DISCOMs, the weakest link in the Power value chain – Can it be strengthened? A reality check…

In India, for decades together, DISCOMs[1] have remained as the weakest link in the Power sector value chain due to 1) high Aggregate Technical Commercial (AT&C) losses (national average of ~22-23% in FY14), 2) lack of cost-reflective tariffs and 3) absence of timely support by the states. Resultantly, DISCOMs have built up huge pile of debt (~Rs.4.3 trillion as on Mar-15) to fund their accumulated losses. In November 2015, Government of India (GoI) with an objective of financial turnaround of DISCOMs launched Ujawal DISCOM Assurance Yojana (UDAY) to improve their operational and financial efficiencies.

Through this scheme, the GoI intends to achieve four key milestones a) reduction in debt burden through phased takeover of outstanding debt, b) improve operational efficiencies of DISCOMs, c) reduction in cost of power generation through various measures and d) enforcing financial discipline on State DISCOMs to achieve alignment with State Finances. Additionally, the scheme also envisages benefits to the participating DISCOMs such as 1) access to additional/priority funding for capital expenditure from the Central Schemes[2] and 2) higher share of cheaper power from Central Power utilities. This scheme remains optional for the states.

Under the scheme, tripartite Memorandum of Understanding (MoUs) were signed amongst states, DISCOMs and GoI clearly stipulating their responsibilities for achieving operational and financial milestones. The UDAY scheme is more comprehensive than earlier Financial Restructuring Package (FRP) schemes as it encompasses all the three elements i.e. 1) clearing up past debt burden, 2) provide financial roadmap to shift to cost reflective tariff regime by FY19 and 3) provide enough deterrents for the states to eliminate future losses of DISCOMs post FY18 as it starts impacting their Fiscal Responsibility and Budget Management (FRBM) limits. Till date thirteen states have signed UDAY MoUs.

The likelihood of UDAY achieving desired results to make DISCOMs sustainable and improve overall health of Power sector appears high. However, CARE believes its success would depend upon support it receives from the participating states in carrying the scheme in spirit and intent as well as key premises underlying the scheme holding true.

UDAY Scheme – What is the scope and what can it deliver?

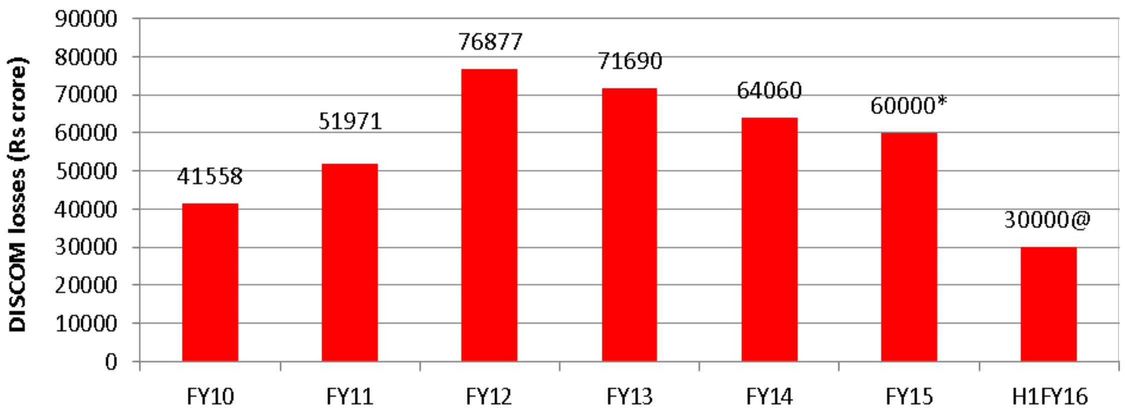
The UDAY is a far more comprehensive scheme as it addresses DISCOM problems in the past, present and future. DISCOMs in the past have accumulated losses due to high AT&C losses and lack of cost-reflective tariffs, mandating the states to take over accumulated losses. It also focuses on resolving present problems like coal supply concerns and aims to make DISCOMs efficient with improved infrastructure with financial discipline. It intends to provide sustainable solutions to tackle the likely problems for state DISCOMs as enumerated in the ***Annexure-I***.

