchase costs and interest costs declined during the period.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)



Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • ACS-ARR surplus, currently at INR -0.19/kWh* • Good days receivable, currently at 16 days • Good days payable to gencos and transcos, currently at 52 days	**Financial Sustainability** • Improvement of adjusted quick ratio, currently at 0.39*
Performance Excellence • Distribution losses lower than the SERC-approved figure • High billing efficiency, currently at 92.8%* • High collection efficiency, currently at 99.5%*	**Performance Excellence**
External Environment • Low government dues at 1% of amount billed to government over the last 3 financial years • Regulation allows automatic pass through of fuel costs	**External Environment** • Regulatory support for issuance of tariff and true-up orders on time

* 3-year weighted average

Tata Power Mumbai Limited (TPML)

TPML is a privately owned discom incorporated in September 1919. It serves 7.2 lakh+ customers in parts of Mumbai city and Mumbai suburban areas. In FY21, TPML had a revenue of INR 2,539 crores, profit after tax of INR 169 crores and sold 4,184 million units of energy.

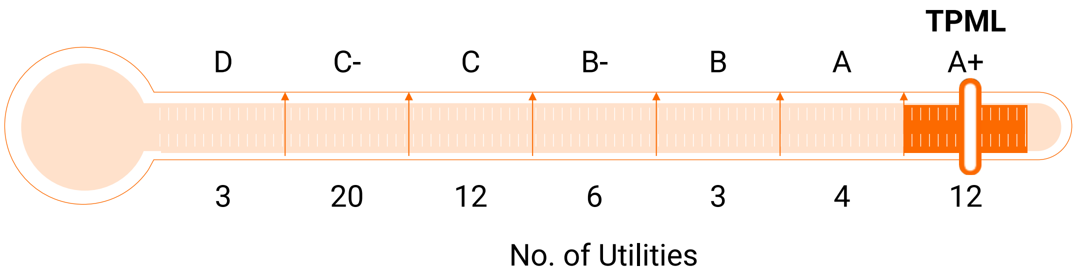
#11

Rank

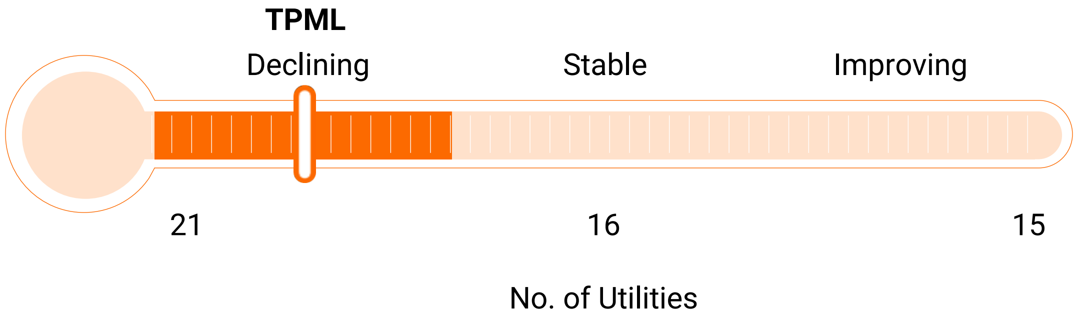
11 out of 52

A+

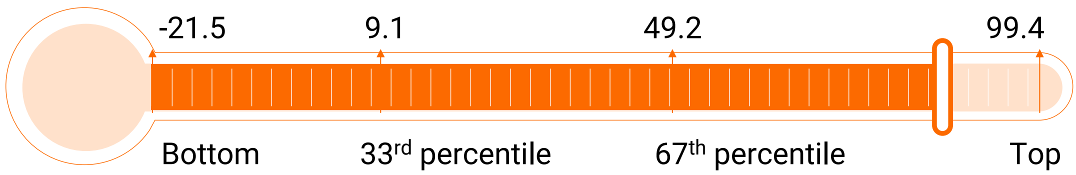
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Insights

TPML has a cash adjusted ACS-ARR surplus of INR 0.69 per kWh (one of the best in the sector). The primary driver of its low ACS-ARR gap is high cash adjusted revenue, at 103% of revenue booked, and low power purchase costs, at 77% of the revenue booked. TPML is performing well on both O&M costs and interest cost (top tertile in the sector). Its performance on power purchase costs and interest costs improved during FY19-FY21. However, its performance on cash adjusted revenue, O&M costs, and other expenses declined during the period.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | TPML

ACS - ARR gap Component	Amount INR '000 cr.	Trend	Amount INR / kWh	Bottom	33rd	67th	Top	TPML
Cash adjusted revenue	3.11	⇩	6.81	77%	90%	98%	103%	103%
Power purchase cost	2.27	⇧	5.01	107%	88%	79%	55%	77%
O&M expenses	0.23	⇩	0.52	34%	14%	9%	1%	8%
Interest	0.11	⇧	0.25	21%	7%	4%	0%	4%
Other expenses	0.15	⇩	0.34					
Gap / Surplus	0.34	⇩	-0.69	2.00	0.95	0.15	-0.69	-0.69

(Bottom, 33rd, 67th and Top: Percentile. Distribution of percentage share of total revenue booked)

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • Highest cash adjusted revenue, currently at 103%*, leading to the highest ACS-ARR surplus, currently at 0.69* • Low days receivable, currently at 39 days • Low days payable, currently at 47 days • High cash adjusted DSCR, currently at 2.36*	**Financial Sustainability** • Significant improvement in adjusted quick ratio, currently at 0.23*
Performance Excellence • Distribution losses significantly lower than the SERC-approved figure • Very high billing efficiency, currently at 99.4%* • Very high collection efficiency, currently at 99.8%*	**Performance Excellence** • N/A
External Environment • No tariff subsidy applicable • Timely clearance of government dues • Adherence to tariff cycle timelines • Implementation of automatic pass through of fuel costs	**External Environment** • N/A

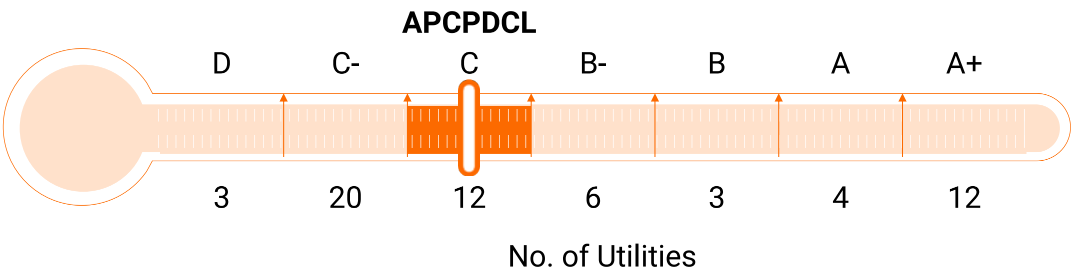
* 3-year weighted average

C. Newly formed Discoms

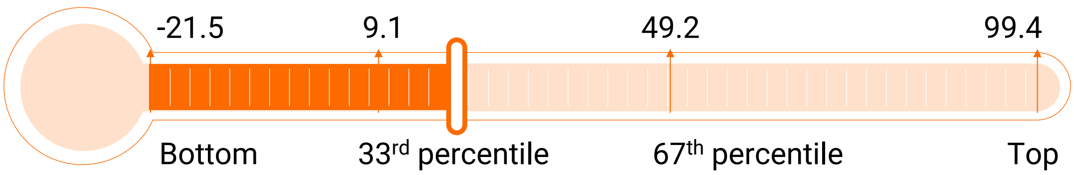
Andhra Pradesh Central Power Distribution Corporation Limited (APCPDCL)

APCPDCL is a state owned discom incorporated in December 2019. It serves 45 lakh+ customers in the state of Andhra Pradesh in districts of Krishna, Guntur and Prakasam. In FY21, APCPDCL had a revenue of INR 9,290 crores, profit after tax of INR 2.7 crores and sold 12,720 million units of energy.

Grade



Integrated Score



Key Insights

APCPDCL has a cash adjusted ACS–ARR Gap of 0.85 (middle tertile in the sector). The high ACS-ARR gap is primarily driven by a low cash adjusted revenue, at 87% of the revenue booked. APCPDCL is performing well on power purchase costs. However, its performance on O&M expenses and interest costs falls near the 33rd percentile boundary.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR   Unrealized revenue   APCPDCL

ACS - ARR gap Component	Amount INR '000 cr.	Amount INR / kWh	Bottom	Percentile 33rd	Percentile 67th	Top	APCPDCL
Cash adjusted revenue	8.09 (Unrealized revenue: 1.20)	5.74	77%	90%	98%	103%	87%
Power purchase cost	7.02	4.98	107%	88%	79%	55%	76%
O&M expenses	1.16	0.83	34%	14%	9%	1%	13%
Interest	0.67	0.47	21%	7%	4%	0%	7%
Other expenses	0.43	0.31					
Gap / Surplus	1.19	0.85	2.00	0.95	0.15	-0.69	0.85

Distribution of percentage share of total revenue booked

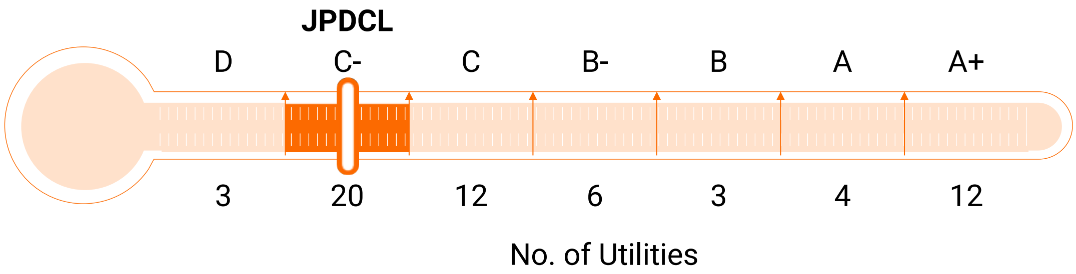
Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability**
• Low power procurement costs, at 76% of booked revenue	• Improvement in cash adjusted Debt Service Coverage Ratio, currently at -0.14 • Improvement in cash adjusted leverage, currently at -92.06 • Improvement in days payable to gencos and transcos, currently at 217 days
Performance Excellence	**Performance Excellence**
• Fair billing efficiency, currently at 91.7%	• Significant improvement in collection efficiency, currently at 87.1% • Adherence to corporate governance, i.e., constitution of 1/3rd independent directors on the board
External Environment	**External Environment**
• Profitable before loss takeover • Adherence to tariff cycle timelines • Implementation of auto pass through of fuel costs	• Very low tariff subsidy realization rate, currently at 41%

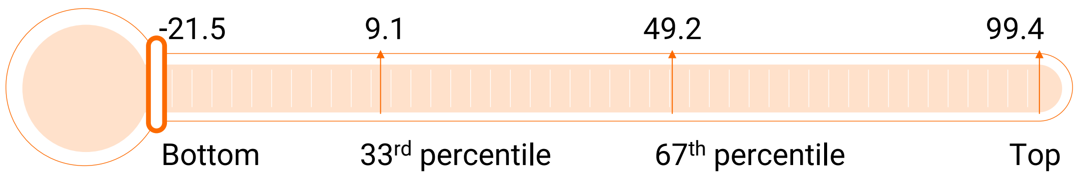
Jammu Power Distribution Corporation Limited (JPDCL)

JPDCL is a state owned discom incorporated in June 2013. It serves customers in 10 districts in the UT of J&K which include Kathua, Jammu, Samba, Udhampur, Reasi, Rajouri, Poonch, Doda, Ramban, Kishtwar.

