

FY23 CNG Vehicle Demand Sustained Despite Surge in Gas Prices

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Synopsis

- Prices of compressed natural gas have increased significantly, with average prices during FY23 being 49% higher than that of the previous year.
- Despite this, CNG car sales volumes were 40.7% higher in FY23 over the previous year's levels.
- Continued significant price differential with petrol prices results in a sustained lower operating cost for CNG vehicle owners.
- The revision in pricing formula in April 2023 for gas produced from nomination fields of ONGC/OIL, New Exploration Licensing Policy (NELP) blocks and pre-NELP blocks is expected to reduce volatility in CNG prices thereby providing further impetus for CNG vehicle sales in the medium term.

Sharp Increase in CNG Prices in FY23

CNG prices have displayed a rising trend, with average annual prices in Mumbai growing at a CAGR of 17.1% over the FY19-FY23 period. While the slight decline in FY21 is attributed to the global demand collapse due to Covid, the subsequent surge in prices in FY22 and FY23 is due to the restoration of demand with a bounce back in economic activities, increased household consumption and a sharp uptick from the auto sector. The price rise in FY23 was sharp at 49%, reflecting the surge in gas prices globally on account of supply disruptions caused due to the ongoing Russia-Ukraine war.

Year	Avg CNG Price, Mumbai (Rs/kg)	% Increase y-o-y
FY19	44.2	
FY20	51.9	17.3%
FY21	48.4	-6.6%
FY22	55.8	15.3%
FY23	83.2	49.0%

Sources: mypetrolprice.com

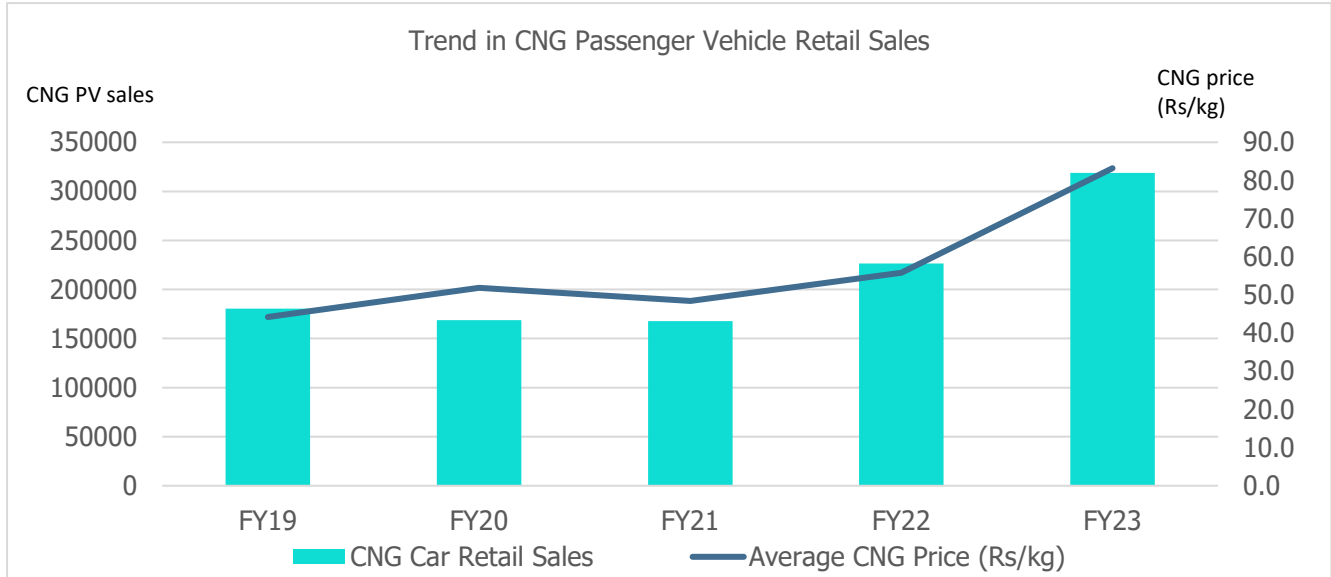
Sustained Strong Demand for CNG Vehicles

The sharp increase in CNG prices was initially expected to dampen the demand for CNG vehicles in FY23. On the contrary, retail sales of CNG passenger vehicles increased by 40.7% in the year, with most other categories also displaying a large jump in demand.