[1] *DISCOMs- State Distribution Companies,*
[2] *Central Schemes such as Deendayal Upadhaya Gram Jyoti Yojana (DDUGJY) and Integrated Power Development Scheme (IPDS)*

How debt takeover will happen? What is/expected bond issuance programme in FY16/in FY17?

Till September 2015, the DISCOMs had accumulated losses totalling ~Rs. 4.0 lakh crore (as shown below), which were funded through total debt of ~Rs.4.37 lakh crore.

DISCOM losses during FY10-H1FY16



*Source: Ministry of Power, CARE Ratings; *-provisional numbers; @CARE Ratings estimate*

Under the UDAY scheme, the states are expected to issue bonds aggregating Rs.2.52 lakh crore (excluding Tamil Nadu, which has accumulated losses of Rs.0.75 lakh crore). The states such as Rajasthan and Uttar Pradesh (UP) are likely to benefit immediately as on account of reduction in interest cost due to take-over of these loans by the respective states as shown in the table below.

The revenue Gap will narrow meaningfully for DISCOMs having high debt burden

States	UP DISCOMs		Rajasthan- AVVNL		Rajasthan-JVVNL		Rajasthan-JdVVNL	
Cost components (Rs/Kwh)	FY16A	FY17P	FY16A	FY17P	FY16A	FY17P	FY16A	FY17P
Power Purchase costs	4.50	4.71	4.18	4.34	4.18	4.34	4.18	4.34
Cost of Energy Lost	1.39	1.30	1.63	1.30	1.92	1.82	1.38	1.06
Power purchase of Energy sold	5.89	6.01	5.81	5.64	6.10	6.16	5.56	5.40
O&M & Other costs	0.70	0.59	1.26	1.46	1.12	1.22	0.98	1.11
Interest Cost	*0.82*	*0.34*	*2.29*	*0.78*	*1.86*	*0.64*	*1.88*	*0.67*
Average cost of Power (ACS)	7.41	6.94	9.36	7.89	9.09	8.02	8.42	7.18
Average Revenue realized (ARR)	5.65	5.90	7.01	7.50	7.05	7.48	6.45	6.87
Gap (Rs/kWh)	(1.76)	(1.04)	(2.35)	(0.39)	(2.04)	(0.54)	(1.97)	(0.31)

Source: UDAY MoUs-Ministry of Power, CARE Ratings; A-Actual, P-Projected

The debt takeover by the various states participated in the UDAY will be in the form of mix of bank borrowings, grant and equity infusion. However, CARE notes that the states with high DISCOM debt are likely to face problems as higher liabilities are likely to constrain the fiscal space available with them in the near future.

Haryana State DISCOMs - Debt takeover

As per tripartite MoU signed by GoI, Haryana state and Haryana DISCOMs, the Debt takeover is in the form of mix of grant (22.5%), loan (70%) and equity (7.5%), respectively. This phasing out of DISCOM debt is as follows:

(Rs crore)

Sr. No.	Debt takeover for Haryana	Grant	loan	Equity	Total
1	50% debt takeover by Govt. of Haryana in FY16	3,892.5	12,110.0	1,297.5	**17,300**
2	25% debt takeover by Govt. of Haryana in FY17	3,892.5	3,460.0	1,297.5	**8,650**
3	Re-pricing of Balance debt		8,650.0		**8,650**
	Total	**7,785.0**	**24,220.0**	**2,595.0**	**34,600**

Source: UDAY MoU; CARE Ratings

Thus, interest cost savings in DISCOMs is limited to interest rate differential as the interest is pass-through by the state to DISCOMs post debt (of i.e. Rs.15,570 crore) takeover in Q4FY16 and Q2FY17. Further, the State DISCOM's balance 25% debt (Rs.8,650 crore) is likely to be re-priced post takeover of the 75% of the debt. The Haryana state has already issued bonds totalling Rs.17,300 crore in FY16 (refers to the period April 1 to March 31) and has floated tender for issuance of balance amount of bonds by Q2FY17 (*please refer to* http://finhry.gov.in/udaybonds.pdf *for details*).