Grade



Integrated Score



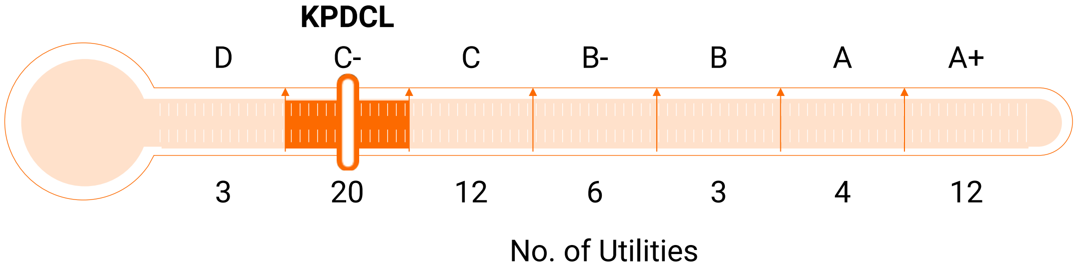
Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • NA	**Financial Sustainability** • NA
Performance Excellence • NA	**Performance Excellence** • NA
External Environment • NA	**External Environment** • NA

Kashmir Power Distribution Corporation Limited (KPDCL)

KPDCL is a state owned discom incorporated in March 2013. It serves customers in 10 districts in the UT of J&K which include Srinagar, Ganderbal, Baramulla, Anantnag, Budgam, Pulwama, Shopian, Kupwara, Kulgam & Bandipora

Grade



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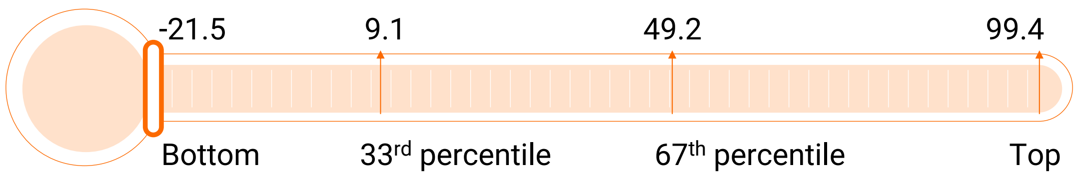


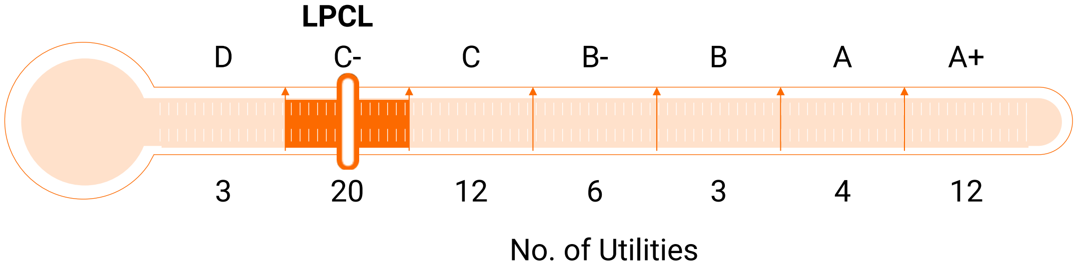
Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • NA	**Financial Sustainability** • NA
Performance Excellence • NA	**Performance Excellence** • NA
External Environment • NA	**External Environment** • NA

Ladakh Power Corporation Limited (LPCL)

LPCL serves customers in Ladakh.

Grade



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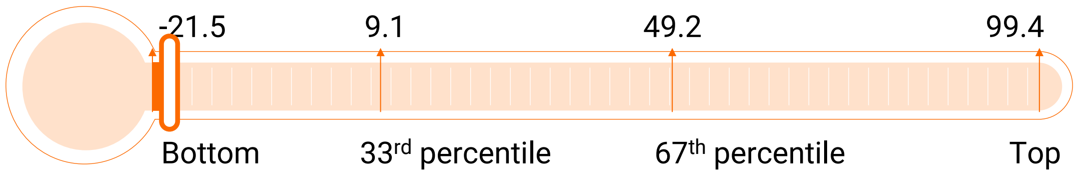


Note: Government of Jammu & Kashmir vide its order dated 23rd Oct. 2019 has unbundled J&K Power Department and proposed to form three distribution utilities viz. Jammu Power Distribution Corporation Limited (JPDCL), Kashmir Power Distribution Corporation Limited (KPDCL) and Ladakh Power Corporation Limited, along with various other utilities. As per above Government Order, Ladakh Power Corporation Limited was proposed to be formed to carry out Generation and Distribution business in UT of Ladakh. As on date, Ladakh Power Development Department (LPDD) is carrying out the distribution function in UT of Ladakh. LPDD has informed that further steps are underway for corporatization of the distribution function in the UT.
The other two utilities formed through the above referred Government Order i.e. JPDCL and KPDCL have already started operations and categorized as newly formed Discoms for 10th Integrated Rating. In the above background, Ladakh utility has been considered as newly formed utility. Rating of Ladakh utility will remain the same if rated as a Power Department.

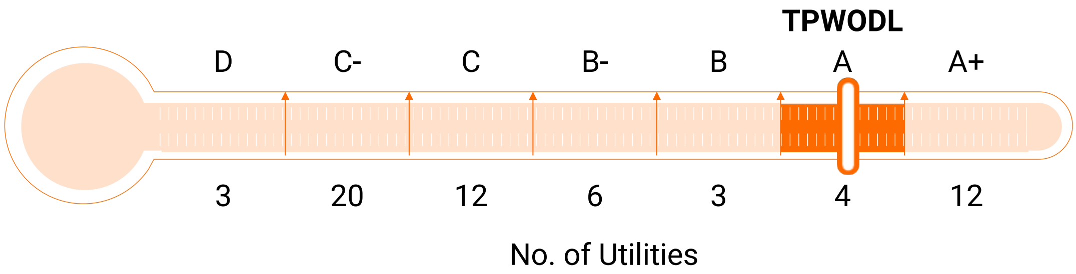
Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • NA	**Financial Sustainability** • NA
Performance Excellence • NA	**Performance Excellence** • NA
External Environment • NA	**External Environment** • NA

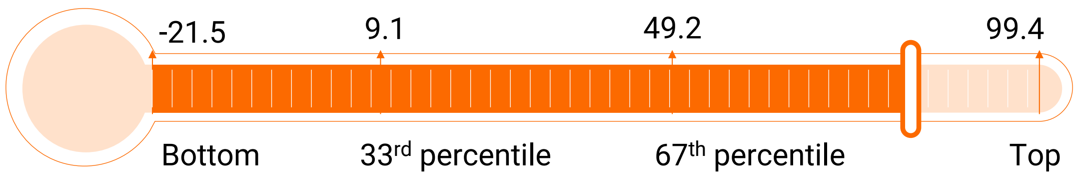
Tata Power Western Odisha Distribution Ltd (TPWODL)

TPWODL is a privately owned discom incorporated in December 2020. It serves customers in the western part of Odisha covering the circles of Rourkela, Sambalpur, Bargarh, Bolangir and Bhawanipatna. In FY21, TPWODL had a revenue of INR 922 crores, profit after tax of INR -1 crores and sold 1562 million units of energy.

Grade



Integrated Score



Key Insights

TPWODL has a low cash adjusted ACS-ARR gap of INR 0.02 per kWh (top tertile in the sector). The primary drivers of its low ACS-ARR gap are low power purchase costs, at 75% of revenue booked, and low interest costs, at 1% of revenue booked.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR; Unrealized revenue; TPWODL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Bottom	33rd Percentile	67th Percentile	Top	TPWODL
Cash adjusted revenue	0.85 (Unrealized revenue: 0.07)	⇨	4.21	77%	90%	98%	103%	92%
Power purchase cost	0.69	⇨	3.44	107%	88%	79%	55%	75%
O&M expenses	0.12	⇨	0.61	34%	14%	9%	1%	13%
Interest	0.01	⇨	0.05	21%	7%	4%	0%	1%
Other expenses	0.02	⇨	0.12					
Gap / Surplus	0	⇨	0.02	2.00	0.95	0.15	-0.69	0.02

Distribution of percentage share of total revenue booked

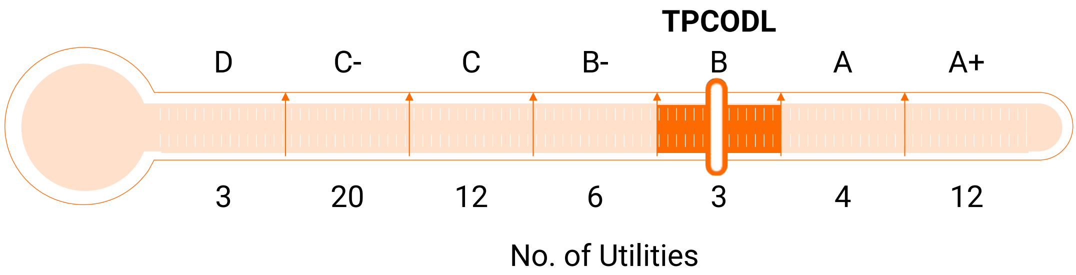
Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • Low power purchase costs, at 75% of the revenue booked • Low interest costs, at 1% of the revenue booked • Low cash adjusted ACS-ARR gap, at INR 0.02 per kWh • Low days receivable and days payable to gencos and transcos, at 7 days and 38 days, respectively • Good adjusted quick ratio at 1.64 • Strong cash adjusted DSCR at 3.00	**Financial Sustainability** • N/A
Performance Excellence • N/A	**Performance Excellence** • Significant improvement needed in billing efficiency, currently at 77.6% • Needs to have 1/3rd independent directors on the board
External Environment • Tariff subsidies are not applicable • No government dues • Tariff orders issued on time	**External Environment** • Non-implementation of automatic pass-through of fuel costs

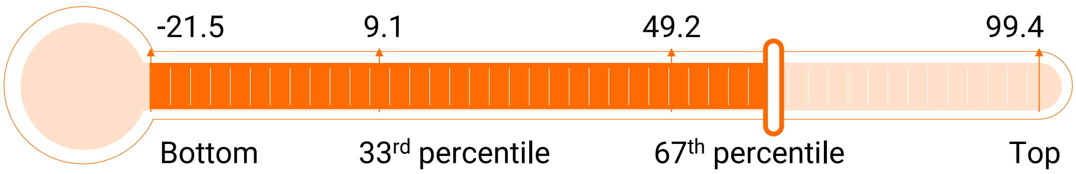
Tata Power Central Odisha Distribution Ltd (TPCODL)

TPCODL is a privately owned discom incorporated in April 2020. It serves 25.4 lakh+ customers in the state of Odisha namely in Cuttack, Khordha, Paradeep and Dhenekal. In FY21, TPCODL had a revenue of INR 2,822 crores, profit after tax of INR 6.7 crores and sold 6,202 million units of energy.

