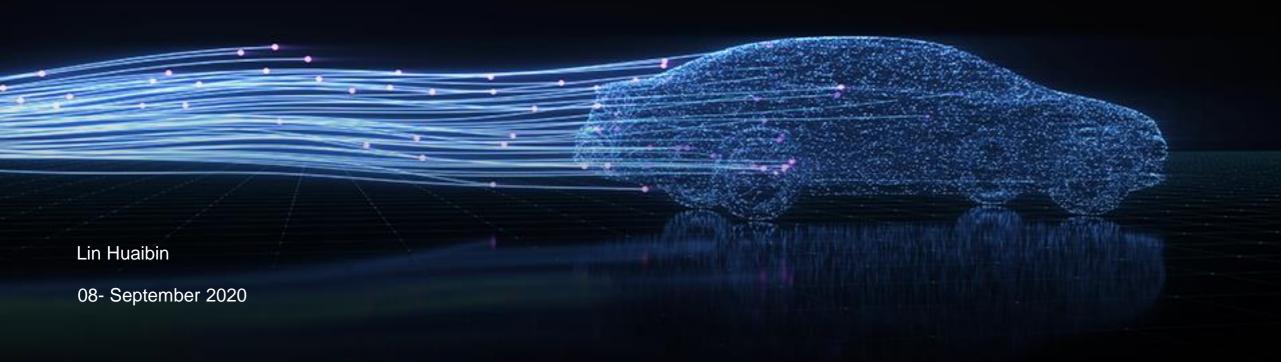
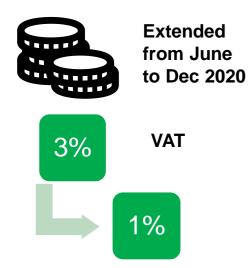


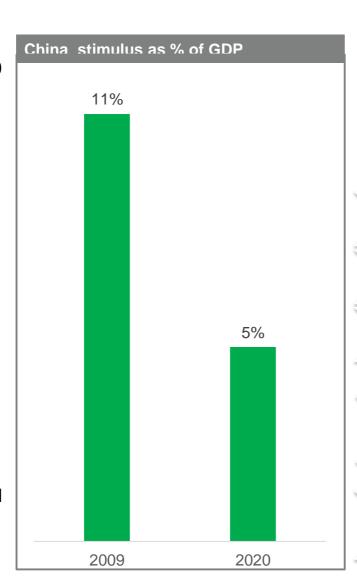
## China Light Vehicles Sales Outlook



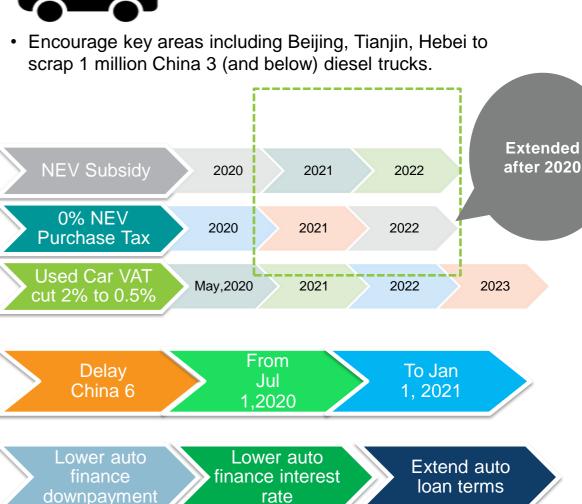
## **Central Government efforts to cushion COVID impact**



