

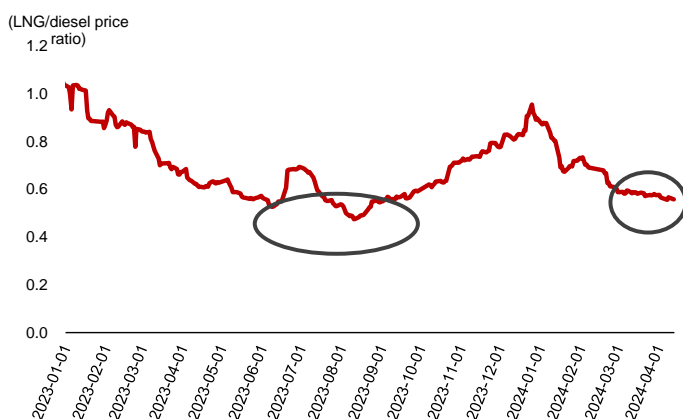
# China heavy duty truck

## Expanding gas/diesel price spread to further boost sales of gas HDTs

The 35% decline in China's LNG price (due to abundant supply) along with the 4% increase in diesel price (due to strong crude price) YTD have reduced the gas/diesel price ratio to only 0.56x (0.9x in late Dec 2023). The expanding price spread boosted the sales of natural gas HDTs substantially by 2x YoY in Mar, taking the gas HDT ratio to 25% (vs 7% in Jan). We expect the current gas/diesel price spread could last longer than that in 2023, given the elevated crude price arising from the geopolitical tension in the Middle East. We reiterate our conviction on **Weichai (2338 HK/000338 CH, BUY, sector top pick)** on market share gains driven by the dominant position in natural gas engines (>60%). We also like **Sinotruk (3808 HK, BUY)** given the accelerated sales growth of gas HDTs. Apart from gas HDTs growth, we continue to see (1) replacement cycle and (2) resilient export demand as major sector drivers.

- Payback period for natural gas HDTs is ~2.5 years, vs ~3.8 years for diesel HDTs.** Our payback period analysis suggests that gas HDTs are much more attractive than diesel HDTs. For truck buyers, based on the current price of LNG (~RMB4.2/kg) and diesel (~RMB7.2/litre), we estimate the annual net profit of ~RMB186k generated from a LNG truck is a lot higher than that from a diesel truck (~RMB99k).
- Natural gas HDT sales volume growth accelerated in Mar.** According to Cvworl, China's natural gas HDT sales volume surged 208% YoY to 29.3k units in Mar, accounting for 25% of total HDT sold. It is worth noting that CNHTC (parent company of Sinotruk) saw 7.7x YoY gas HDT sales growth in Mar, with market share rising to 27% (vs only 10% in Mar 2023).

### LNG/diesel price ratio in China



Source: Bloomberg, Wind, CMBIGM

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(Maintain)

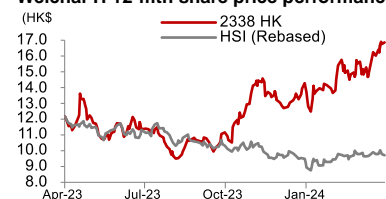
### China Capital Goods Sector

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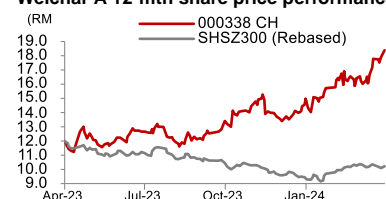
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#### Weichai-H 12-mth share price performance



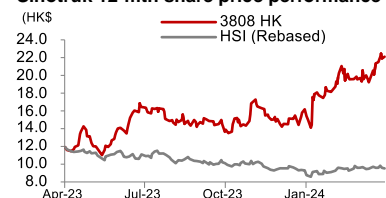
Source: Factsset

#### Weichai-A 12-mth share price performance



Source: Factsset

#### Sinotruk 12-mth share price performance



Source: Factsset

#### Related reports:

Weichai Power – Key takeaways from post-results call – 27 Mar 2024 (A: [link](#)) (H: [link](#))

Weichai Power – 4Q23 net profit +58% YoY; Payout increased to 50%; Higher earnings forecast on margin – 26 Mar 2024 (A: [link](#)) (H: [link](#))