The participation of Haryana DISCOM in UDAY Scheme may improve its overall sustainability, but it is not panacea for all the structural problems that the DISCOM faces presently, e.g. CARE Ratings believes that the most important issue that needs an urgent attention in Haryana DISCOMs is **high level of cross-subsidization in tariffs** Haryana DISCOMs' power consumption from Agriculture sector stood at 26% in FY14; while, the revenue collection from Agriculture segment stood at only 2%. Further, with implementation of UDAY Scheme, the state is likely to work on feeder-separation thereby increasing rural supply, which in turn will only increase, the cross-subsidization levels. Thus, lowering cross-subsidization by increasing agriculture tariffs, metering the unmetered agriculture consumers and sustainable reduction in AT&C losses to the normative levels of 14-15% from the current 28% level should remain the focus for Haryana DISCOMs. ***The inverted DISCOM tariff structure (with agriculture consumer/domestic (cross-subsidised) category having the highest cost of power supply supplied at lowest rates) creates a structural impediment for the long-term sustainability of DISCOMs. Resultantly, CARE believes that it is very difficult for the state DISCOMs with low industry share and high cost of power supply to see a sustainable turnaround without a getting a meaningful remuneration from agriculture/domestic consumers, even if the AT&C losses are reduced to normative levels of 14-15%.***

In FY16, eight states have issued ~Rs.1.0 lakh crore worth of bonds. The state-wise break-up is given below:

State-wise debt takeover and bond issuance programme (Rs crore)				
Sr. No.	States	FY16A	FY17P	Total debt outstanding*
1	Uttar Pradesh	24,332	13,053	52,211
2	Rajasthan	37,350	20,133	76,643
3	Chhattisgarh	870	435	1,740
4	Punjab	9,860	5,209	20,092
5	Jammu & Kashmir	2,140	1,398	4,717
6	Bihar	1,555	777	3,109
7	Jharkhand	5,553	1,370	9,232
8	Haryana	17,300	8,650	34,600
Total		98,960	51,025	202,344

*Source: RBI Debt Management division, CARE Ratings; *as expected by September 30, 2016*

The bonds issued by the states have five years of moratorium with a non-SLR status. The borrowing to takeover DISCOM debt is not reckoned against the next borrowing ceiling of the state determined by Department of Expenditure, MoF under 14th Finance Commission Recommendations. However, any borrowing after FY17 to takeover DISCOM debt shall be reckoned as a part of Net Borrowing ceiling. The participating states are expected to issue Rs.1.50-1.75 lakh crore worth of bonds by the last tranche (75% of the outstanding debt) by Q2FY17.

The States will have to service the interest on bonds issued, which is likely to put pressure on state government budget potentially forcing them to cut spending needed to support economic growth. Thus, the path towards fiscal consolidation for the participating states may get longer, till the economic growth picks up and DISCOM losses reduce meaningfully.

UDAY mandate - State DISCOM implementation remains the key….

The Scheme mandates all the 11 State DISCOMs, which signed MoUs under UDAY, to break-even by FY20 and eliminate the gap between revenues (ARR-Average Revenue realization) and power cost (ACS - Average Cost of Supply) with the combination of tariff hike, reduction in fixed cost by coal supply improvement and rationalization alongwith reduction in AT&C losses.

Revenue (ARR) - Cost (ACS) gap: The troubled states such as UP, Jharkhand, Bihar and Haryana will only be able to eliminate the gap by FY20. However, states like Chhattisgarh and Rajasthan, where the accumulated losses were attributable to the lack of tariff increase in line with the cost escalation, are envisaged to witness faster turnaround by FY17/FY18, respectively.

