



# INDIAN PASSENGER VEHICLE INDUSTRY

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Price revision, led by new gas pricing norm, to reignite CNG adoption; CNG powertrain penetration to rise to ~18% by CY2027

APRIL 2023





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*CNG powertrain penetration is expected to increase to levels of ~18% by CY2027, from ~11% in CY2022.*

*Total cost of ownership of CNG powertrain is ~10-15% lower than petrol powertrain, and the same would continue to spur adoption; EV penetration to increase only gradually.*



The Cabinet Committee on Economic Affairs (CCEA) approved a new domestic natural gas pricing plan on April 6, 2023, with domestic gas price at 10% of the monthly average of Indian Crude Basket and notified monthly. The revised structure led to a reduction in price of compressed natural gas (CNG) by up to 10% across cities and would limit material increases in the same going forward, with the Cabinet setting a ceiling price for gas produced from ONGC and OIL's nomination blocks.



Over the past one year, there had been a spurt in price of CNG, led primarily by the hike in prevalent natural gas price; factors such as increase in blending cost and depreciation of the Indian Rupee also contributed to multiple price hikes. The new gas pricing policy led to CNG price declining to levels seen nearly a year ago, thereby providing relief to the consumers.



Rising gas prices slowed down the adoption of CNG powertrain in H2 CY2022, led by a decline in running cost differential between petrol and CNG powertrains, and a consequent increase in the payback period for the latter. The recent decline in CNG prices led to a reduction in total cost of ownership for the powertrain and is likely to aid adoption for the same going forward.







CNG fueling infrastructure has been improving at a healthy pace, across the country, with the fuel availability in Tier-II cities also improving. The Government set an aggressive target to ramp up the number of CNG fueling stations across the country. Given the increasing popularity of CNG variants, leading OEMs have been increasing coverage of CNG across their product portfolio.



The proportion of CNG, EVs and hybrids is likely to materially increase as a proportion of new vehicles sales over the next 3-4 years, with CNG expected to emerge as the second most popular powertrain. The growth in penetration for these powertrains would also help the OEMs meet the Corporate Average Fuel Economy (CAFÉ) norms.

# Cabinet approval for revised domestic gas pricing materially lowered CNG price

## EXHIBIT: Reduction in CNG prices across key cities

	City	Old Rate (In Rs./Kg)	New Rate (In Rs/Kg.)	Percentage Decline
	Delhi	79.6	73.6	 7.5%
	Mumbai	87.0	79.0	 9.2%
	Bengaluru	89.5	83.5	 7.3%

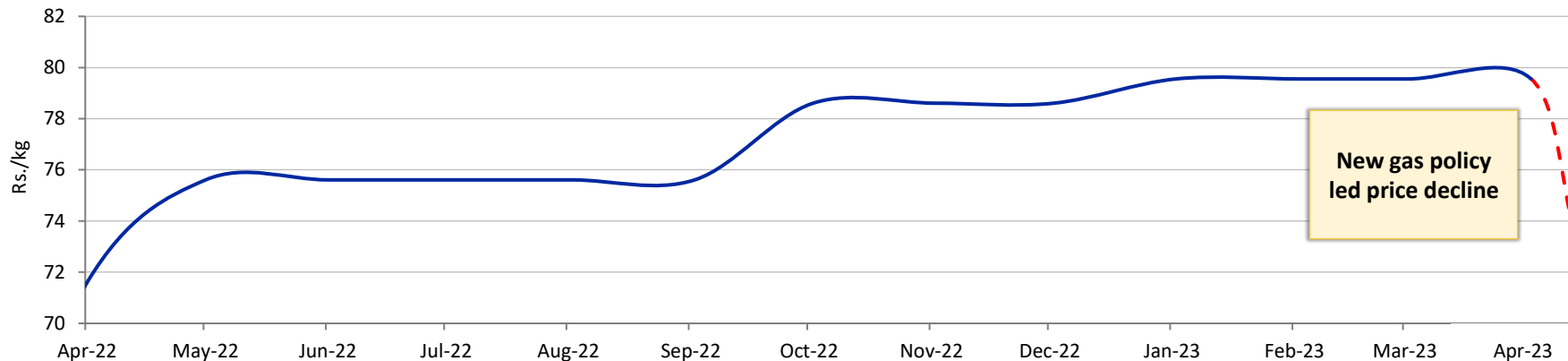
Source: Government of India, ICRA Research