Grade



Integrated Score



Key Insights

TPCODL has a cash adjusted ACS-ARR gap of INR 0.16 per kWh (middle tertile in the sector). The primary driver of this gap is high cash adjusted revenue, at 99% of revenue booked, and low power purchase costs, at 72% of revenue booked. TPCODL is performing well on cash adjusted revenue, power purchase costs, and interest costs (all of which lie in the top tertile), but at 28% of revenue booked, its O&M expenses lie in the bottom tertile.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR ‘000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | TPCODL

ACS - ARR gap Component	Amount INR ‘000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	33rd percentile	67th percentile	Top	TPCODL
Cash adjusted revenue	2.79 (unrealized revenue 0.03)	⇨	3.33	77%	90%	98%	103%	99%
Power purchase cost	2.03	⇨	2.43	107%	88%	79%	55%	72%
O&M expenses	0.78	⇨	0.93	34%	14%	9%	1%	28%
Interest	0.03	⇨	0.04	21%	7%	4%	0%	1%
Other expenses	0.08	⇨	0.09					
Gap / Surplus	0.13	⇨	0.16	2.00	0.95	0.15	-0.69	0.16

Key Strengths & Improvement Areas

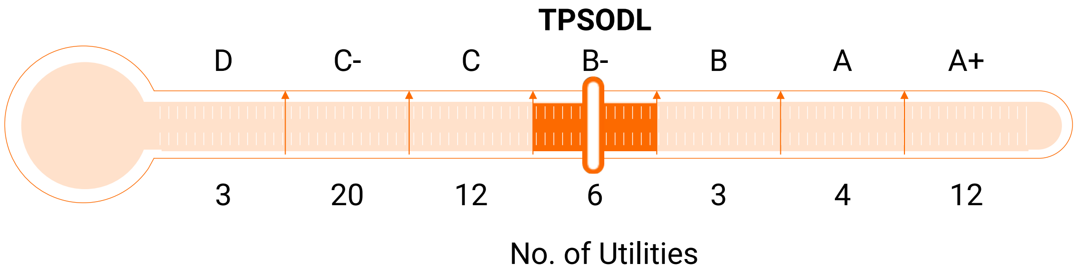
Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability**
• Low power procurement costs, at 72% of revenue booked • Low interest costs, at 1% of revenue booked • Low days receivable and days payable to gencos and transcos, at 9 and 56 days, respectively	• Improvement needed in cash adjusted DSCR and leverage, currently at -0.73 and -4.21, respectively
Performance Excellence	**Performance Excellence**
• High collection efficiency, currently at 98.8% • Adherence to corporate governance, i.e., the board has one-third independent directors	• Significant improvement needed in billing efficiency, currently at 74.1% • Distribution losses need to be brought down to SERC-approved levels
External Environment	**External Environment**
• Tariff subsidy is not applicable • No losses required to be taken over by the state government • Timely issuance of tariff orders	• Implementation of auto pass-through of fuel costs needed

Tata Power Southern Odisha Distribution Ltd (TPSODL)

TPSODL is a privately owned discom incorporated in December 2020. It serves 23.4 lakh+ customers in 8 districts of Southern Odisha namely Ganjam, Gajapati, Boudh, Kandhamal, Rayagarda, Koraput, Nabarangapur and Malkanagiri. In FY21, TPSODL had a revenue of INR 353 crores, profit after tax of INR 22 crores and sold 718 million units of energy.

B-

Grade



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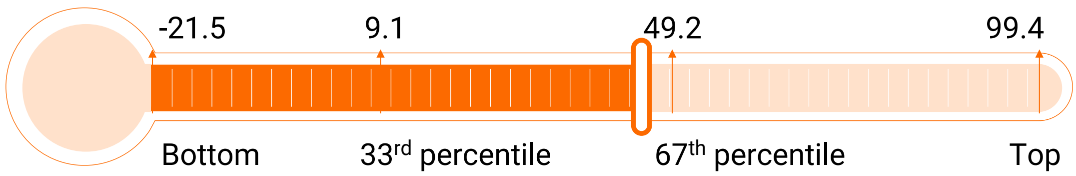


Key Insights

TPSODL has a cash adjusted ACS-ARR gap of INR 0.55 per kWh (middle tertile in the sector). The primary driver of its high ACS-ARR gap is a very low cash adjusted revenue, at 77% of the revenue booked, and high O&M costs, at 30% of revenue booked. TPSODL is performing well on power purchase costs, at 56% of revenue booked, and interest costs, at 1% of revenue booked, both of which lie near the top percentile.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | TPSODL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Distribution of percentage share of total revenue booked: Bottom	Percentile 33rd	Percentile 67th	Top	TPSODL
Cash adjusted revenue	0.27 (unrealized revenue 0.08)	⇧	3.00	77%	90%	98%	103%	77%
Power purchase cost	0.20	⇧	2.20	107%	88%	79%	55%	56%
O&M expenses	0.11	⇧	1.19	34%	14%	9%	1%	30%
Interest	0	⇧	0.05	21%	7%	4%	0%	1%
Other expenses	0.01	⇧	0.12					
Gap / Surplus	0.05	⇧	0.55	2.00	0.95	0.15	-0.69	0.55

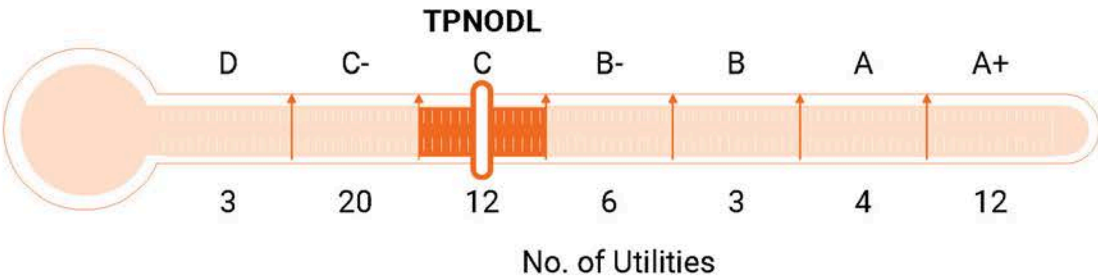
Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • Low power purchase expenses and interest expenses, currently at 56% and 1% of revenue booked, respectively • High adjusted quick ratio at 1.37 • Very low days receivable, currently at 21 days	**Financial Sustainability** • High O&M expenses, currently at 30% of revenue booked • Improvement in cash adjusted revenue needed, currently at 77% of revenue booked, to improve cash adjusted ACS-ARR gap, currently at INR 0.55 per kWh • Improvement needed in cash adjusted DSCR and leverage, currently at -7.35 and -2.88, respectively
Performance Excellence • Distribution losses are lower than the SERC-approved figure	**Performance Excellence** • Improvement needed in billing efficiency, currently at 79.5% • Improvement needed in collection efficiency, currently at 75.1% • Adherence to Corporate Governance
External Environment • Tariff subsidies are not applicable • Tariff orders issued on time	**External Environment** • Regulation does not allow automatic pass-through of fuel costs

Tata Power Northern Odisha Distribution Ltd (TPNODL)

TPNODL is a privately owned discom incorporated in March 2021. It serves 20 lakh+ customers in the state of Odisha namely in Balasore, Bhadrak, Baripada, Jajpur and Keonjhar. In FY21, TPNODL had a revenue of INR 2,252 crores, profit after tax of INR -123 crores and sold 3,922 million units of energy.

Grade



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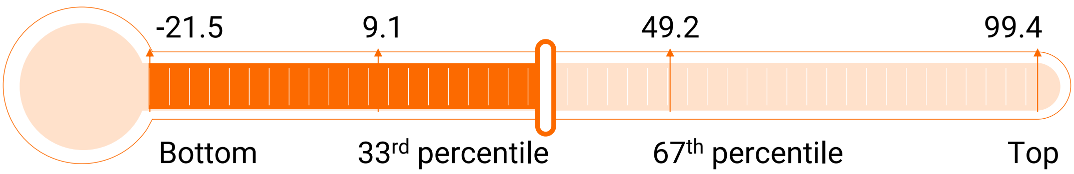


Key Insights

TPNODL has a cash adjusted ACS-ARR gap of INR 0.45 per kWh (middle tertile in the sector). The primary driver of its high ACS-ARR gap is low cash adjusted revenue, at 96% of revenue booked, and high O&M expenses, at 18% of revenue booked. TPNODL's strength is low interest expenses, which fall in the top tertile.

Benchmarking of ACS-ARR gap components (3-year weighted average)

(Amount in INR '000 crores)

⇧ | ⇩ | ⇨ Improving | Declining | Stable from FY 2019-21 based on 2 YR CAGR

Unrealized revenue | TPNODL

ACS - ARR gap Component	Amount INR '000 cr.		Amount INR / kWh	Bottom	Percentile 33rd	Percentile 67th	Top	TPNODL
Cash adjusted revenue	2.15 (unrealized revenue 0.10)	⇧	4.35	77%	90%	98%	103%	96%
Power purchase cost	1.83	⇩	3.69	107%	88%	79%	55%	81%
O&M expenses	0.40	⇩	0.81	34%	14%	9%	1%	18%
Interest	0.07	⇩	0.14	21%	7%	4%	0%	3%
Other expenses	0.08	⇧	0.16					
Gap / Surplus	0.22	⇩	0.45	2.00	0.95	0.15	-0.69	0.45

Distribution of percentage share of total revenue booked

Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • NA	**Financial Sustainability** • High days receivable and days payable to gencos and transcos at 278 days and 152 days, respectively • Improvement needed in cash adjusted DSCR and leverage, currently at -1.05 and -5.83, respectively
Performance Excellence • N/A	**Performance Excellence** • Distribution losses are higher than SERC-approved loss • Significant improvement needed in billing efficiency, currently at 79.4%
External Environment • Tariff subsidies are not applicable • No government dues for the last 3 financial years • Tariff orders issued on time	**External Environment** • Non implementation of automatic pass-through of fuel costs

D. Power Departments

Electricity Department, Andaman & Nicobar Administration (Andaman & Nicobar PD)

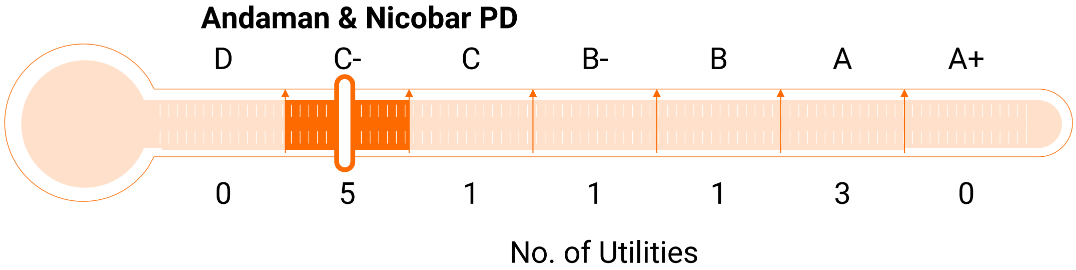
Andaman and Nicobar PD is a power department. It serves 1.4 lakh+ customers in the union territory of Andaman & Nicobar. In FY21, Andaman and Nicobar PD had a revenue of INR 160 crores, profit after tax of INR -757 crores and sold 247 million units of energy.

#8

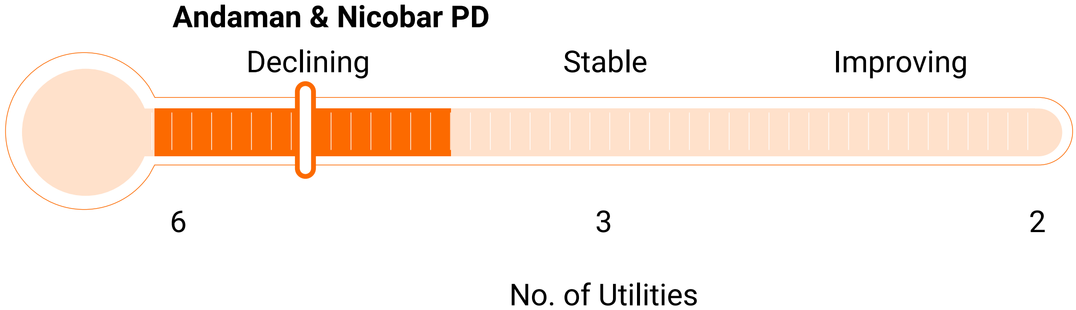
Rank
8 out of 11

C-

Grade



ACS-ARR Gap Trajectory



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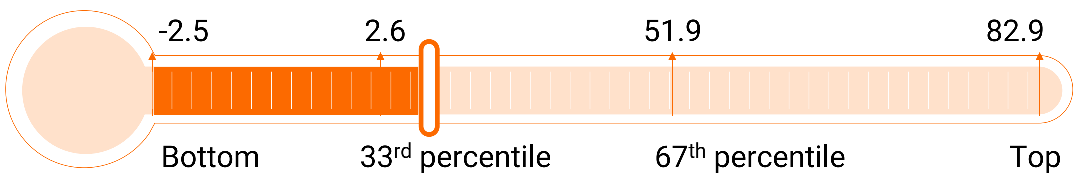


Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • N/A	**Financial Sustainability** • Improvement needed in revenue realization, currently at 77%*, to improve the cash adjusted ACS-ARR gap, currently at 22.64* • Very high power procurement costs at 365% of revenue booked
Performance Excellence • Availability of separate, audited accounts	**Performance Excellence** • Significant improvement needed in billing efficiency, currently at 76.8%* • Significant improvement needed in collection efficiency, currently at 77.4%* • Distribution losses are higher than the SERC-approved figure
External Environment • N/A	**External Environment** • Improvement in tariff subsidy realization, at 0% for the last 3 financial years • Regulation not allowing automatic pass-through of fuel costs • Timely issuance of tariff orders by the SERC

* 3-year weighted average

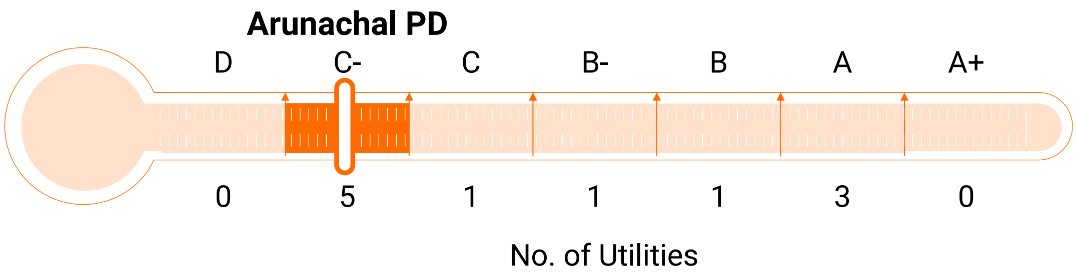
Department of Power, Government of Arunachal Pradesh (Arunachal PD)

Arunachal PD is a power department. It serves 4.9 lakh+ customers in the state of Arunachal Pradesh. In FY21, Arunachal PD had a revenue of INR 232 crores, profit after tax of INR -569 crores and sold 345 million units of energy.

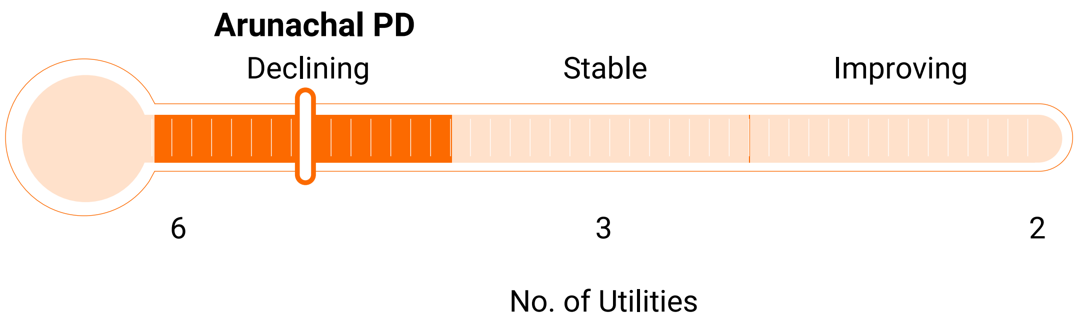
#7 **Rank**
7 out of 11

C-

Grade



ACS-ARR Gap Trajectory



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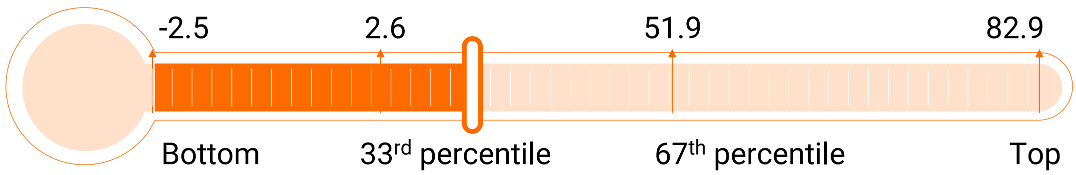


Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • N/A	**Financial Sustainability** • Improvement of ACS-ARR gap, currently at INR 4.87* per kWh • High power purchase cost at 162% of revenue booked • High O&M cost at 152% of revenue booked
Performance Excellence • Collection Efficiency at 100%*	**Performance Excellence** • Distribution Losses higher than the SERC approved • Improvement in Billing Efficiency at currently at 55%*
External Environment	**External Environment** • Improvement in tariff subsidy realization rate, currently at 0% • Regulation support to allow automatic pass through of fuel costs • Regulatory support for issuance of true-up orders on time

* 3-year weighted average

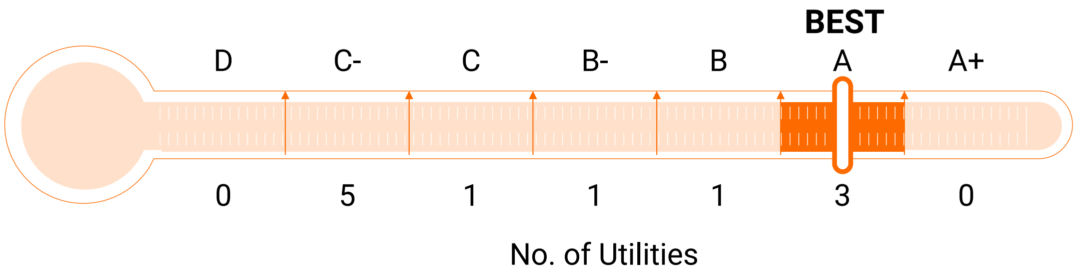
The Brihanmumbai Electric Supply & Transport Undertaking (BEST)

BEST is a power department. It serves 10 lakh+ customers in the territory of old city area of Mumbai. In FY21, BEST had a revenue of INR 2,904 crores, profit after tax of INR -302 crores and sold 3,694 million units of energy.

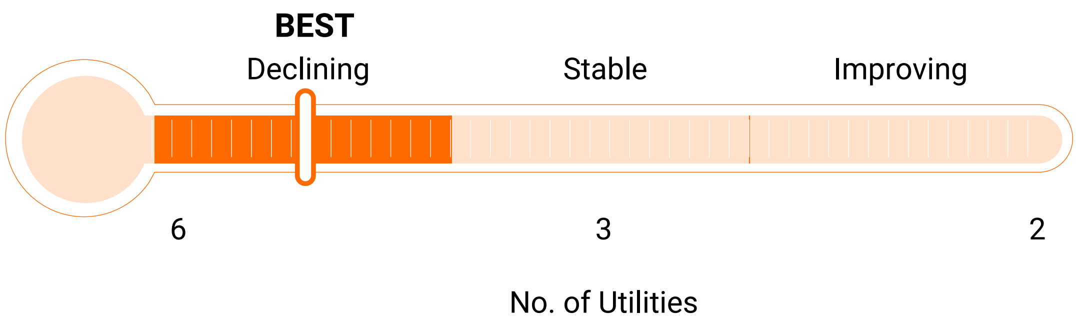
#3 **Rank**
3 out of 11

A

Grade



ACS-ARR Gap Trajectory



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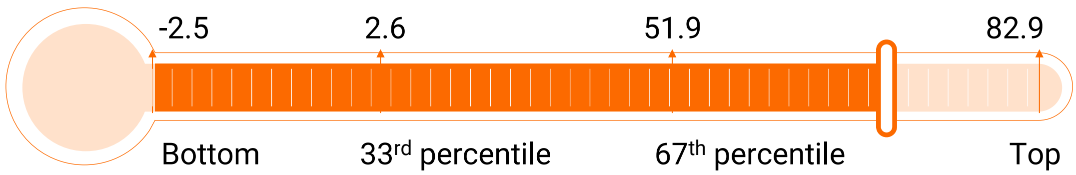


Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • Low power procurement costs, at 74% of revenue booked • Low interest costs, at 2% of revenue booked	**Financial Sustainability** • High O&M costs, at 20% of revenue booked
Performance Excellence • Good collection efficiency at 100% (3-year weighted average) • Good billing efficiency at 95% (3-year weighted average)	**Performance Excellence** • Distribution losses higher than SERC-approved
External Environment • No tariff subsidy applicable • Regulation allows automatic pass-through of fuel costs • Tariff and true-up orders are issued on time	**External Environment** • N/A

Electricity Wing of Engineering Department, Chandigarh Administration (Chandigarh PD)

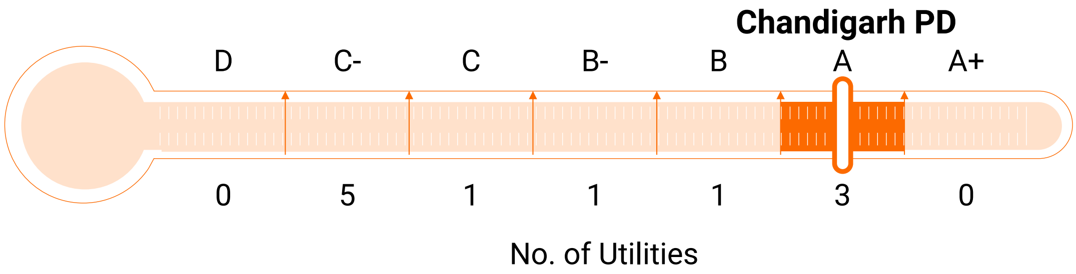
Chandigarh PD is a power department. It serves customers in the union territory of Chandigarh. In FY21, Chandigarh PD had a revenue of INR 891 crores, profit after tax of INR 79 crores and sold 1,450 million units of energy.

#2

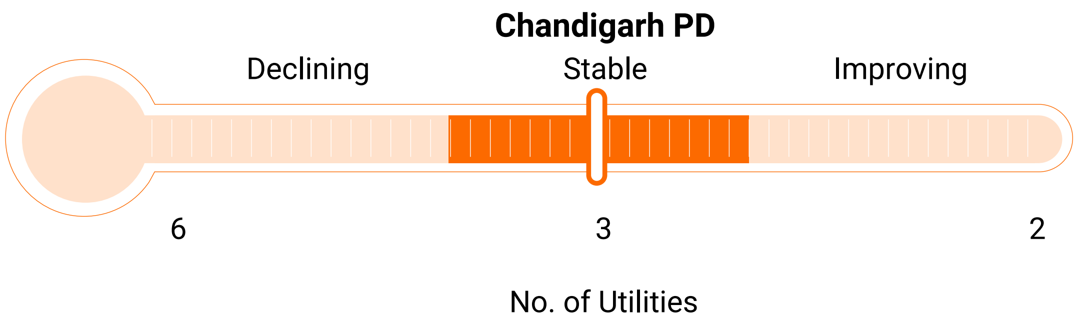
Rank
2 out of 11

A

Grade



ACS-ARR Gap Trajectory



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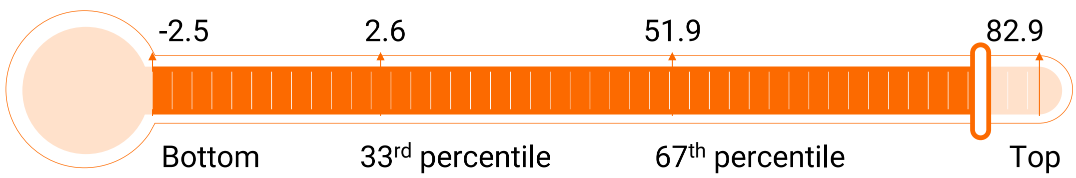


Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability**
• Very high cash adjusted revenue at 100.24% leading to a high ACS-ARR surplus of 0.42 INR/kWh (3-year weighted averages)	• N/A
Performance Excellence	**Performance Excellence**
• High collection efficiency, currently at 98.9% (3-year weighted average)	• Distribution loss higher than SERC-approved • Unavailability of separate and audited accounts
External Environment	**External Environment**
• Regulation allows automatic pass-through of fuel costs • Multi-year ARR and tariff structure has been approved	• N/A

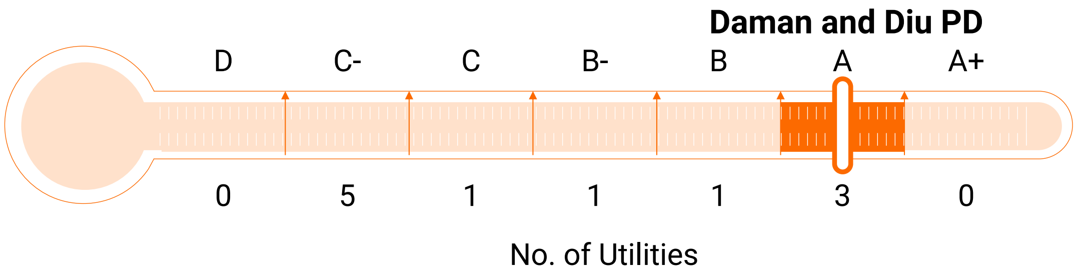
Electricity Department, UT Administration of Dadra & Nagar Haveli and Daman & Diu (Daman & Diu PD)

Daman & Diu PD is a power department. It serves 64000+ customers in the union territory of Daman & Diu. In FY21, Daman & Diu PD had a revenue of INR 1,096 crores, profit after tax of INR 12 crores and sold 2,127 million units of energy.

