Scenarios cutting across demand sectors

We can have three scenarios as described below – with the third one being optional. The same three narratives can perhaps be even carried forward to the supply model as and when we have it.

- Reference: This is a combination of the sector-specific reference scenarios, and represents our best guess of what is likely to happen in the future based on past and likely future trends.
- 'Vikasit Bharat': This scenario can represent the equivalent of a 'sustainable development' scenario. It reflects the aspirations of a 'developed India' by 2047 (FY48) announced by the GoI. We assume that this also means a more equitable development, with greater focus on sustainability.
- 'Vichalit Bharat': This scenario is a counter-point to Vikasit Bharat, and represents a scenario in which development is a bit more haphazard. Economic growth is lower than Reference, it is less equitable, and it is also less environmentally sustainable due to lower investments in efficiency and new technologies.

The following table describes the effect of each of the scenarios on the various sectors.

	Reference	Vikasit Bharat	Vichalit Bharat
GDP growth	As in Reference	• Per-capita GDP growth is increased so that it reaches USD 5000 by FY48 (still falling in Upper Middle Income country category). • This is done so that 'poorer states' (those with lower per-capita GSDP) increase faster than average, and richer states increase slower than average.	• Per-capita GDP growth in this scenario is kept at the same rate as it was in the FY14-FY24 period (which included demonetisation, pandemic etc.) – this is lower than in the Ref scenario • State per-capita GSDP GRs are kept the same as the past decade – so the same inequities will carry forward.
Residential	Same as LikelyEfficiencyTrend	• Higher penetration level of appliances due to higher GDP growth rate. • Share of ACs in AC+cooler is the same for rural and urban households. • Increase NumInstances of appliances • Improve SEC similar to DET • OtherResElecDemand increases a little faster than Ref	• Penetration of appliances follows from the revised GSDP growth rates. • NumInstances to grow a little slower than Ref • Appliance lifetime a little greater than LET for new purchases • Efficiency standard revision a little slower than LET • 'On-field' performance a little worse than LET • OtherResElecDemand same as LET as there would be for fewer

			appliances but lower efficiency
Transport	Same as Base	• Higher stock growth rate of passenger vehicles, but lower activity for private vehicles (2W, 4W) • Higher public transport stock and flow than Ref, and with higher load factors and activity • Electrification and SEC similar to Improve scenario • Net result is higher modal share for PT (and NMT) • For LDT, higher pkm corresponding to more holidays and business travel, but with modal shifts to rail from bus, air • Freight: increased tkm compared to Ref to account for higher GDP, but with greater share for rail • Freight SECs similar to Improve	• Lower vehicle flow rate due to lower purchases and reduced Electrification targets at FY30 • Higher vehicle lifetimes • Vehicle activity same as Ref • Electrification, SEC improvement slightly worse than Ref • Pkm comparable to Ref with greater modal shares for private vehicles • Freight: Lower flow and greater lifetime for trucks, maybe with greater activity too – to make sure that freight tkm is appropriate for the GDP • SEC improvement, electrification a little slower than Base
B-U industry	Same as Reference	• Levers to be tweaked: production, SEC and technology adoption • SEC improvement and technology adoption can be faster than Ref • Production changes to be discussed and made consistent with the overall narrative	• SEC improvement and technology adoption slightly worse than Ref • Production can also perhaps decrease.
Other industry	Same GDP elasticity as in the past (with adjustments for efficiency, electrification etc.)	• Lower GDP elasticity than Ref for ECs other than electricity to reflect better efficiency • Elasticity for electricity to reflect the combination of increased electrification / decarbonisation but better efficiency than Ref	• Higher GDP elasticity than Ref for all ECs except electricity to reflect higher demand and lower efficiency • For electricity, the elasticity to be based on a combination of lower electrification rate and efficiency improvement (compared to Ref)

Other sectors	Same GDP elasticity or growth rate as in the past (with adjustments for efficiency, electrification etc.)	• Similar approach to "Other industry"	• Similar approach to "Other industry"