- The Cabinet Committee on Economic Affairs approved a new domestic natural gas pricing structure on April 6, 2023; as per the revised guidelines (effective from April 8<sup>th</sup>), domestic gas price will be 10% of the monthly average of Indian Crude Basket and notified monthly.
- The Cabinet also set a floor and ceiling price for the gas produced by ONGC and OIL from their nomination blocks, with the ceiling (\$6.5/mmBtu) to be maintained till FY2025 and then revised by \$0.25/ mmBtu each year. The revised gas pricing structure led to a reduction in price of CNG by up to 10% across cities and is likely to limit material increases in the same going forward.

# CNG prices increased incessantly during the previous fiscal

## EXHIBIT: Trend in monthly CNG prices in Delhi



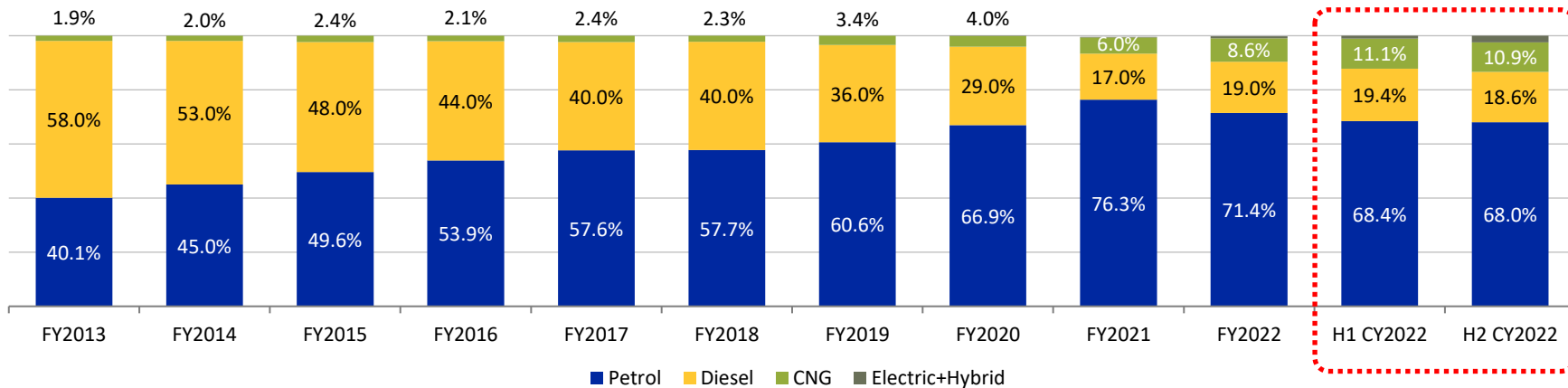
Source: Indraprastha Gas, ICRA Research



- Over the past one year, there had been a spurt in price of CNG, led primarily by the hike in prevalent natural gas price; factors such as increase in blending cost and depreciation of the Indian Rupee also contributed to multiple price hikes.
- The new gas pricing policy led to CNG price declining to levels seen nearly a year ago, thereby providing relief to the consumers.

