

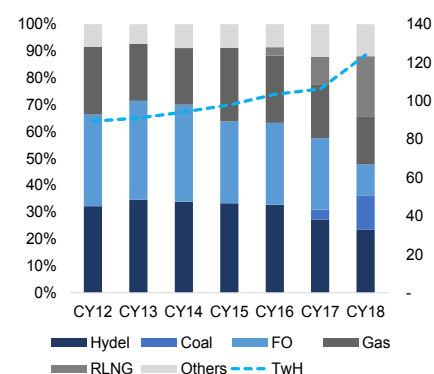
PAKISTAN ENERGY

CY18 shows RLNG + Coal is the new FO

- With Dec'18 generation of 7.7TWh (+2%MoM/0%YoY) wraps up a strong 4QCY18 (cumulative generation of 24.8TWh, up 44%YoY) and hefty CY18, where total generated units hit 124TWh mark rising 17%YoY pushed by capacity additions from RLNG/Coal (16.9/11.9TWh in additional generation) capped by FO falling of favor (49%YoY fall in units generated)
- ~2,034MW of dependable capacity was added to the grid (total dependable capacity of ~14,197MW vs. ~12,163MW in CY17), taking annual system-wide load factors (on nameplate capacity of 30,590MW after additions of 1,146MW) to 46.4% vs. 41.3% in CY17, a number that is likely to shoot up as recently commissioned plants start running at higher load factors, likely by 2QCY19 (as temperatures start rising)
- Cost of generation grew with fuel costs (average cost of generation jumped 14%YoY to Pkr5.93/KWh, in spite of the shift away from FO unraveling over the last three years (FO's share at 6.8% in 2QFY19 vs. 38.1% in 3QFY16) continued reliance on thermal fuel (60.3% for 2QFY19 vs. 67.7% in 3QFY16) nullified the impact of renewables (zero fuel costs)
- While the need for upgrading T&D remains pertinent, lower oil prices and the confluence of major capacity additions call for decisive action to control circular debt, where HUBC looks poised to benefit from additional income through new ventures and clearance of liquidity woes.

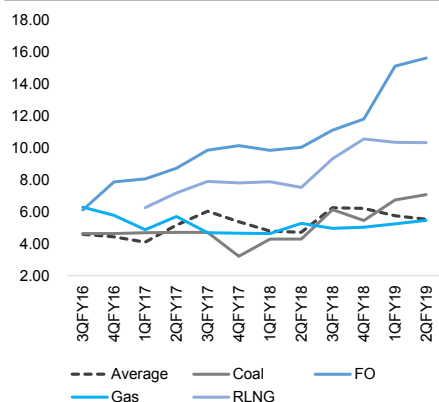
Ali Asghar Poonawala
ali.poonawala@akdsecurities.net
11-253-111 Ext:646

Total Generation up by 5YR CAGR of 6.4%

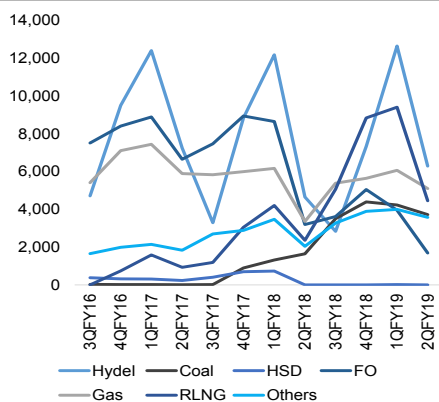


Source: CPPA & AKD Research

Costs of generation still lofty...



... as thermal generation base endures

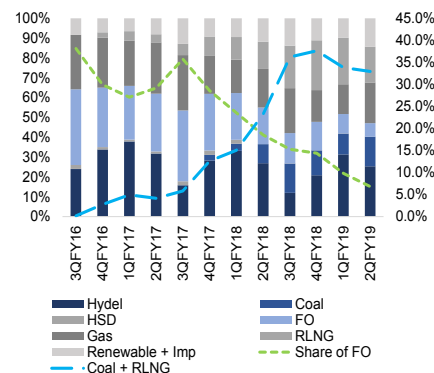


Source: CPPA & AKD Research

CY18 generation overview: During the year, ~1,146/2,034MW of nameplate/dependable generation capacity was added to the grid, with the majority coming from RLNG and Coal making up for the phasing-out of FO (share down from 26.6% in CY17 to 11.5% in CY18), evinced by their rising share in the generation mix (RLNG + COAL at 35.2% vs. 13.8% CY17). This in turn, has kept Cost of generation on a rising trajectory, led by 57/31%YoY fall in cost/KWh for Coal/RLNG (at Pkr6.3/10.2/KWh for CY18 vs. Pkr4.0/7.8/KWh in CY17). On a promising note, cost of generation across major renewables slid significantly (Hydel/Wind/Solar costs down 41/75/63%YoY), where higher generation levels allowed for better overall cost of generation (O&M costs spread over greater number of units).

Circular Debt Update: News reports revealed a sustained picture on the receivables front (as of Jan'18) from power sector entities currently at 1,362bn of which Pkr755/607bn fall under GHPL/Standby Facility, amounting to monthly average accretion of ~54bn during 4QCY18. This

RLNG+ Coal is the new FO



Source: CPPA & AKD Research



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accretion will only get larger as the cost of debt and exchange rate weakens (interest payment on loans and PkR indexation build into cost-plus tariff structure). Of the stated quantum PkR450.5bn were due to IPPs while GENCO/NTDC receivables stood at PkR156.7bn.

Outlook: Full year transmission level loss accounted for by CPPA stood at 3.5TWH or 2.8% of total units delivered, along the lines of previous annual loss figures, the cost of which is distributed (except for those excluded by NEPRA) amongst remaining units, indicated the need for upgrading power sector T&D. Based on the same, any concrete policy action by the GoP could smoothen additions to the grid from new ventures where HUBC looks poised to benefit from additional income, but PAEL takes the cake in terms of transformer equipment orders.

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Accumulate	> 5% to < 20% upside potential
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Sell	< -20% downside potential
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