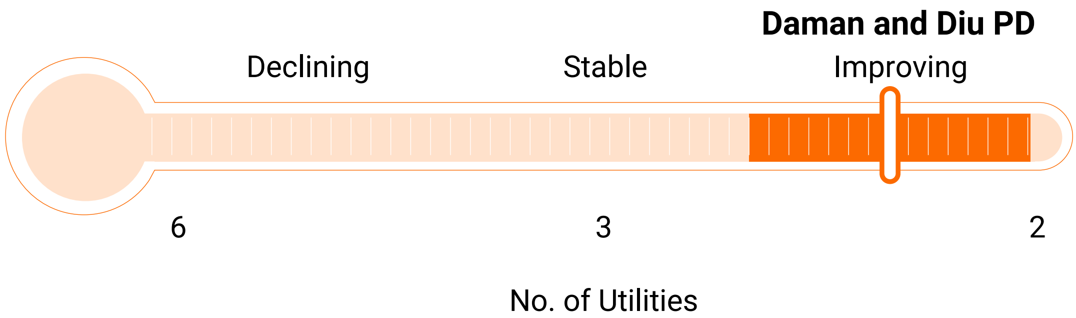
#1 **Rank**
1 out of 11

A

Grade



ACS-ARR Gap Trajectory



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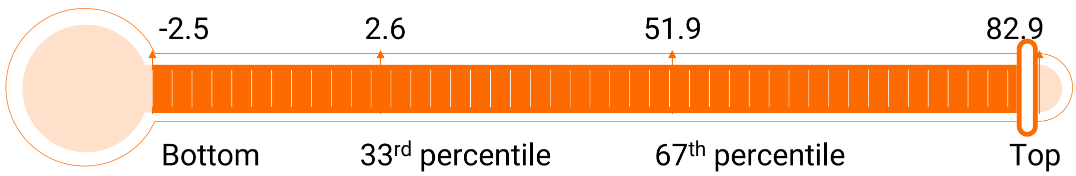


Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability**
• 100% cash adjusted revenue leading to a low ACS-ARR gap of 0.19 (3-year weighted average)	• N/A
Performance Excellence	**Performance Excellence**
• Distribution loss is lower than SERC-approved • 100% collection efficiency (3-year weighted average) • Good billing efficiency at 95.4% (3-year weighted average)	• Unavailability of separate and audited accounts
External Environment	**External Environment**
• Regulation allows automatic pass-through of fuel costs • 100% subsidy realization for the last 3 financial years • Timely issuance of tariff and true-up orders by the SERC	• N/A

Electricity Department, Government of Goa (Goa PD)

Goa ED is a power department. It serves 6.2 lakh+ customers in the state of Goa. In FY21, Goa ED had a revenue of INR 1,843 crores, profit after tax of INR -215 crores and sold 3,756 million units of energy.

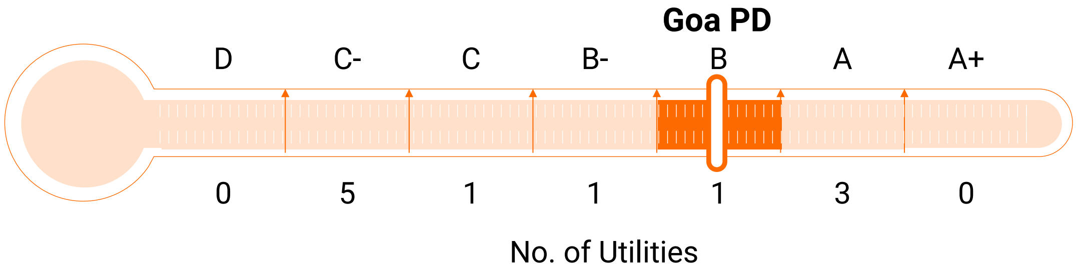
#4

Rank

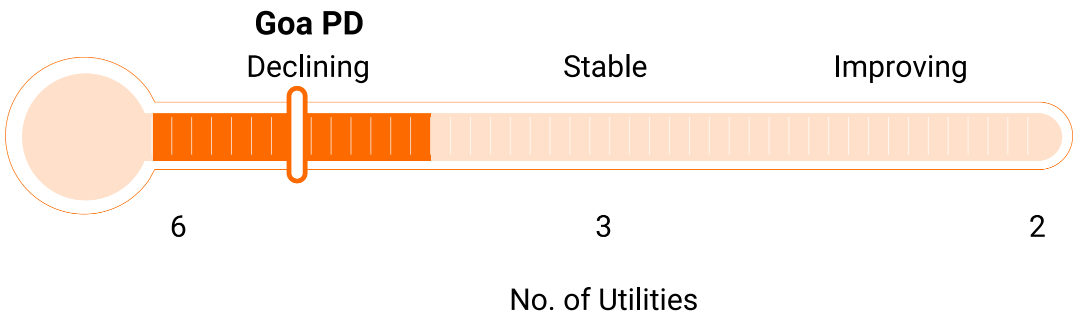
4 out of 11

B

Grade



ACS-ARR Gap Trajectory



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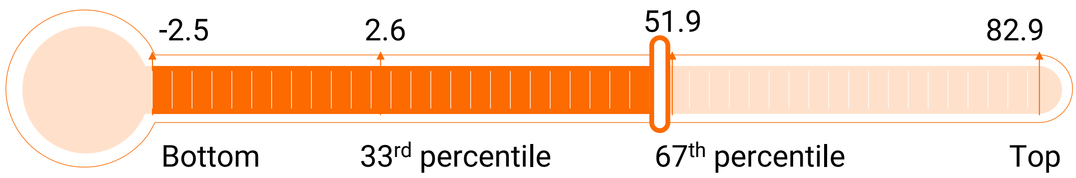


Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability**
• High cash adjusted revenue at 99% of revenue booked (3-year weighted average)	• N/A
Performance Excellence	**Performance Excellence**
• High collection efficiency at 98.7% (3-year weighted average) • Availability of separate audited accounts	• Distributions losses are higher than SERC-approved levels
External Environment	**External Environment**
• Regulation allows automatic pass-through of fuel costs • 100% tariff subsidy realization over the last 3 financial years	• Regulatory support needed for timely issuance of true-up orders

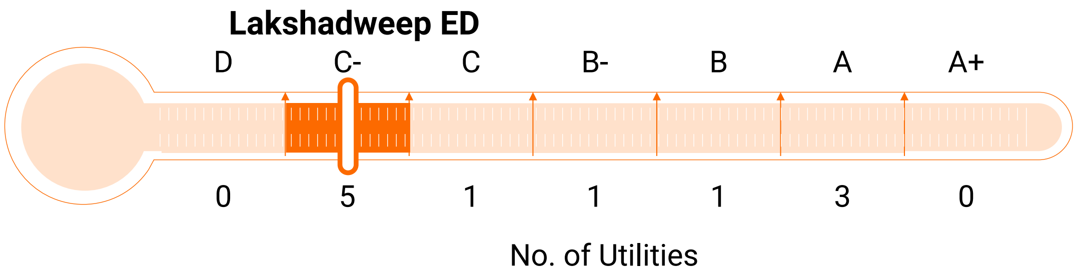
Department of Electricity, UT of Lakshadweep (Lakshadweep ED)

Lakshadweep ED is a power department. It serves 25,422+ customers in the union territory of Lakshadweep.

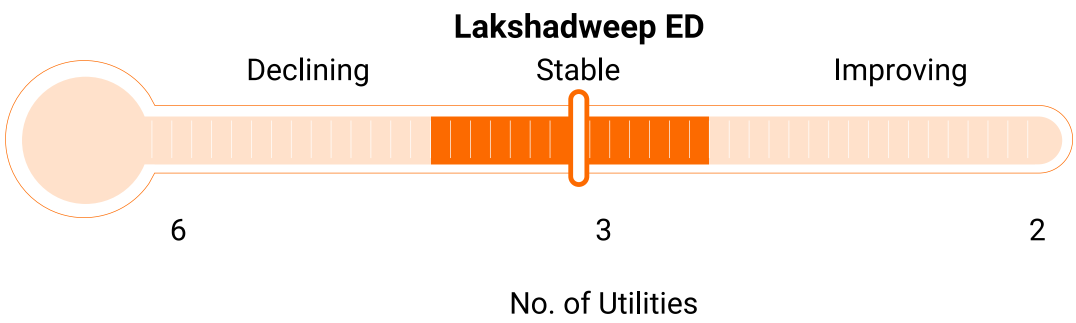
#10 **Rank**
10 out of 11

C-

Grade



ACS-ARR Gap Trajectory



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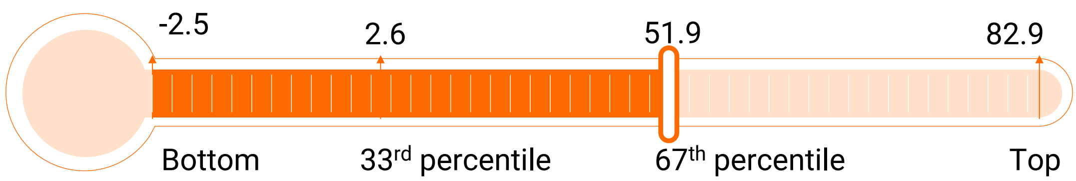


Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • NA	**Financial Sustainability** • NA
Performance Excellence • NA	**Performance Excellence** • NA
External Environment • NA	**External Environment** • NA

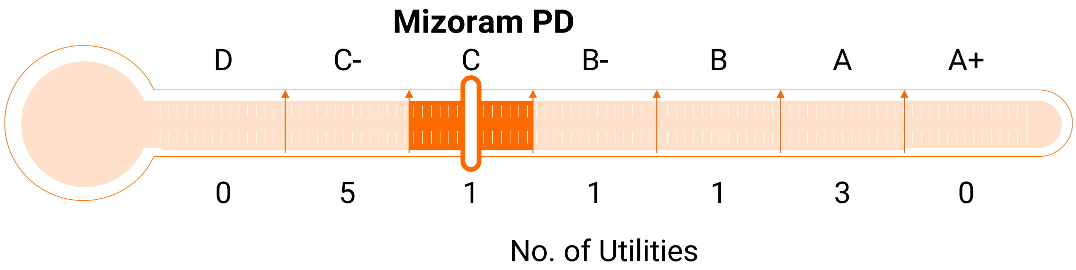
Power & Electricity Department, Government of Mizoram (Mizoram PD)

Mizoram PD is a power department. It serves customers in the state of Mizoram. In FY21, Mizoram PD had a revenue of INR 453 crores, profit after tax of INR -357 crores and sold 445 million units of energy.