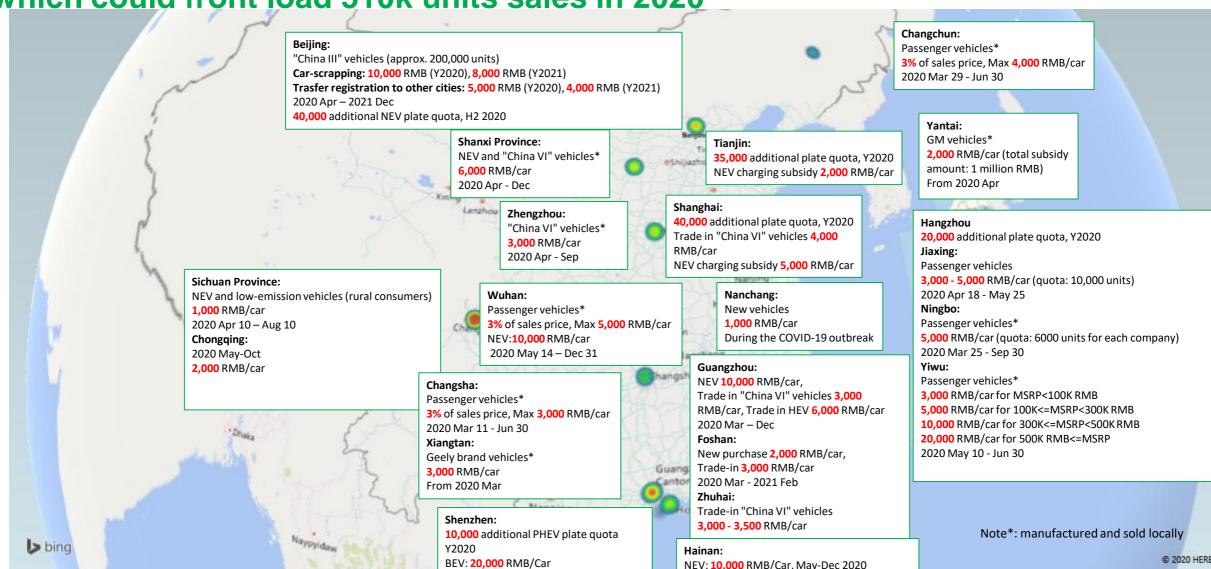
- VAT cut for 80m small size companies with employment of 200 m in Mar-May, 2020
- Defer loan/interest payment(up to 125 billion USD by March) and increase lending at concessional rates for SMEs
- bonds and increase the budget deficit by another 1 trillion yuan with focus on tax and fee cuts







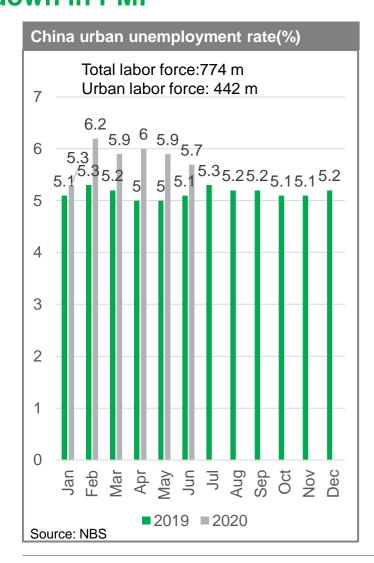
22 provinces/cities ushered in various incentives to support local car demand which could front load 510k units sales in 2020



60,000 additional plate quota, May-Jul 2020

PHEV: 10,000 RMB/Car

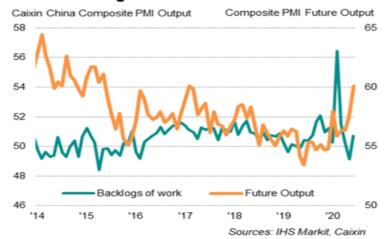
Jun urban unemployment rose to 5.7% vs 5.1% in Jun 2019; Jun export growth rose to 4.3% from 1.4% in May; Increase in backlogs of work in June subdued, pointing to potential slow down in PMI