# Spike in CNG prices dampened CNG powertrain adoption pace

Exhibit: Trend in powertrain mix



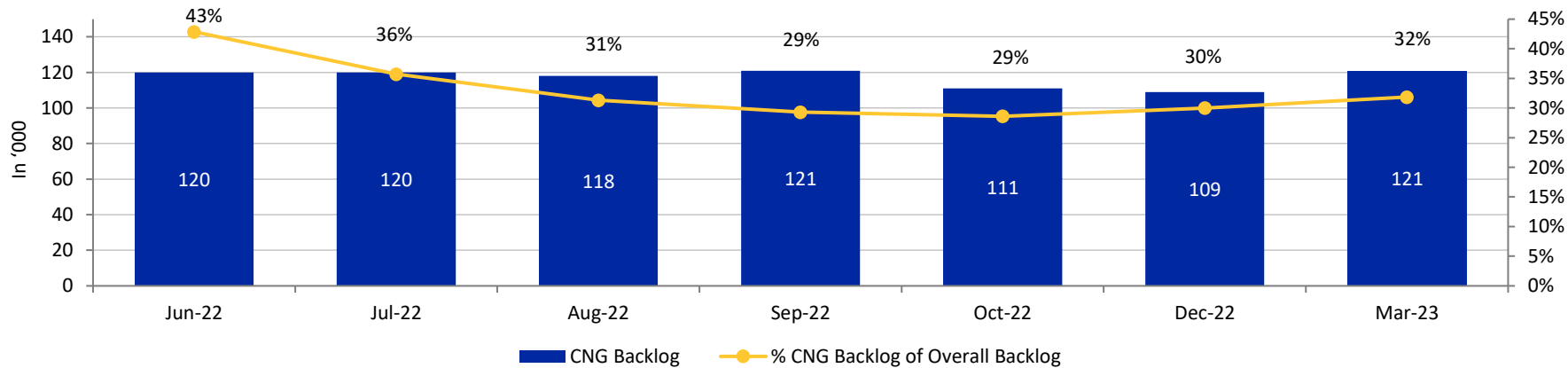
Source: ICRA Research



- CNG powertrain adoption had been gathering pace since FY2021; rising gas prices, however, slowed down the process in H2 CY2022, led by a decline in running cost differential between petrol and CNG powertrains, and a consequent increase in pay-back period for the latter.
- The pace of adoption would have slowed down further, in the absence of launches of CNG variants for multiple models, particularly by the market leader Maruti Suzuki India Limited (MSIL).