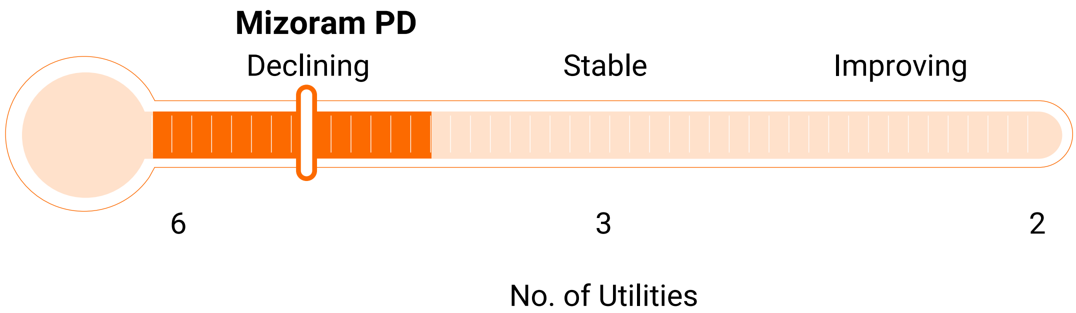
#6 **Rank**
6 out of 11

C

Grade



ACS-ARR Gap Trajectory



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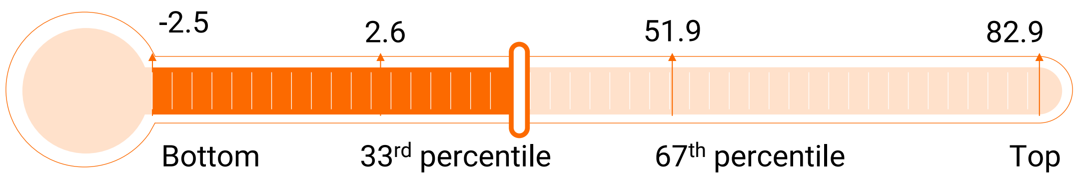


Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability**
• N/A	• Improvement in cash adjusted ACS-ARR gap, currently at 4.23*
Performance Excellence	**Performance Excellence**
• Availability of separate, audited accounts	• Improvement needed in collection efficiency, currently at 93.7%* • Improvement needed in billing efficiency, currently at 74.8%*
External Environment	**External Environment**
• Regulation allows automatic pass-through of fuel costs • 100% tariff subsidy realization • Timely issuance of tariff and true-up orders by the SERC	• N/A

* 3-year weighted average

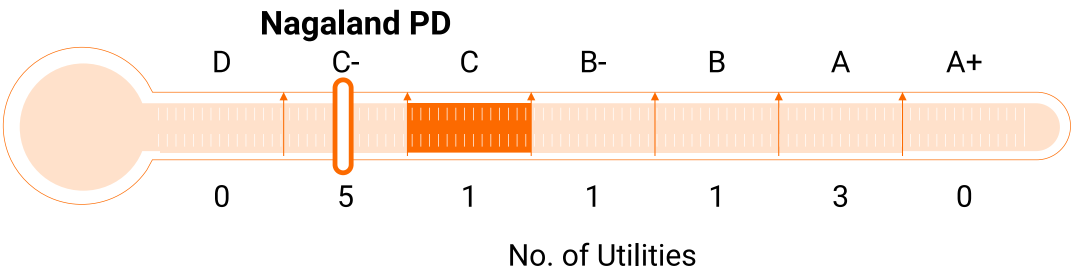
Department of Power, Nagaland (Nagaland PD)

Nagaland ED is a power department. It serves customers in the state of Nagaland. In FY21, Nagaland ED had a revenue of INR 613 crores, profit after tax of INR -143 crores and sold 404 million units of energy.

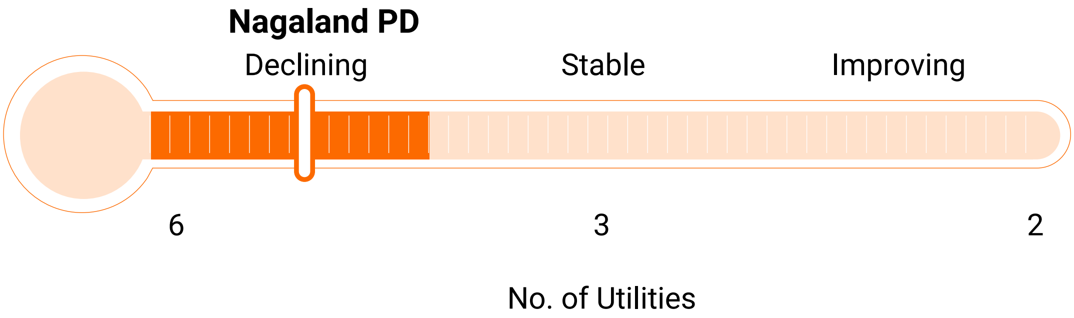
#11 **Rank**
11 out of 11

C-

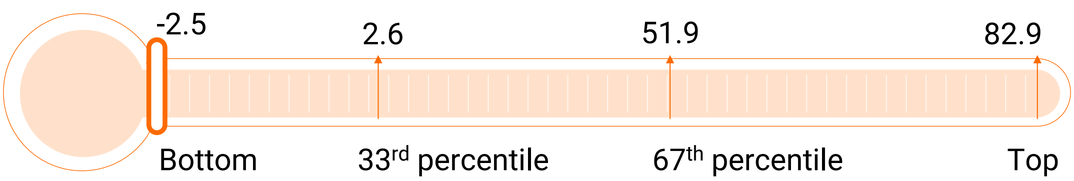
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability**
• N/A	• Improvement needed in cash adjusted ACS-ARR gap, currently at 2.13 (3-year weighted average)
Performance Excellence	**Performance Excellence**
• N/A	• Improvement needed in collection efficiency, currently at 77.2% (3-year weighted average) • Improvement needed in billing efficiency, currently at 48.9% (3-year weighted average) • Distribution losses are higher than SERC-approved
External Environment	**External Environment**
• Regulation allows automatic pass-through of fuel costs	• Regulatory support needed for issuance of tariff and true-up orders on time • 0% subsidy realization for the last three financial years

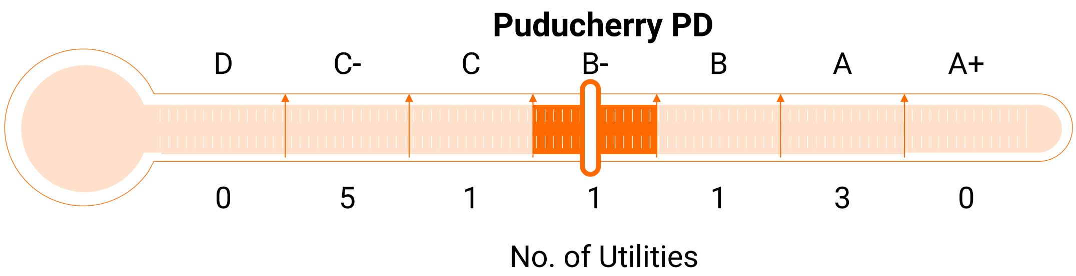
Electricity Department of Government of Puducherry (Puducherry PD)

Puducherry ED is a power department. It serves customers in the union territory of Puducherry. In FY21, Puducherry ED had a revenue of INR 1,450 crores, profit after tax of INR -8 crores and sold 2,518 million units of energy.

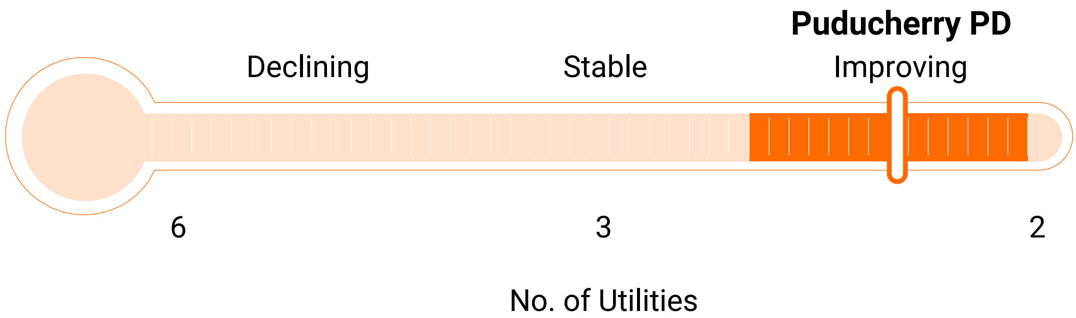
#5 **Rank**
5 out of 11

B-

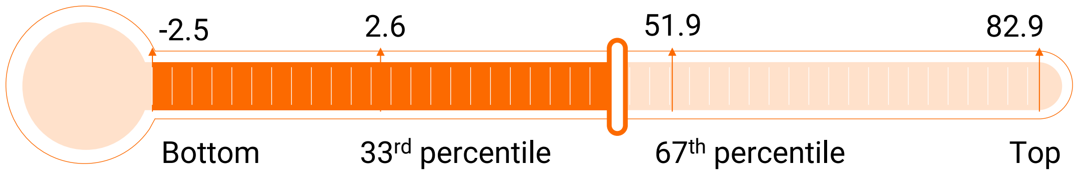
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability	**Financial Sustainability**
• N/A	• Improvement needed in revenue realization, currently at 91%, to improve the cash adjusted ACS-ARR gap, currently at 0.69 (3-year weighted average)
Performance Excellence	**Performance Excellence**
• Distribution losses are lower than the SERC-approved levels • Availability of separated audited accounts	• Improvement in collection efficiency, currently at 91.8% (3-year weighted average) • Improvement in billing efficiency, currently at 87.6% (3-year weighted average)
External Environment	**External Environment**
• Regulation allows automatic pass-through of fuel costs	• Regulatory support needed for issuance of tariff and true-up orders on time

Power Department, Government of Sikkim (Sikkim PD)

Sikkim PD is a power department. It serves customers in the state of Sikkim.

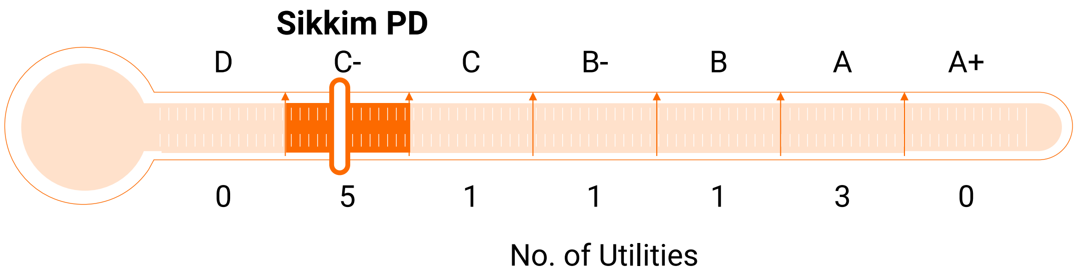
Rank

9 out of 11

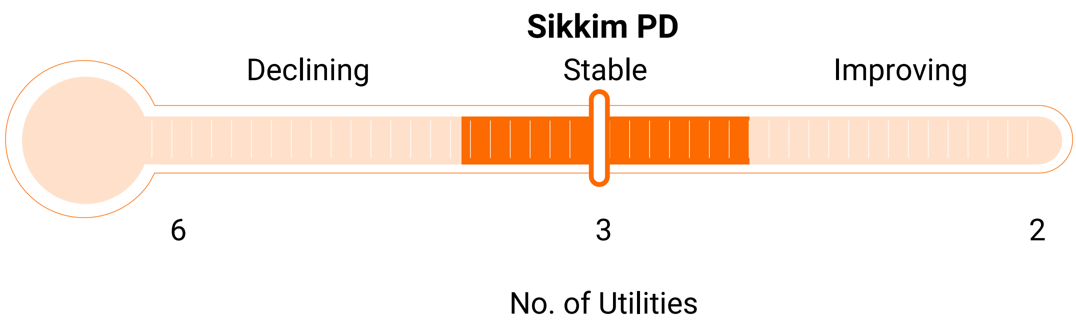
#9

C-

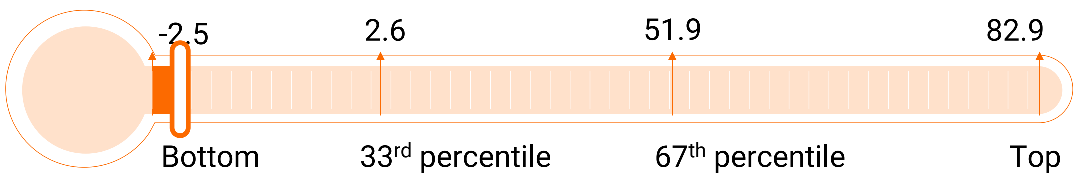
Grade



ACS-ARR Gap Trajectory



Integrated Score



Key Strengths & Improvement Areas

Key Strengths	Improvement Areas
Financial Sustainability • NA	**Financial Sustainability** • NA
Performance Excellence • NA	**Performance Excellence** • NA
External Environment • NA	**External Environment** • NA