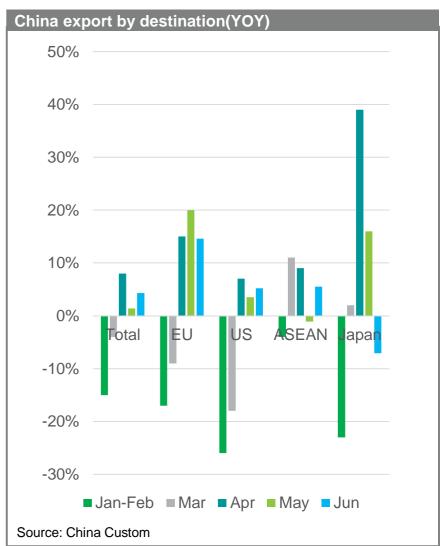








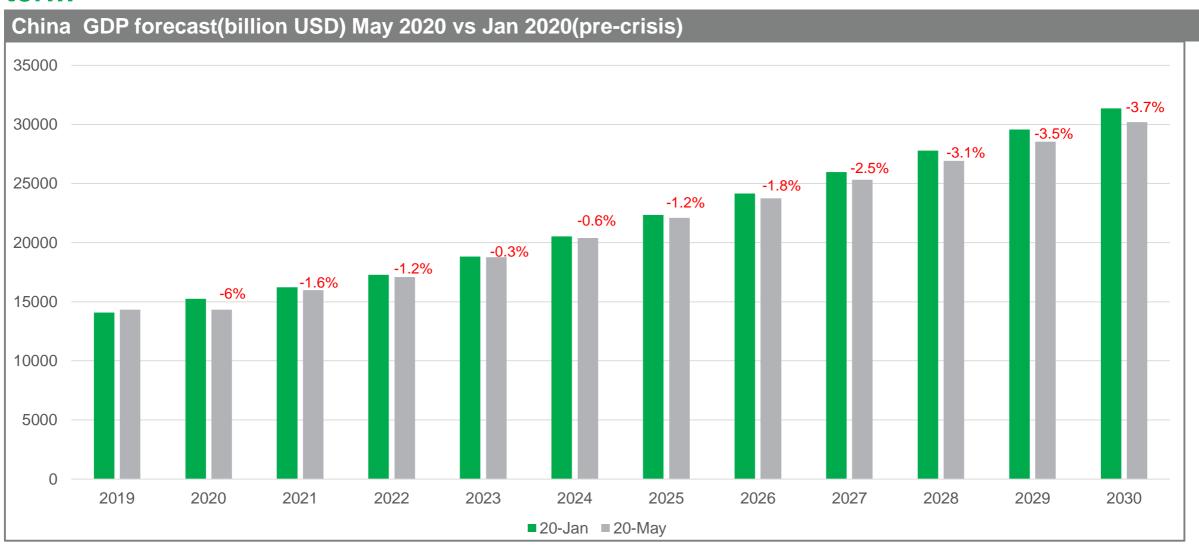




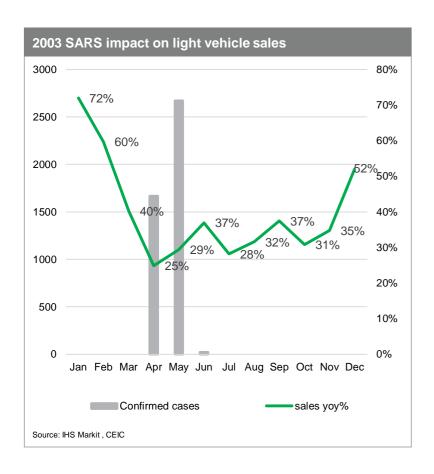
# World Economic Growth Rates Economic activity plunging as deep recessions grip major markets

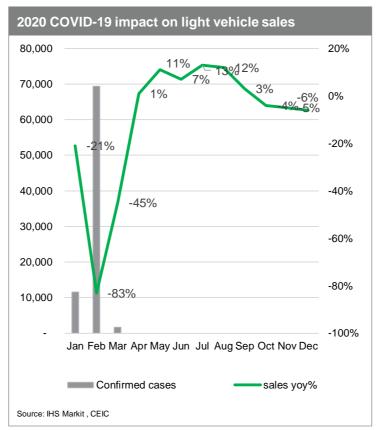


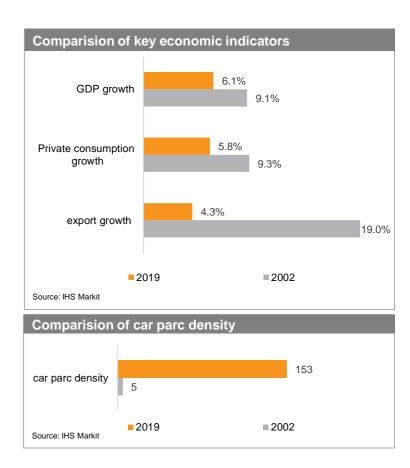
# Impact of COVID-19 on economy/car demand would last for mid and long term