# Contribution of powertrain to order backlog for MSIL declined

EXHIBIT: Trend in CNG powertrain order backlog of Maruti Suzuki India Limited



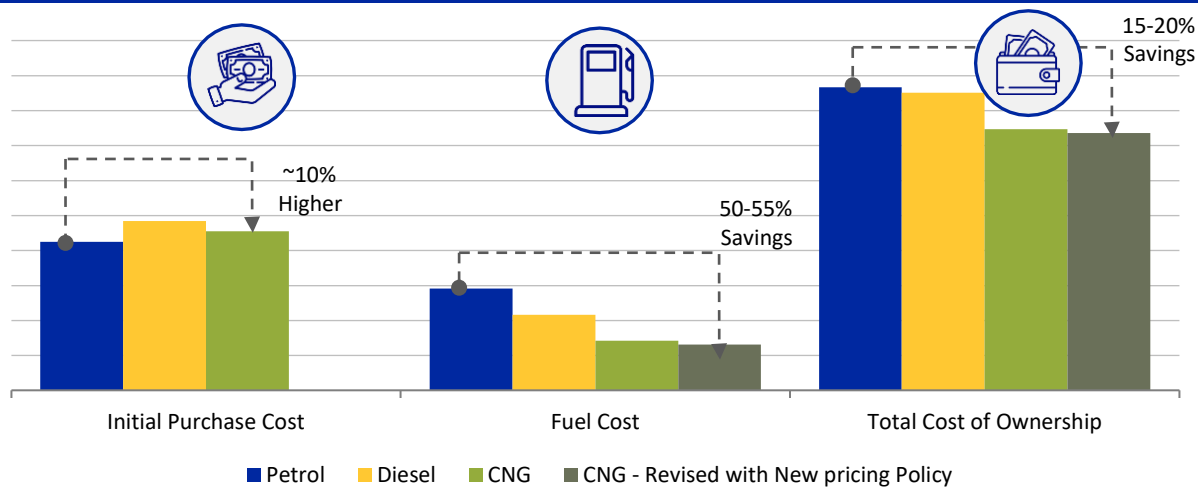
Source: MSIL, ICRA Research



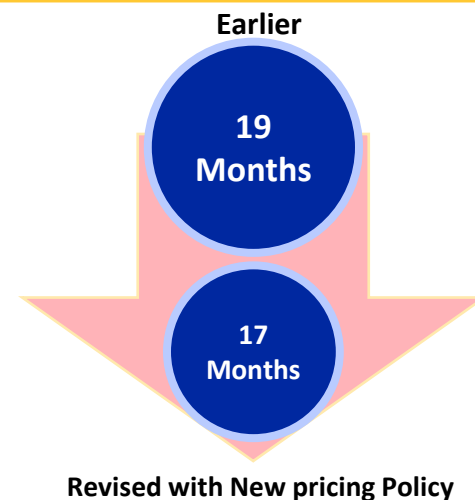
- Despite the ramp up in production levels in the passenger vehicle industry over the past few months, the order book for OEMs remained robust, aided by stable demand drivers.
- The contribution of CNG powertrain in the order backlog for MSIL also declined from levels of 43% in June 2022 to ~32% in December 2022 (despite multiple new model launches), revealing a dampening in consumer interest for the powertrain.

# Price revision improved CNG operating economics; to support adoption

Exhibit: Comparison of total cost of ownership between different types of powertrain



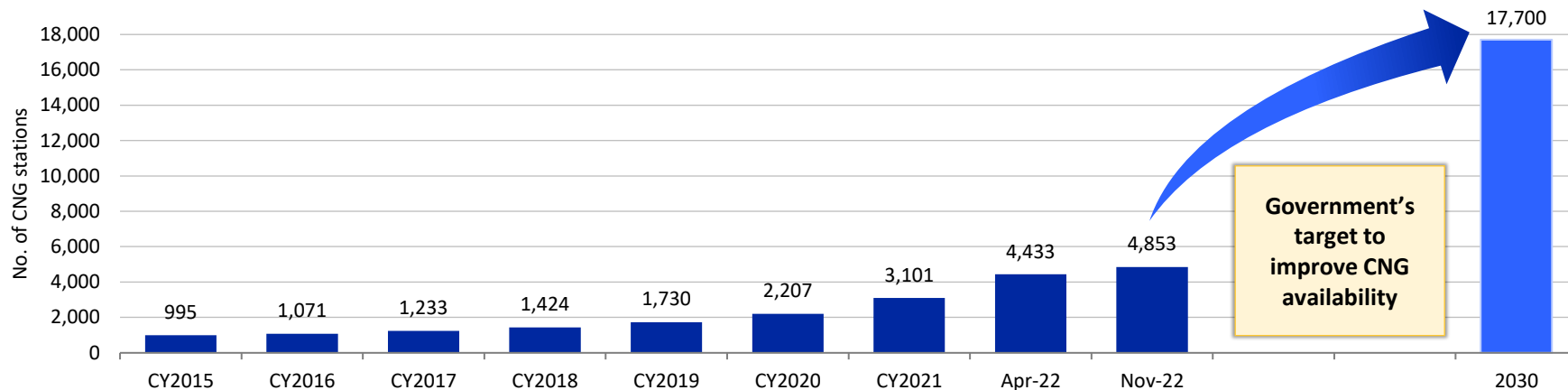
Payback Period (Petrol Vs CNG)



- Despite higher upfront cost, lower running costs, aided by a superior mileage, significantly lower the Total Cost of Ownership (TCO) for CNG-powered vehicles.
- A decline in CNG prices led to a further reduction in TCO and pay-back period and is expected to support adoption of the powertrain.