Capital Goods sector – Expansion of gas/diesel price spread likely to boost gas HDT sales in the near term – 5 Mar 2024 ([link](#))

Capital Goods sector – Equipment replacement proposed in Central government meeting; positive to HDT sector – 26 Feb 2024 ([link](#))

Capital Goods sector – HDT sales volume surged ~64% YoY in Jan on low base – 1 Feb 2024 ([link](#))

China Heavy-duty Truck – Multi-cylinder diesel engine sales +29% YoY in Dec – 15 Jan 2024 ([link](#))

**Figure 1: Comparison of investment return between diesel and LNG trucks**

<b>Diesel</b>		<b>LNG</b>	
<b>Operating assumptions</b>			
Transport service income (RMB / tonne km)	0.27	Transport service income (RMB / tonne km)	0.27
Capacity (tonne)	30	Capacity (tonne)	30
Operating days / month	20	Operating days / month	20
Daily transportation distance (km)	500	Daily transportation distance (km)	500
Diesel consumption (litre / 100 km)	30	Gas consumption (kg / 100 km)	30
<b>Diesel price (RMB /litre)</b>	<b>7.5</b>	<b>Gas price (RMB/kg)</b>	<b>4.2</b>
Urea expense (RMB / 100 km)	11.25	Urea expense (RMB / 100 km)	0
Maintenance expense (RMB / 100 km)	60	Maintenance expense (RMB / 100 km)	60
Toll fee per vehicle (RMB/km)	2.2	Toll fee per vehicle (RMB/km)	2.2
Monthly wage of a driver (RMB)	9,000	Monthly wage of a driver (RMB)	9,000
Tax rate (%)	25%	Tax rate (%)	25%
<b>Capex</b>			
Truck purchase price (RMB)	320,000	Truck purchase price (RMB)	400,000
Years of depreciation	5	Years of depreciation	5
VAT rate	17%	VAT rate	17%
VAT (RMB)	54,400	VAT (RMB)	68,000
<b>Total purchase price (RMB)</b>	<b>374,400</b>	<b>Total purchase price (RMB)</b>	<b>468,000</b>
<b>Profitability</b>			
Revenue (annual)	931,500	Revenue (annual)	931,500
Expense:		Expense:	
Diesel	-268,920	Natural gas	-150,300
Urea	-13,500	Urea	0
Depreciation	-64,000	Depreciation	-80,000
Maintenance	-72,000	Maintenance	-72,000
Toll fee	-253,000	Toll fee	-253,000
Driver wage	-108,000	Driver wage	-108,000
Insurance and others	-20,000	Insurance and others	-20,000
<b>Pre-tax profit</b>	<b>132,080</b>	<b>Pre-tax profit</b>	<b>248,200</b>
Tax	-33,020	Tax	-62,050
<b>Net profit</b>	<b>99,060</b>	<b>Net profit</b>	<b>186,150</b>
<b>Payback period (year)</b>	<b>3.8</b>	<b>Payback period (year)</b>	<b>2.5</b>

Source: CMBIGM estimates

**Figure 2: Sensitivity of payback period to diesel price**

	Transport service income (RMB / tonne km)					
	0.243	0.2565	0.27	0.2835	0.297	
Diesel price (RMB/litre)	6.0	5.4	3.6	2.7	2.1	1.8
	6.7	7.6	4.4	3.1	2.4	2.0
	<b>7.5</b>	12.8	5.8	<b>3.8</b>	2.8	2.2
	8.2	41.5	8.5	4.7	3.3	2.5
	9.0	-33.6	15.7	6.4	4.0	2.9