## SARS vs COVID-19:low chances of strong rebound in car sales

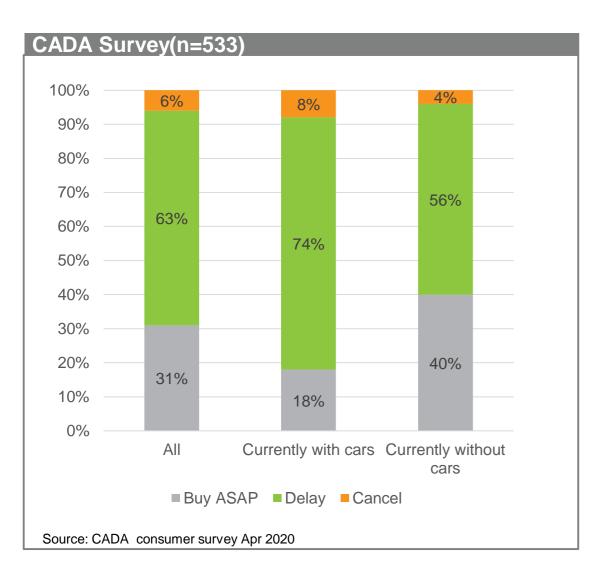


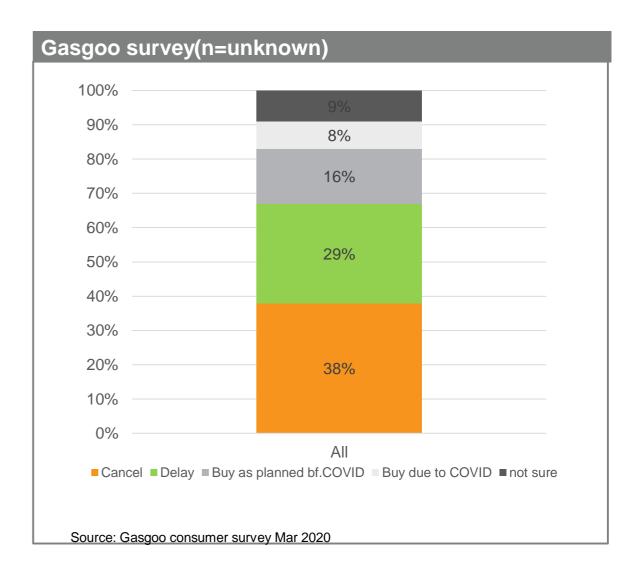




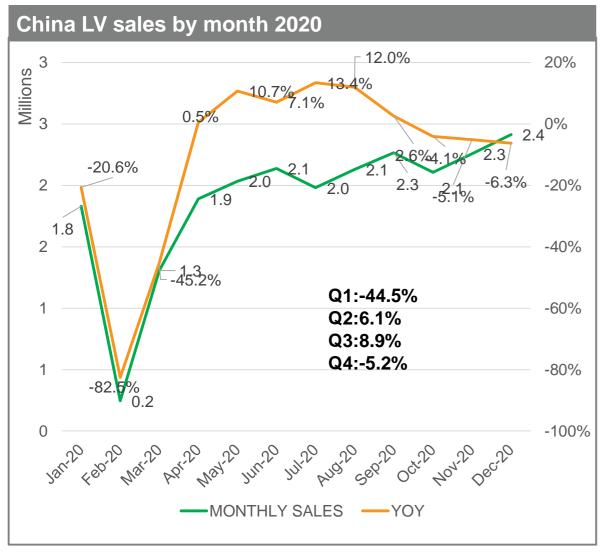
- Outbreak of SARS in 2003 has actually led to strong vehicle demand as aversion to public transport generated strong desire to own a private car. Nonetheless, we don't expect repeat of history as passenger vehicle par density in China in 2019 is 153 units per 1000 people compared to only 5 units in 2002.
- China's economy was on fast track in 2003 as the country is reaping the benefit of international trade after it joined WTO in 2001. By contrast, consumer confidence remained fragile at this stage after being battered by coronavirus outbreak in January in addition to ongoing trade tensions with the US.