# Improving CNG fueling infrastructure will continue to support penetration

Exhibit: Trend in CNG fueling stations across the country



Source: ICRA Research











- CNG fueling infrastructure has been improving at a healthy pace, across the country, with more fuel availability in Tier-II cities.
- The Government set an aggressive target to ramp up the number of CNG fueling stations across the country to 17,700 stations by 2030; improved availability of the fuel would lead to enhanced interest of the consumers in the powertrain.



# Increase in coverage of powertrain across product portfolio will enhance options

Exhibit: Details of CNG models across OEMs

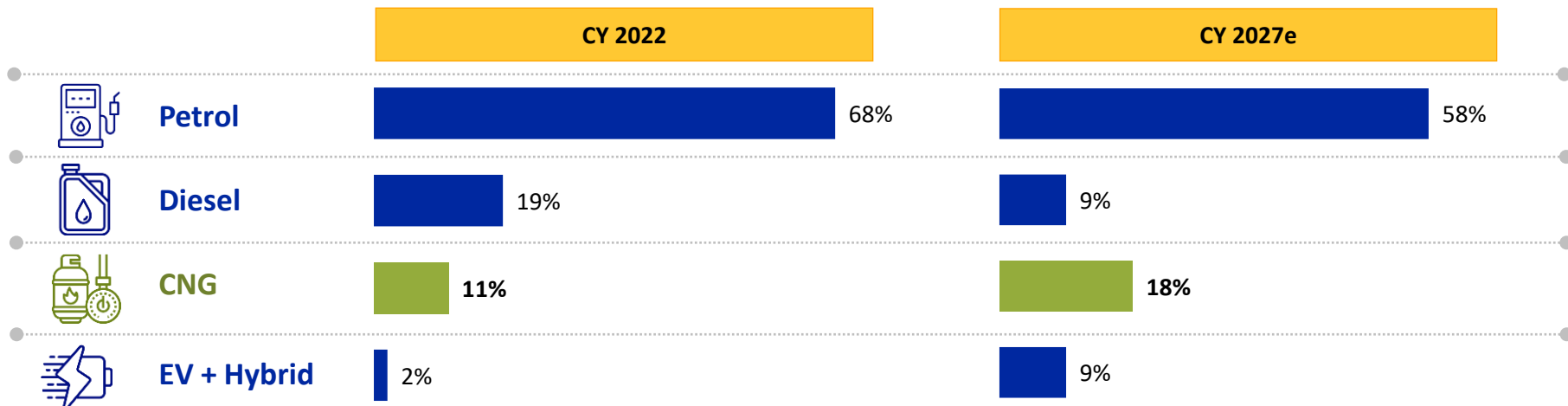
	 <b>SUZUKI</b> Maruti Suzuki	 <b>HYUNDAI</b> Hyundai	 <b>TATA</b> TATA Motors
 <b>Total Models offered</b>	16	9	7
 <b>CNG Models</b>	12	2	2
 <b>CNG penetration (CY2022)</b>	20%	11%	9%
 <b>CNG Market share (CY2022)</b>	74%	15%	11%
 <b>Models with CNG variants</b>	Swift, Dzire, Alto (800 & K10), Eeco, Ertiga, WagonR, Celerio, S-Presso, XL6, Baleno, Tour S & Brezza	Grand i10 & Xcent/Aura	Tiago, Tigor



- Given the increasing popularity of CNG variants, the leading OEMs have been increasing coverage of CNG across their product portfolio; while TML entered the space in January 2022, MSIL started offering CNG variants for a bulk of the cars under its portfolio.
- The launch of various variants enhanced the options available to the buyers and will further propel demand for CNG vehicles.

# CNG to emerge as the second most popular powertrain over near to medium term

Exhibit: ICRA's estimate of powertrain mix in passenger vehicles in India



Source: ICRA Research



- The proportion of CNG, EVs and hybrids is likely to materially increase as a proportion of new vehicle sales over the next 3-4 years, even as petrol-based vehicles are likely to continue to constitute a significant portion of the new vehicle sales.
- The growth in penetration for these powertrains would also help the OEMs reduce their carbon footprint with a view to meeting the Corporate Average Fuel Economy (CAFE) norms.



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