DISCOM Revenue gap = [(Average revenue realization) – (average cost of power supply)]						
Sr. No.	State	FY16	FY17P	FY18P	FY19P	FY20P
	Particulars	Rs/kWh	Rs/kWh	Rs/kWh	Rs/kWh	Rs/kWh
1	Uttar Pradesh	(1.76)	(1.04)	(0.61)	(0.22)	*0.06*
2a	Rajasthan- Jaipur	(2.04)	(0.53)	*0.11*	*0.11*	-
2b	Rajasthan- Jodhpur	(1.98)	0.32	*0.11*	*0.11*	-
2c	Rajasthan- Ajmer	(2.35)	(0.38)	*0.15*	*0.15*	-
3	Chhattisgarh	(0.35)	*1.21*	*0.34*	*0.52*	-
4	Punjab	N.A.	(0.43)	(0.37)	(0.04)	*0.09*
5	Jammu & Kashmir	(2.41)	(0.68)	(0.71)	(0.49)	*0.09*
6a	Bihar - North	(1.80)	(1.25)	(0.80)	(0.48)	*0.07*
6b	Bihar - South	(2.00)	(1.38)	(0.85)	(0.34)	*0.24*
7	Jharkhand	(3.56)	(3.16)	(1.99)	(0.99)	-
8	Haryana	(0.81)	(0.82)	(0.51)	(0.12)	*0.02*
9	Gujarat	0.03	0.04	0.04	0.06	-
10	Uttarakhand	(0.07)	(0.04)	0.01	0.03	-
11	Goa	N.A.	(0.75)	(0.20)	0.15	-
Source: UDAY MoUs - Ministry of Power, CARE Ratings; A-Actual, P-Projected						

AT&C loss reduction: MoUs have also enlisted region/district-wise target of reducing AT&C losses to bring down to the normative level of 15% over the projected period. The AT&C loss reduction can be achieved through improvement in combination of billing and collection efficiency level. Highest loss reporting states during FY14 are Bihar, UP and Jharkhand, i.e.44.0%, 32.4% and 35.0%, respectively.

State-wise targeted AT&C losses reduction trajectory (%)						
Sr. No.	State	FY16	FY17P	FY18P	FY19P	FY20P
	Particulars	%	%	%	%	%
1	Uttar Pradesh	32.40	28.30	23.60	19.40	14.90
2a	Rajasthan- Jaipur	27.50	22.00	18.50	15.00	-
2b	Rajasthan- Jodhpur	22.00	18.00	16.50	15.00	-
2c	Rajasthan- Ajmer	23.50	20.00	17.50	15.00	-
3	Chhattisgarh	21.00	18.90	18.00	15.00	-
4	Punjab	16.20	15.30	14.50	14.00	-
5	Jammu & Kashmir	56.00	46.00	35.00	25.00	15.00
6a	Bihar - North	40.00	34.00	28.00	20.00	15.00
6b	Bihar - South	44.00	38.00	30.00	22.00	15.00
7	Jharkhand	35.00	28.00	22.00	15.00	-
8	Haryana	28.10	24.00	20.00	15.00	-
9a	Gujarat -DGVCL	9.29	9.24	9.19	9.15	-
9b	Gujarat -MGVCL	16.00	15.50	15.00	14.50	-
9c	Gujarat -PGVCL	22.00	19.66	17.33	15.00	-
9d	Gujarat -UGVCL	9.82	9.77	9.72	9.67	-
10	Uttarakhand	17.00	16.00	15.00	14.50	-
11	Goa	21.06	18.75	16.59	15.00	
Source: UDAY MoUs - Ministry of Power, CARE Ratings; A-Actual, P-Projected						

The targeted AT&C loss reduction trajectory looks ambitious especially for the states like UP, Bihar, J&K and Jharkhand as the billing and collection efficiency *(please refer **Annexure-II** for details)* are lower in these states. Additionally, these states need to invest in transmission and distribution network, implement feeder separation schemes and improve metering/billing/collecting in order to reduce AT&C losses meaningfully in the projected period (FY17-FY20).