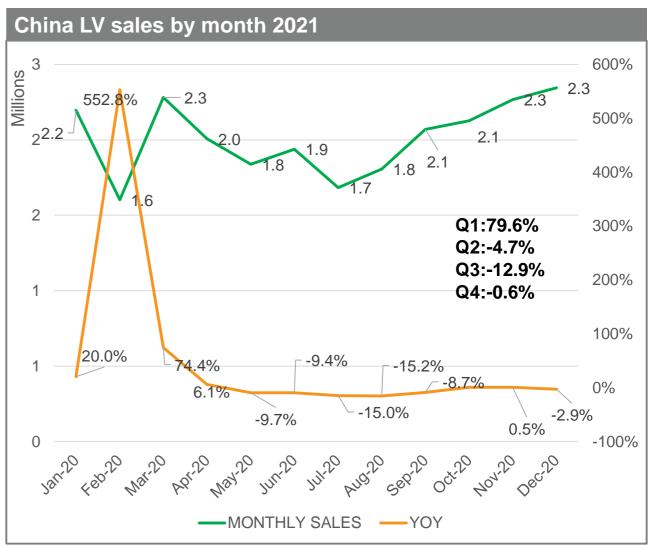
## How COVID-19 impacts on consumers' willingness to buy cars?



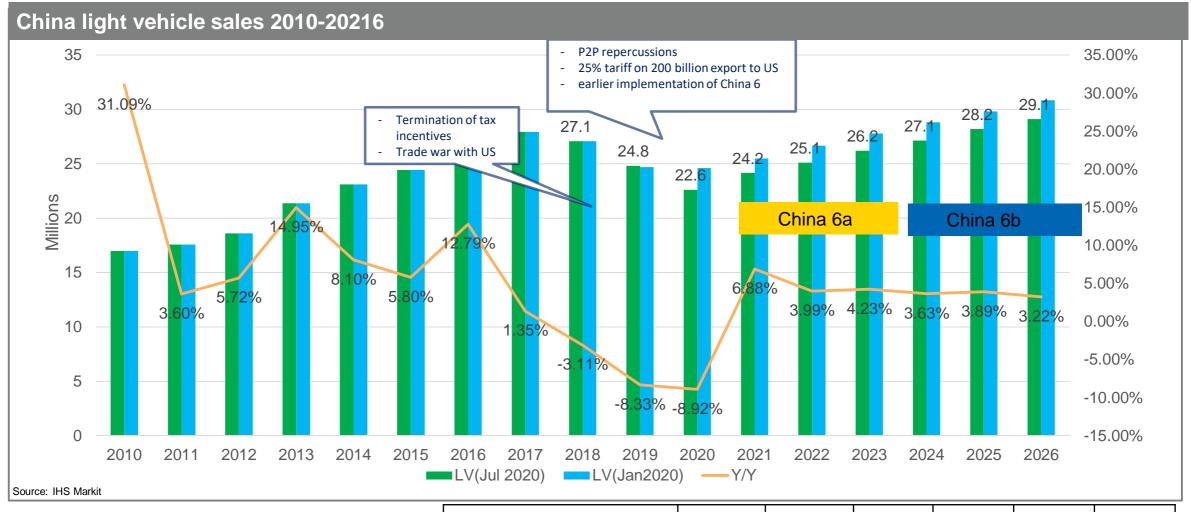


## China Light Vehicles by month 2020-2021



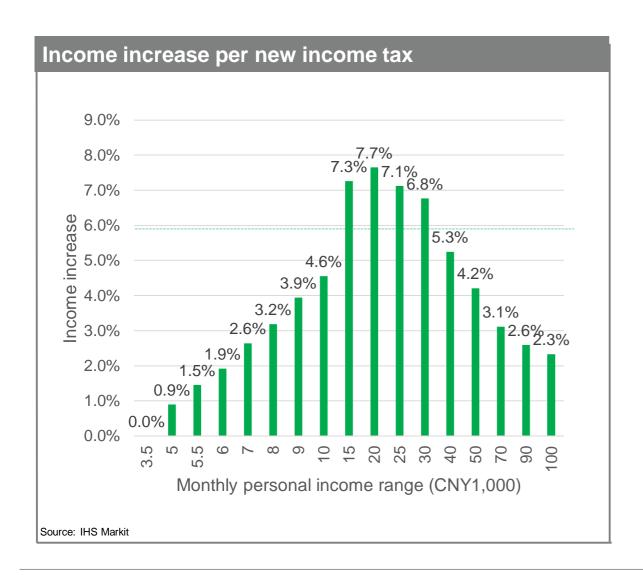


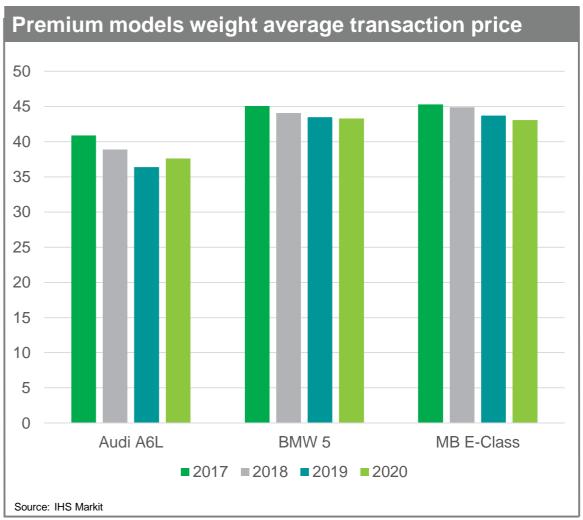
## China light vehicle sales outlook 2010-2026



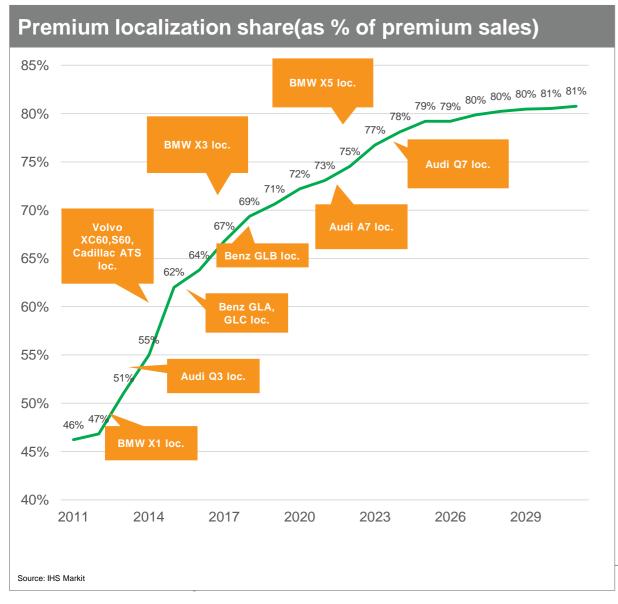