Vehicle Segment	FY23	FY22	% Growth
Passenger Vehicles	318752	226547	40.7%
3 Wheelers	241230	124863	93.2%
Goods Vehicles	94433	98381	-4.0%
Buses	5738	1761	225.8%
Total	660153	451552	46.2%

Source: vahan portal

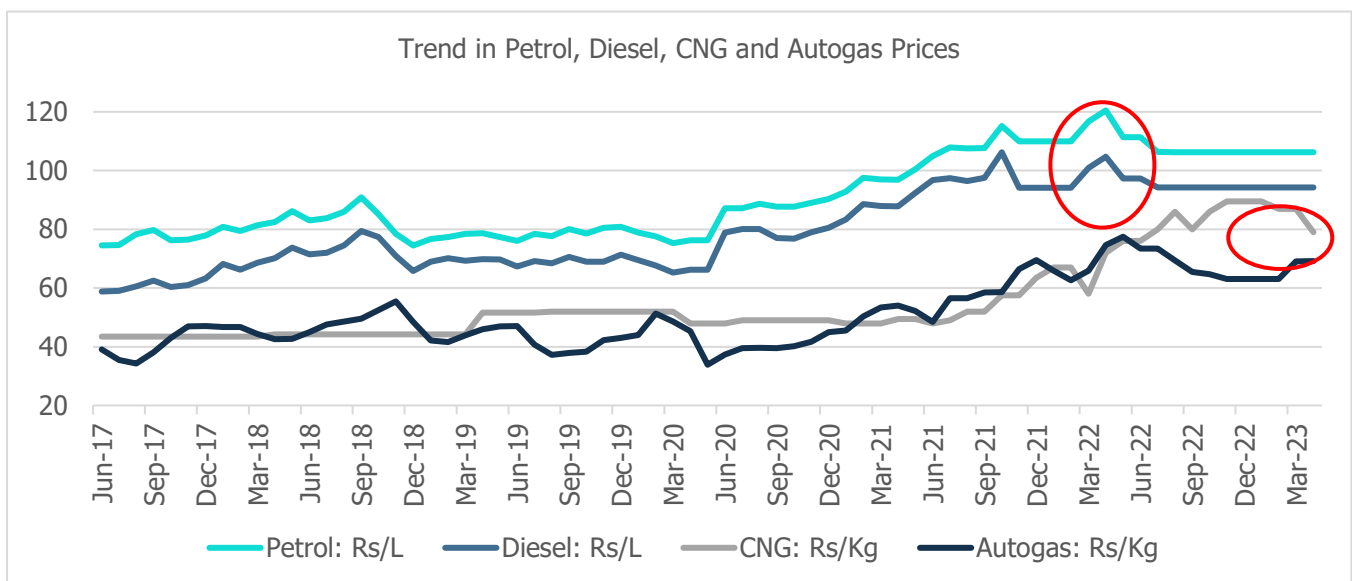
The dip in demand for CNG goods vehicles in FY23 is attributed to many last-mile delivery operators switching over to electric light commercial vehicles (LCVs), which provide the benefit of even lower operating costs vis-à-vis CNG LCVs.



Source: vahan portal, mypetrolprice.com, CARE Ratings

Sustained High Petrol, Diesel Prices Lead to Continued Price Differential with CNG

FY23 witnessed the peaking of petrol and diesel prices in April 2022, following which there was a slight correction in the following month due to the Government’s decision to reduce excise duty on these 2 fuels in May 2022. Since then the excise duty has been maintained at the same level till date. CNG prices which surged during the year, reflecting the rise in global prices on account of supply disruptions caused by the Russia-Ukraine war, corrected in April 2023 due to change in pricing formula for domestically produced CNG introduced the government in the same month.



Source: Petrol Planning and Analysis Cell, mypetrolprice.com

Trend in Excise Duty on Petrol and Diesel

Month, Year	Excise Duty on Petrol	Excise Duty on Diesel
Nov-14	Rs 9.2 per Litre	Rs 3.46 per Litre
Dec-17	Rs 21.48 per Litre	Rs 17.33 per Litre
Jun-20	Rs 32.98 per Litre	Rs 31.83 per Litre
Nov-21	Rs 27.98 per Litre	Rs 21.8 per Litre
May-22	Rs 19.98 per Litre	Rs 15.8 per Litre

To assess the cost savings from the use of CNG vis-à-vis petrol, CARE Ratings has analysed the cost per km for operating 5 popular models of cars for specific months. The months were selected based on the maximum and minimum price difference between petrol and CNG prices in the past four years, as well as to reflect the latest position post revision in the pricing formula for CNG.