UDAY scheme's success critical for overall sustainability of the Power sector & for setting up base for the next phase of reforms

Successful implementation of the UDAY Scheme remains vital for sustainability of DISCOMs. However, its success hinges upon participating state's 1) willingness and ability to adhere to key operational milestones, 2) reducing overall cost of power by sourcing power through optimal mix of generation sources and building adequate intrastate transmission capacity, 3) Improvement in sustainability of DISCOMs by moving to cost-reflective tariff regime (viz. quarterly/monthly automatic fuel adjustment), 4) supporting DISCOMs through timely payment of subsidies and 5)proactive resolution of other critical issues such as lowering cross subsidization in power tariffs to boost Industrial/commercial demand, accurate determination of AT&C losses etc. The implementation of Central Schemes such as Deendayal Upadhaya Gram Jyoti Yojana (DDUGJY) and Integrated Power Development Scheme (IPDS) for feeder separation and sustainable reduction in AT&C losses also assume importance in this backdrop.

While these milestones are being achieved, the other Distribution reforms also needs to be expedited bringing in competition in the power distribution segment by creating division of State DISCOMs into carriage (wire) and content (supply) subsidiaries and inviting private participation in the supply business along with incumbent for creating vibrant multi-buyer and multi-seller power market.

Annexure-I - Details of UDAY Scheme

A. Past issues:

1. Takeover of DISCOM debt: States to acquire 75% of DISCOM debt as on September 30, 2015 over two years i.e. 50% by FY16-end and 25% in FY17. This would result in reduction in interest burden by 25%. Thus, annual losses can be reduced meaningfully by FY17-end for the participating DISCOMs. Further, once the losses reduce, the DISCOMs' ability to get debt at cheaper cost increases and the balance debt can be re-priced, which is currently charged by banks/FIs@14-15%.

B. Present issues:

1. Improve operational efficiencies: The states and DISCOMs participating in the UDAY scheme made to follow targeted activities for achieving operational efficiencies and reduce AT&C losses, which will be funded through Central government schemes (such as DDUGJY, IPDS and PSDF). The scheme targets AT&C loss reduction through
   - To segregate the paying and non-paying consumers - Compulsory feeder and distribution transformer metering by the states by June-16 and June-17 respectively.
   - To improve billing efficiency through metering and tracking losses through smart metering for all consumers consuming >200 units.
   - Demand Side Management, which would help reduce peak load and energy consumption. This would also ensure use of more efficient fans/air conditioners and industrial equipments.

2. Reduction in cost of power generation: The UDAY scheme envisages both GoI and participating states take measures to reduce cost of power by rationalising coal supply and competitive power purchase by the states through the steps mentioned below:

   GoI to take following steps:

   - Enhance domestic coal supply by increasing coal production to 908MT by FY20 from Coal India Ltd. (CIL).
   - Coal linkage rationalization/coal swapping to optimize distance travelled by coal to power plants and allow more coal to flow through efficient plants and cutting down supply for older plants.
   - Crushed coal supply from CIL from April 1, 2016.
   - 100% washed coal supply for G10 and above coal for the power plants by October 1, 2018.

   States to take following steps:

   - Prospective power purchase through transparent competitive bidding by DISCOMs
   - Improving efficiency of state generating units by NTPC handholding.

3. Augmenting transmission lines
   - The GoI along with states to award transmission projects worth Rs.1 lakh crore on tariff-based competitive bidding (which includes projects under green corridor).
   - Transmission capacity addition of ~18.4GW to Southern grid is expected to meet the increased demand by 2018-19, which will re-balance the inter-regional power surplus and deficit and reduce installed capacity of stranded plants.
   - Target to reduce transmission loss to 1% from current 4-5% levels.

4. Quarterly tariff hikes: As per new National Tariff Policy, 2016, the DISCOMs are allowed to carry out tariff hikes in the form of fuel cost adjustments to cover increase in fuel costs. These legitimate costs should be pass-through, though regulators will have to ensure that the consumers are not burdened with DISCOM inefficiencies.