	2020	2021	2022	2023	2024	2025
% Growth YoY	-8.9%	6.9%	4.0%	4.2%	3.6%	3.9%
Vol Delta vs. Pre-Crisis Jan Forecast	-2016200	-1337200	-1534500	-1589511	-1695840	-1639500

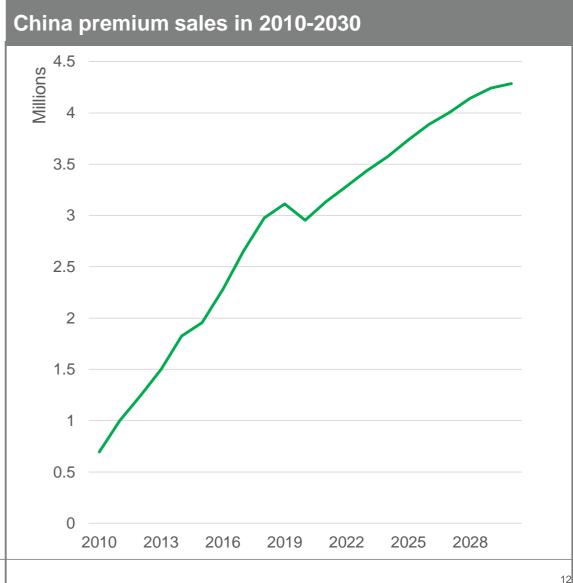
## Premium manages to maintain solid momentum regardless of COVID-19