Fuel Price	July 2021	Jan 2023	April 2023
Petrol (Rs/litre)	107.83	106.29	106.29
CNG (Rs/kg)	48.95	89.50	79.00
Price difference	Maximum: 58.88	Minimum: 16.79	# Latest position 27.29

Post revision in pricing formula for CNG

Model	Based on Fuel Prices as of July 2021		
	Petrol Variant	CNG Variant	Cost Savings (Rs/km)
	Cost per km (Rs)	Cost per km (Rs)	
Tata Tigor	5.6	1.8	3.8
Maruti Wagon R (998cc)	4.4	1.4	3.0
Maruti Swift Dzire	4.6	1.8	2.8
Hyundai i10	5.2	2.0	3.2
Hyundai Xcent	5.3	1.9	3.3

Model	Based on Fuel Prices as of Jan 2023		
	Petrol Variant	CNG Variant	Cost Savings (Rs/km)
	Cost per km (Rs)	Cost per km (Rs)	
Tata Tigor	5.5	3.4	2.2
Maruti Wagon R (998cc)	4.4	2.6	1.7
Maruti Swift Dzire	4.6	3.4	1.2
Hyundai i10	5.1	3.7	1.4
Hyundai Xcent	5.2	3.5	1.7

Model	Based on Fuel Prices as of April 2023		
	Petrol Variant	CNG Variant	Cost Savings (Rs/km)
	Cost per km (Rs)	Cost per km (Rs)	
Tata Tigor	5.5	3.0	2.6
Maruti Wagon R (998cc)	4.4	2.3	2.0
Maruti Swift Dzire	4.6	3.0	1.6
Hyundai i10	5.1	3.3	1.8
Hyundai Xcent	5.2	3.1	2.1

Source: Fuel efficiency as determined by ARAI, cost/km and cost savings as per CARE Ratings

Analysis of fuel prices and cost savings in the above periods clearly reflects that while the cost savings were the highest when the price difference in petrol and CNG prices were highest during July 2021, the cost savings were significantly lower in January 2023 given the rise in CNG prices. Yet the savings were still very meaningful and varied from Rs.1.2/km to Rs.2.2/km for the CARE sample set of 5 different car models. This is very important for users who need to cover large distances as part of their daily commute and taxi drivers for whom the savings would be even more significant given the large number of kilometres clocked daily.

Further, with the revision in the pricing formula of CNG by the government in April 2023 (resulting in a lowering of CNG prices compared with petrol), the cost savings have improved over the January 2023 levels, once again increasing the attractiveness of CNG vehicles for long-distance commuters and taxi drivers.

Lower Volatility Expected in CNG prices Going Forward

Natural gas produced from nomination fields of ONGC/OIL, New Exploration Licensing Policy (NELP) blocks and pre-NELP blocks will now be indexed to crude oil prices and be subject to a floor and a ceiling. However, gas produced from new wells or well interventions in the nomination fields of ONGC and OIL would be allowed a premium of 20 per cent over the APM price.

Earlier, the domestic gas prices were determined as per the 2014 Domestic Gas Pricing Guidelines, which provided for the declaration of prices for a six-month period based on the volume-weighted prices prevailing at four gas trading hubs — Henry Hub, Albena, National Balancing Point (UK), and Russia for a period of 12 months and a time lag of a quarter. This pricing mechanism resulted in high volatility in the prices of CNG in India, which the government has now addressed vide the new pricing mechanism.

Way Forward

CARE Ratings believes that in the medium term, CNG vehicles will continue to see sustained strong demand growth, notwithstanding the steep price rise witnessed in FY23. Even when the price differential between petrol and CNG was minimal, there were still material savings for vehicle owners whose daily mileage was high. Yogesh Shah, Senior Director at CARE Ratings said “Now with the reduction in CNG prices and its volatility under the newly administered Price Mechanism, the attractiveness of CNG as a fuel has further extended which will boost CNG vehicle sales for FY24” Over the long term, CARE Ratings expects that internal combustion engine-based vehicles will eventually give way to electric vehicles as the pricing of the latter comes down (driven by technological advancements in battery technology) and with the growth in charging infrastructure.

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