APPENDIX

3. Integrated Rating Scoring Methodology

A. Scoring Methodology for State & Private Distribution Utilities

S. No.	Parameter	Score
A	**Financial Sustainability**	**75**
1	**ACS-ARR Gap (cash adjusted)**	**35**
	Note: 3 years weighted average metric to be used for scoring with following weights: 60% for FY21, 25% for FY20 and 15% for FY19	
	If equal to or less than -0.05, full marks to be awarded, else separate absolute & trajectory scoring applicable	35
	Marks for absolute level	28
	Greater than -0.05 up to 0.9	Proportionate
	Greater than 0.9	0
	Marks for trajectory (applicable when latest ACS-ARR gap (cash adjusted) is less than or equal to 1.4)	7
	1 Year AGR of ACS-ARR gap (cash adjusted) is less than -5%	3.5
	2 Year CAGR of ACS-ARR gap (cash adjusted) is less than -5%	3.5
2	**Days Receivable**	**3**
	Equal to or less than 60 days	3
	Greater than 60 days up to 120 days	Proportionate
	Greater than 120 days	0
3	**Days Payable to GenCos & TransCos**	**10**
	Equal to or less than 45 days	10
	Greater than 45 days but less than or equal to 60 days	8
	Greater than 60 days but less than or equal to 75 days	6
	Greater than 75 days	0
4	**Adjusted Quick Ratio**	**10**
	Note: 3 years weighted average metric to be used for scoring with following weights: 60% for FY21, 25% for FY20 and 15% for FY19	
	Greater than or equal to 1	10
	Less than 1 up to 0.4	Proportionate
	Less than 0.4	0

S. No.	Parameter	Score
5	**Debt Service Coverage Ratio (cash adjusted)**	**10**
	Note: 3 years weighted average metric to be used for scoring with following weights: 60% for FY21, 25% for FY20 and 15% for FY19	
	Greater than or equal to 1.1	10
	Less than 1.1 up to 0.6	Proportionate
	Less than 0.6	0
6	**Leverage (Debt/EBITDA) (cash adjusted)**	**7**
	Note: 3 years weighted average metric to be used for scoring with following weights: 60% for FY21, 25% for FY20 and 15% for FY19	
	Greater than 0 up to 5	7
	Greater than 5 up to 15	Proportionate
	Greater than 15 or less than 0	0
B	**Performance Excellence**	**13**
1	**Distribution Loss (SERC approved)**	**2**
	Marks for ratio of actual distribution loss to SERC approved distribution loss	
	Equal to or less than 1	2
	Greater than 1 up to 1.2	Proportionate
	Greater than 1.2	0
2	**Billing Efficiency**	**5**
	Note: 3 years weighted average metric to be used for scoring with following weights: 60% for FY21, 25% for FY20 and 15% for FY19	
	If greater than or equal to 92%, full marks to be awarded, else separate absolute & trajectory scoring applicable	5
	Marks for absolute level	4
	Less than 92% up to 82%	Proportionate
	Less than 82%	0
	Marks for trajectory (applicable when latest Billing Efficiency is greater than or equal to 80%)	1
	1 Year AGR of Billing Efficiency is greater than 5%	0.5
	2 Year CAGR of Billing Efficiency is greater than 5%	0.5
3	**Collection Efficiency**	**5**
	Note: 3 years weighted average metric to be used for scoring with following weights: 60% for FY21, 25% for FY20 and 15% for FY19	
	If greater than or equal to 99.5%, full marks to be awarded, else separate absolute & trajectory scoring applicable	5
	Marks for absolute level	4

S. No.	Parameter	Score
	Less than 99.5% up to 91%	Proportionate
	Less than 91%	0
	Marks for trajectory (applicable when latest Collection Efficiency is greater than or equal to 90%)	1
	If FY21 Collection Efficiency is greater than or equal to 95%, full marks to be awarded for trajectory, else, below rules are applicable	
	1 Year AGR of Collection Efficiency is greater than 5%	0.5
	2 Year CAGR of Collection Efficiency is greater than 5%	0.5
4	**Corporate Governance**	**1**
	Note: Board with 2 Independent Directors (as per Statutory Requirement) are assigned a score of 0.75 Marks	
	Board with 1/3rd independent directors	1
C	**External Environment**	**12**
1	**Subsidy Realized (Last 3 FYs)**	**4**
	Greater than or equal to 100%	4
	Greater than 80% up to 100%	Proportionate
	Less than 80%	0
2	**Loss Takeover by State Government**	**3**
	If profitable before loss takeover, full marks to be awarded	3
	Greater than or equal to 50% of losses before takeover	3
	Greater than 0% up to 50% of losses before takeover	Proportionate
	Equal to 0% of losses before takeover	0
3	**Government Dues (Last 3 FYs)**	**3**
	Equal to 0%	3
	Greater than 0% up to 50%	Proportionate
	Greater than 50%	0
4	**Tariff Cycle Timelines**	**1**
	Tariff order for the next year (T+1) issued by 31 Mar of the recently closed FY (T) for which audited accounts should be available	0.5
	True-up order for tariffs of the year (T-1) issued by 31 Mar of the recently closed FY (T) for which audited accounts should be available	0.5
5	**Auto Pass Through of Fuel Costs**	**1**
	If fuel costs are recovered on at least a quarterly basis	1
	If fuel costs are not recovered or if SERC does not allow fuel costs adjustment	0
D	**Specific Disincentives**	
	Note 1: Cumulative impact on the score from all Specific Disincentives will be capped at -10 marks, except for Red card metrics	

S. No.	Parameter	Score
	Note 2: Red card metrics are: 1) Auditor's adverse opinion 2) Availability of audited accounts 3) Default to banks / FIs	
	Disincentive score for these metrics is outside the -10 marks limit for Specific Disincentives and results in ineligibility for A+, A grades	
1	**Auditor's Adverse Opinion**	**-15**
	For overall adverse opinion by auditor	-15
	If the utility submits a provisional account for the evaluation year (T-1) and if the last submitted audited account had an adverse opinion, then the adverse opinion disincentive will continue to apply	-15
2	**Availability of Audited Accounts**	**-15**
	Note 1: Maximum disincentive for this metric will be capped at -15	
	Note 2: If audited accounts are received before the rating date, this metric will not be treated as a red card and the overall capping limits for Specific Disincentives will apply	
	Note 3: Lenders may review previously awarded disincentives on receipt of audited accounts to make the process more dynamic	
	Note 4: Timeline for submission of audited accounts is extended to 30th November for FY 2021 considering the timeline provided by the Ministry of Corporate Affairs (MCA)	
	Post Sep 30 of the next FY (T+1), audited accounts for the last closed FY (T) should be available, else monthly disincentive applicable	-0.5 per month
	If the utility only provides provisional accounts for the last closed FY (T) till the rating date, additional disincentive applicable	-5 additional
	If the utility does not have audited accounts for the previously closed 2 FYs (i.e., T-1 and T-2), then -5 marks additional disincentive per year applicable	-5 per year additional (capped at -10)
3	**Default to Banks / FIs**	**-15**
	Conditions for frequency of default	
	If there is default to any 1 lender in auditor's report	25% of yearly disincentives
	If there is default to any 2 lenders in auditor's report	50% of yearly disincentives
	If there is default to any 3 or more lenders in auditor's report	100% of yearly disincentives
	Yearly disincentives for frequency of default	
	Default in last closed FY (T)	-4
	Default in year (T-1)	-3
	Default in year (T-2)	-2
	Default to PFC or REC including quantum of default	
	If there is any default to PFC or REC as of last quarter closing of ongoing FY (T+1)	-4

S. No.	Parameter	Score
	Default amount to PFC or REC in FY (T+1) greater than 5% of outstanding loan to PFC or REC	-2
	Note 1: Provision for rating review by lenders on defaults as part of a dynamic rating process as under:	
	a. If a loan to PFC or REC is under SMA-2 (i.e. overdue for 61 days or more) as of last quarter closing, then it will result in direct downgrade to D	
	b. Subsequent to the release of the ratings, if the utility is placed under SMA-2 by any banks or financial institutions, then it will result in direct downgrade to D	
	c. Such Grade D may be reviewed after such default has been cured by the utility subsequently.	
4	**Audit Qualifications**	**-4**
	Employee related liabilities / statutory dues qualification	-1
	Non-adherence to Ind-AS qualification	-1
	Not a going concern qualification	-2
5	**Governance**	**-3**
	Note: Discom is not required to have an audit committee if the holding company has already appointed an Audit Committee	
	Operational Audit Committee – if not available	-1
	Exclusive Managing Director and Director Finance – if not available	-1
	Quarterly accounts duly approved by Board of Directors or Audit Committee – if not available	-1
6	**Tariff Cycle Delays**	**-4.5**
	Delay in filing of tariff petition for year (T+2) post Nov 30 of year (T+1)	-0.25 for every 2-month delay
	Delay in issue of tariff order for the year (T+1) post Mar 31 of the year for which audited accounts should be available (T)	-0.25 for every 2-month delay
	Delay in issue of true-up order for year (T-1) post Mar 31 of the year for which audited accounts should be available (T)	-0.25 for every 2-month delay
7	**Tariff Independent of Subsidy**	**-1**
	If regulator considers subsidy while determining tariffs (not cost reflective)	-1
8	**Uncovered Revenue Gap (Current Year)**	**-4**
	Less than 1% of SERC approved ARR in latest tariff order	0
	1% of SERC approved ARR in latest tariff order	-1
	Greater than 1% and less than 4% of SERC approved ARR in latest tariff order	Proportionate
	Greater than or equal to 4% of SERC approved ARR in latest tariff order	-4
9	**Regulatory Assets**	**-5**
	Note 1: Cumulative balances of regulatory assets should be liquidated in 7 years. The cumulative regulatory assets balance as of FY21 SERC orders is considered as the baseline for liquidation	

S. No.	Parameter	Score
	Note 2: Liquidation target as compared to FY21 levels will progressively increase by 1/7th each year. Example, target for FY22 is 1/7th reduction, for FY23 is 2/7th reduction and so on, as compared to FY21 baseline	
	Note 3: If the cumulative balance of regulatory assets increases from FY 21 SERC orders, then the utility will not be eligible for A+, A and B grades	
	If cumulative regulatory assets balance as of latest FY SERC orders has reduced by target reduction for the FY or more	0
	If cumulative regulatory assets balance as of latest FY SERC orders has reduced from FY21 baseline level but the reduction in balance is less than the target reduction for the FY	Proportionate
	If cumulative regulatory assets balance as of latest FY SERC orders is the same as FY21 baseline level or higher	-5

Sources of information include audited accounts, input data submitted by utilities, tariff filings & orders, true-up filings & orders, business plans, state budgetary plans, State Govt orders/ notifications, subsidy release particulars, PFC & REC default information etc.