Source: CMBIGM estimates

Note: For diesel truck

**Figure 3: Sensitivity of payback period to LNG price**

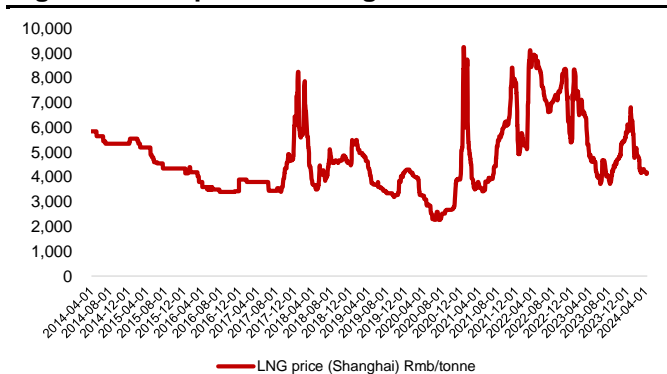
	Transport service income (RMB / tonne km)					
	0.243	0.2565	0.27	0.2835	0.297	
LNG price (RMB/kg)	3.3	3.4	2.7	2.2	1.9	1.7
	3.8	3.7	2.9	2.4	2.0	1.8
	<b>4.2</b>	4.0	3.1	<b>2.5</b>	2.1	1.8
	4.6	4.5	3.3	2.7	2.2	1.9
	5.0	5.0	3.6	2.9	2.4	2.0

Source: CMBIGM estimates

Note: For LNG truck

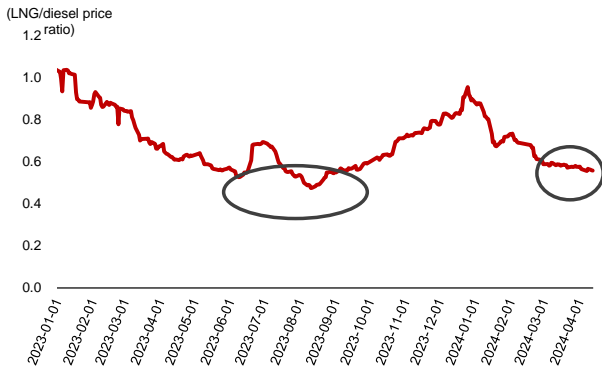
**Figure 4: Diesel price in Shandong**

Source: Wind, CMBIGM

**Figure 5: LNG price in Shanghai**

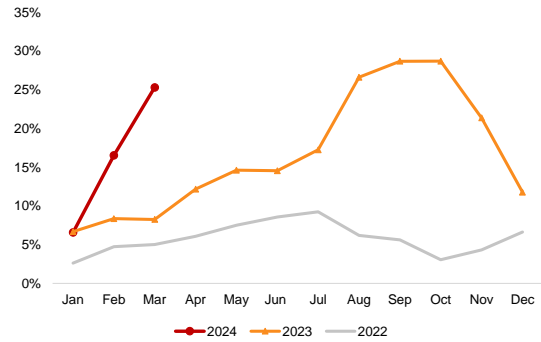
Source: Wind, CMBIGM

**Figure 6: LNG/diesel price ratio**



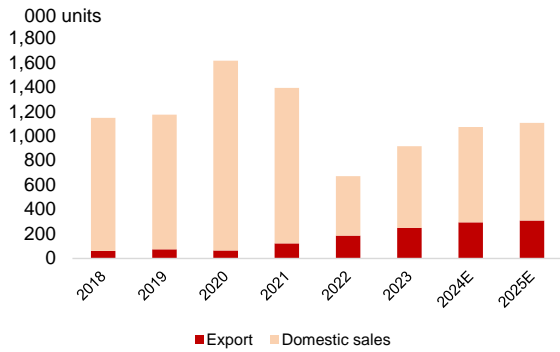
Source: Wind, Bloomberg, CMBIGM estimates

**Figure 7: Natural gas HDTs as % of total HDTs sold**



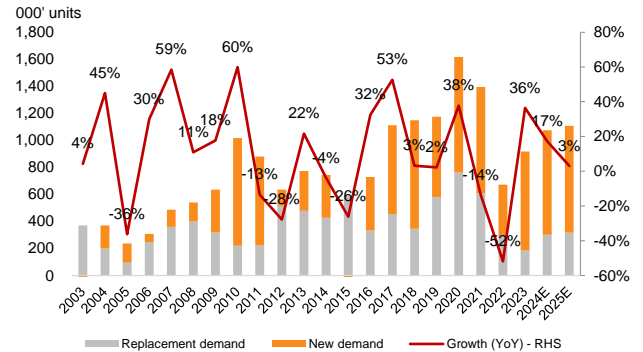
Source: Wind, Cvworl, CMBIGM

**Figure 8: Domestic sales and exports of HDTs**



Source: Wind, CMBIGM estimates

**Figure 9: CMBIGM HDT sales projection**



Source: Cvworl, Wind, CMBIGM estimates  
Note: China's domestic sales + exports

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