C. Future issues:

- Banks/Financial institutions have been asked not to lend DISCOMs outside UDAY scheme.
- The banks cannot advance any loans to DISCOMs for funding losses
- Post UDAY, the funding of losses can only be done as per the trajectory decided by Power Ministry (MoP) with the state. Such financing would be done through state issued bonds or DISCOM bonds backed by state guarantee.
- For working capital loans, banks can lend DISCOMs upto 25% of the previous year's annual revenue or as per prudential norms.
- The scheme mandates the states to take over future DISCOM losses in a graded manner (i.e. from FY18 onwards). This will act a deterrent for piling of DISCOMs losses and assuring mandatory state support. The state has to takeover losses as shown below:

Year	FY16	FY17	FY18	FY19	FY20	FY21
Previous years' DISCOM losses to be taken over by the state	Nil	Nil	5% of the loss of FY17	10% of the loss of FY18	25% of the loss of FY19	50% of the loss of FY20

Annexure-II

1) State-wise DISCOM parameters for eight states under UDAY Scheme

2a. State-wise Billing efficiency and target improvement						
Sr. No.	State	FY16	FY17P	FY18P	FY19P	FY20P
	Particulars	%	%	%	%	%
1	**Uttar Pradesh**	**76.4**	**78.3**	**80.8**	**84.1**	**88.0**
2a	Rajasthan- Jaipur	72.5	78.0	81.5	85.0	
2b	Rajasthan- Jodhpur	70.0	72.0	73.5	85.0	
2c	Rajasthan- Ajmer	76.5	80.0	82.5	85.0	
3	Chhattisgarh	79.3	80.8	81.7	85.3	
4	Punjab	84.7	84.7	85.5	86.0	
5	**Jammu & Kashmir**	**49.4**	**58.7**	**69.1**	**78.1**	**87.7**
6a	**Bihar – North**	**68.0**	**72.0**	**76.0**	**80.0**	**85.0**
6b	**Bihar - South**	**62.0**	**66.0**	**70.0**	**78.0**	**85.0**
7	Jharkhand	73.0	77.0	80.0	85.0	
8	Haryana	72.7	76.8	80.8	85.9	
9a	Gujarat -DGVCL	90.71	90.76	90.81	90.85	-
9b	Gujarat -MGVCL	84.00	84.50	85.00	85.00	-
9c	Gujarat -PGVCL	78.00	80.34	82.67	85.00	-
9d	Gujarat -UGVCL	90.18	90.23	90.28	90.33	-
10	Uttarakhand	83.11	84.08	85.07	85.56	
11	Goa	87.71*	87.37	86.69	85.00	

*Source: UDAY MoUs - Ministry of Power, CARE Ratings; *Provisional status; A-Actual, P-Projected*

2b. State-wise Collection efficiency and target improvement						
Sr. No.	State	FY16	FY17P	FY18P	FY19P	FY20P
	Particulars	%	%	%	%	%
1	**Uttar Pradesh**	**88.5**	**91.6**	**94.5**	**95.9**	**96.7**
2a	Rajasthan- Jaipur	99.0	100.0	100.0	100.0	
2b	Rajasthan- Jodhpur	99.0	100.0	100.0	100.0	
2c	Rajasthan- Ajmer	99.0	100.0	100.0	100.0	
3	Chhattisgarh	99.7	99.7	99.7	99.7	
4	Punjab	99.0	100.0	100.0	100.0	
5	Jammu & Kashmir	89.0	94.0	100.0	100.0	100.0
6a	**Bihar - North**	**88.0**	**92.0**	**95.0**	**100.0**	**100.0**
6b	**Bihar - South**	**90.0**	**94.0**	**100.0**	**100.0**	**100.0**
7	Jharkhand	89.0	93.0	97.0	100.0	
8	Haryana	99.0	99.0	99.0	99.0	
9a	Gujarat -DGVCL	100.0	100.0	100.0	100.0	
9b	Gujarat -MGVCL	100.0	100.0	100.0	100.0	
9c	Gujarat -PGVCL	100.0	100.0	100.0	100.0	
9d	Gujarat -UGVCL	100.0	100.0	100.0	100.0	
10	Uttarakhand	99.87	99.90	99.92	99.93	
11	Goa	90.0*	93.0	96.0	100.0	

*Source: UDAY MoUs - Ministry of Power, CARE Ratings; *Provisional status; A-Actual, P-Projected*

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