B. Scoring Methodology for Power Departments

S. No.	Parameter	Score
A	**Financial Sustainability**	**55**
1	**ACS-ARR Gap (cash adjusted)**	**55**
	Note: 3 years weighted average metric to be used for scoring with following weights: 60% for FY21, 25% for FY20 and 15% for FY19	
	If equal to or less than -0.05, full marks to be awarded, else separate absolute & trajectory scoring applicable	55
	Marks for absolute level	44
	Greater than -0.05 up to 1	Proportionate
	Greater than 1	0
	Marks for trajectory (applicable when latest ACS-ARR gap (cash adjusted) is less than or equal to 1.4)	11
	1 Year AGR of ACS-ARR gap (cash adjusted) is less than -5%	5.5
	2 Year CAGR of ACS-ARR gap (cash adjusted) is less than -5%	5.5
B	**Performance Excellence**	**35**
1	**Distribution Loss (SERC approved)**	**10**
	Marks for ratio of actual distribution loss to SERC approved distribution loss	
	Equal to or less than 1	5
	Greater than 1 up to 1.3	Proportionate
	Greater than 1.3	0

S. No.	Parameter	Score
2	**Billing Efficiency**	**10**
	Note: 3 years weighted average metric to be used for scoring with following weights: 60% for FY21, 25% for FY20 and 15% for FY19	
	If greater than or equal to 90%, full marks to be awarded, else separate absolute & trajectory scoring applicable	10
	Marks for absolute level	8
	Less than 90% up to 75%	Proportionate
	Less than 75%	0
	Marks for trajectory (applicable when latest Billing Efficiency is greater than or equal to 70%)	2
	1 Year AGR of Billing Efficiency is greater than 5%	1
	2 Year CAGR of Billing Efficiency is greater than 5%	1
3	**Collection Efficiency**	**10**
	Note: 3 years weighted average metric to be used for scoring with following weights: 60% for FY21, 25% for FY20 and 15% for FY19	
	If greater than or equal to 99.5%, full marks to be awarded, else separate absolute & trajectory scoring applicable	10
	Marks for absolute score	8
	Less than 99.5% up to 90%	Proportionate
	Less than 90%	0
	Marks for trajectory (applicable when latest Collection Efficiency is greater than or equal to 90%)	
	If FY21 Collection Efficiency is greater than or equal to 95%, full marks to be awarded for trajectory, else, below rules are applicable	
	1 Year AGR of Collection Efficiency is greater than 5%	1
	2 Year CAGR of Collection Efficiency is greater than 5%	1
4	**Corporate Governance**	**5**
	Availability of separated and audited accounts for the Power Department	5
C	**External Environment**	**10**
1	**Subsidy Realized (Last 3 FYs)**	**6**
	Greater than or equal to 100%	6
	Greater than 80% up to 100%	Proportionate
	Less than 80%	0
2	**Tariff Cycle Timelines**	**2**
	Tariff order for the next year (T+1) issued by 31 Mar of the recently closed FY (T) for which audited accounts should be available	1
	True-up order for tariffs of the year (T-1) issued by 31 Mar of the recently closed FY (T) for which audited accounts should be available	1

S. No.	Parameter	Score
3	**Auto Pass Through of Fuel Costs**	**2**
	If fuel costs are recovered on at least a quarterly basis	2
	If fuel costs are not recovered or if SERC does not allow fuel costs adjustment	0
D	**Specific Disincentives**	
	Note: Cumulative impact on the score from all Specific Disincentives will be capped at -5 marks	
1	**Tariff Cycle Delays**	**-4.50**
	Delay in filing of tariff petition for year (T+2) post Nov 30 of year (T+1)	-0.25 for every 2-month delay
	Delay in issue of tariff order for the year (T+1) post Mar 31 of the year for which audited accounts should be available (T)	-0.25 for every 2-month delay
	Delay in issue of true-up order for year (T-1) post Mar 31 of the year for which audited accounts should be available (T)	-0.25 for every 2-month delay
2	**Tariff Independent of Subsidy**	**-1**
	If regulator considers subsidy while determining tariffs (not cost reflective)	-1
3	**Uncovered Revenue Gap (Current Year)**	**-4**
	Less than 1% of SERC approved ARR in latest tariff order	0
	1% of SERC approved ARR in latest tariff order	-1
	Greater than 1% and less than 4% of SERC approved ARR in latest tariff order	Proportionate
	Greater than or equal to 4% of SERC approved ARR in latest tariff order	-4
4	**Regulatory Assets**	**-5**
	Note 1: Cumulative balances of regulatory assets should be liquidated in 7 years. The cumulative regulatory assets balance as of FY21 SERC orders is considered as the baseline for liquidation.	
	Note 2: Liquidation target as compared to FY21 levels will progressively increase by 1/7th each year. Example, target for FY22 is 1/7th reduction, for FY23 is 2/7th reduction and so on, as compared to FY21 baseline	
	If cumulative regulatory assets balance as of latest FY SERC orders has reduced by target for the FY or more	0
	If cumulative regulatory assets balance as of latest FY SERC orders has reduced from FY21 baseline level but the reduction in balance is less than the target reduction for the FY	Proportionate
	If cumulative regulatory assets balance as of latest FY SERC orders is the same as FY21 baseline level or higher	-5

Sources of information include audited accounts, input data submitted by power departments, tariff filings & orders, true-up filings & orders, state budgetary plans, State Govt orders/notifications, subsidy release particulars etc.

APPENDIX
4. Definitions

S. No.	Parameter	Definition
1	ACS – ARR Gap (cash adjusted)	• **ACS - ARR gap (cash adjusted) =** Average Cost of Supply (ACS) - Average Revenue Realized (ARR) • **Average Cost of Supply (ACS) =** Total pre-tax expenditure / Gross Input Energy • **Average Revenue Realized (ARR) =** Revenue from operations + other income + tariff/revenue subsidy received + other revenue/subsidy received (excluding capital grants under UDAY or other schemes) + gross opening receivables (current + non-current) - gross closing receivables (current + non-current) / Gross Input Energy
2	Days Receivable	• Net trade receivables (current + non-current incl. electricity duty/cess) * 365/ (Revenue from operations incl. electricity duty/cess) • **Note:** For newly formed utilities which have not completed 1 full year of operations, the numerator of the formula is multiplied by the number of days of operation instead of 365 days
3	Days Payable to GenCos & TransCos	• (Liability for purchase of power (current + non-current) + Liability for purchase of fuel (coal, oil, gas etc.) + Liability to railways for coal receipts) * 365 / (Generation costs + Cost of power purchased + Transmission and SLDC charges) • **Note**: For newly formed utilities which have not completed 1 full year of operations, the numerator of the formula is multiplied by the number of days of operation instead of 365 days
4	Adjusted Quick Ratio	• (Total current assets - Inventories - Net current tax assets - Assets classified as held for sale - Regulatory assets (current) - Pre-paid expenses and advances - Receivables > 3 months) / Total current liabilities
5	Debt Service Coverage Ratio (cash adjusted)	• Cash Adjusted EBITDA / (Interest & Finance Charges charged to operations + current maturities of long-term loans + interest accrued & due (state, bonds, banks/other FIs)) • **Cash Adjusted EBITDA =** Cash adjusted Revenue (As used in ARR) - Generation Costs - Purchase of Power - Transmission & SLDC Charges - Employee Cost - Repairs & Maintenance - Admin & General Costs
6	Leverage (Debt/ EBITDA) (cash adjusted)	• (Total non-current loans + current loans (incl. interest accrued & due)) / Cash Adjusted EBITDA • **Cash Adjusted EBITDA =** Cash adjusted Revenue (As used in ARR) - Generation Costs - Purchase of Power - Transmission & SLDC Charges - Employee Cost - Repairs & Maintenance - Admin & General Costs
7	Distribution Loss (SERC approved)	• (1 – Billing Efficiency) / SERC Approved Distribution Loss for the year • If tariff order does not exist for the year, then the last available tariff order will be used to determine SERC approved Distribution Loss
8	Billing Efficiency	• As per CEA Methodology with reference to circular no. CEA-GO-17(11)/1/2018/DP&R Div/408-530 • **Billing Efficiency =** Energy Sold / Net Input Energy

S. No.	Parameter	Definition
		• **Energy Sold =** Energy Sold to all categories of consumers excluding units of Energy Traded/Inter-State Sales • **Net Input Energy =** Energy Generated - Auxiliary Consumption + Energy Purchased (Gross) – Energy Traded/ Inter State Sales – Transmission Losses • **Note:** Open access/ wheeling units shall not be included in Net Input Energy and Energy Sold while calculating Billing Efficiency
9	**Collection Efficiency**	As per CEA Methodology with reference to circular no. CEA-GO-17(11)/1/2018/ DP&R Div/408-530 **Collection Efficiency =** (Adjusted Revenue from Sale of Energy on Subsidy Received basis + Opening Debtors for Sale of Energy – Adjusted Closing Debtors for Sale of Energy) / (Revenue from Sale of Energy) **Adjusted Revenue from Sale of Energy on Subsidy Received basis =** Revenue from Sale of Energy to all categories of consumers (including Subsidy Booked) but excluding Revenue from Energy Traded / Inter-State Sales – Subsidy Booked + Subsidy Received against Subsidy Booked during the Year **Opening Debtors for sale of Energy =** As shown in Receivable Schedule (Without deducting provisions for doubtful debtors) **Adjusted Closing Debtors for Sale of Energy =** Closing debtors for Sale of Energy as shown in Receivable Schedule (Without deducting provisions for doubtful debts) + Any amount written off during the year directly from Closing Debtors for Sale of Energy **Revenue from Sale of Energy =** Revenue from Sale of Energy to all categories of consumers (including Subsidy Booked) but excluding Revenue from Energy Traded Inter-State Sales **Notes:** 1. Total Tariff Subsidy received during the year including arrears (if any) shall also be included while calculating Adjusted Revenue from Sale of Energy on Subsidy Received basis 2. Unbilled Revenue shall not be considered as Debtors 3. No adjustment shall be made in revenue from sale of energy on account of unbilled revenue
10	**Subsidy Realized (Last 3 FYs)**	• Aggregate subsidy received (Last 3 FYs) / Aggregate subsidy booked (Last 3 FYs)
11	**Loss Takeover by State Govt.**	• Loss takeover by State Govt. / Total loss without considering loss taken over by State Govt.
12	**Government Dues (Last 3 FYs)**	• Aggregate Government dues (Last 3 FYs) / Total amount billed to govt (Last 3 FYs)
13	**Tariff Cycle Timelines**	• T+1 – Current ongoing FY • T – Recently closed year for which the audited accounts should be available
14	**Uncovered Revenue Gap (Current Year)**	• Current year uncovered revenue gap in ARR as a % of Total approved ARR
15	**Regulatory Assets**	• Regulatory asset balance (Current FY) / Regulatory asset balance (FY 21)

APPENDIX

5. Glossary of Terms

Term	Description
ACS	Average Cost of Supply
AGR	Annual Growth Rate
ARR (in relation to ACS-ARR gap)	Average Revenue Realized
ARR (in relation to SERC approved ARR)	Aggregate Revenue Requirement
AT&C Loss	Aggregate Technical & Commercial Loss
CAGR	Compounded Annual Growth Rate
CEA	Central Electricity Authority
EBITDA	Earnings before Interest, Tax, Depreciation & Amortization
FIs	Financial Institutions
GenCo	Generation Company
TransCo	Transmission Company
MU	Million Units
NPA	Non-Performing Asset
PFC	Power Finance Corporation Limited
REC	REC Limited
SERC	State Electricity Regulatory Commission
SLDC	State Load Dispatch Centre

NOTES

सत्यमेव जयते

Ministry of Power

Government of India

Website : www.powermin.gov.in