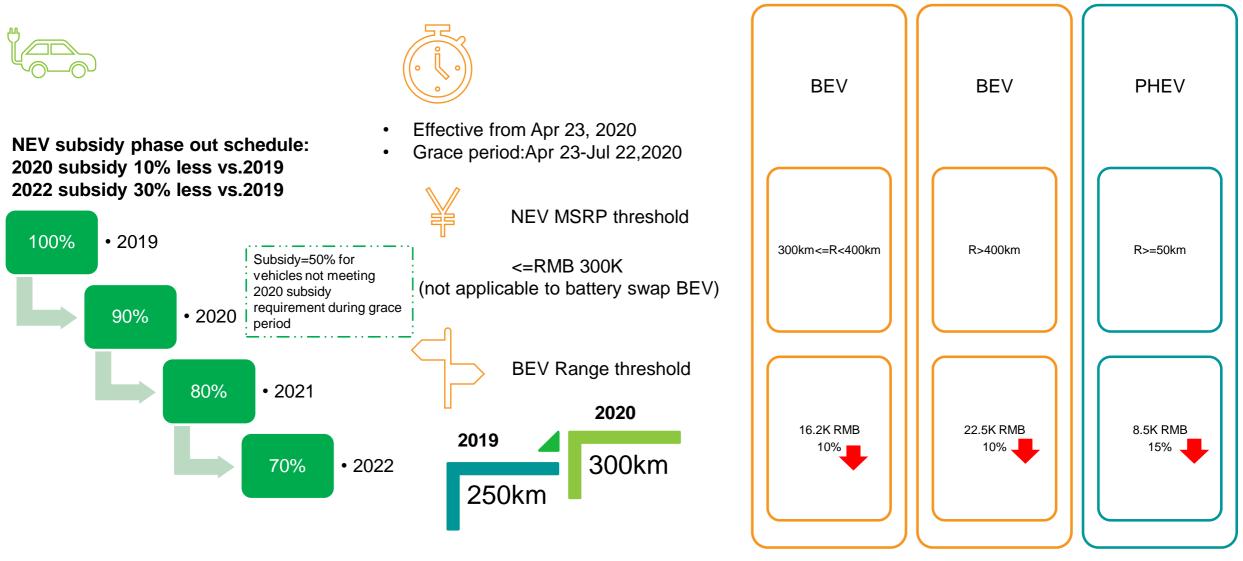


### Premium localization rate still on the rise

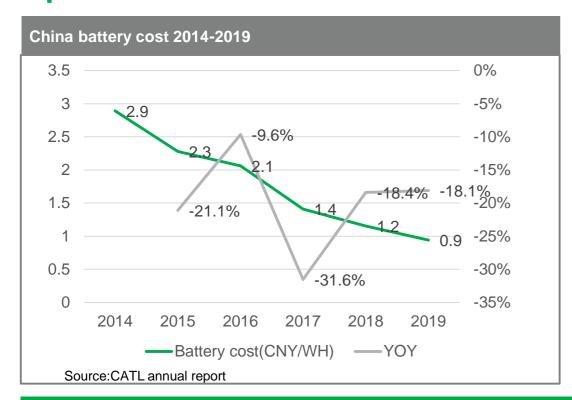


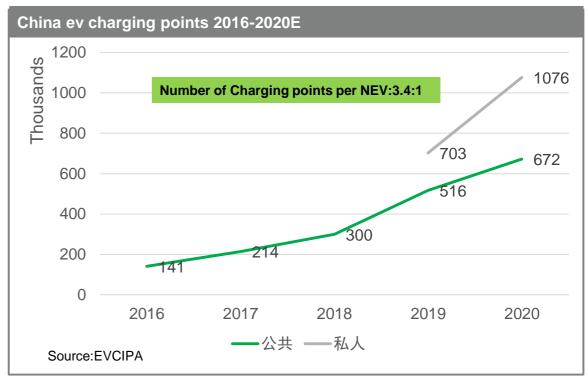


## NEV subsidy would be reduced by 10% annually in 2020-2022



# .....battery cost in sharper decline while EV charging points undergoing fast expansion





#### **Key Factors Takeaways**

- Declining Battery cost (CAGR of -20%) for the past 5 years with rising energy density is leading to rising affordability of BEVs
- Charging infrastructure is growing at exponential rate(CAGR of 47%) for the past 4 years

## 

## **Challenges for powertrain technology**

More stringent regulations drive the powertrain technology to move forward

## **CAFC** credit

**Dual credit** 

## **NEV** credit

2020

• 5L/100 km @ phase 4\*

2025

• 4L/100 km @ phase 5\*

2030

• 3.2L/100 km @ phase 6 (TBD)

 $CO_2$ 

\*Under NEDC test cycle

# CAFC boundary

- Fuel reduction technology
- Engine
- Transmission
- Hybrid
- NEV
- Phase 5 limit standard
- •CAFC phase-in ratio in 2021-25
- •NEV multiplier volume in 2021-25
- •Ratio from NEV credit to CAFC credit

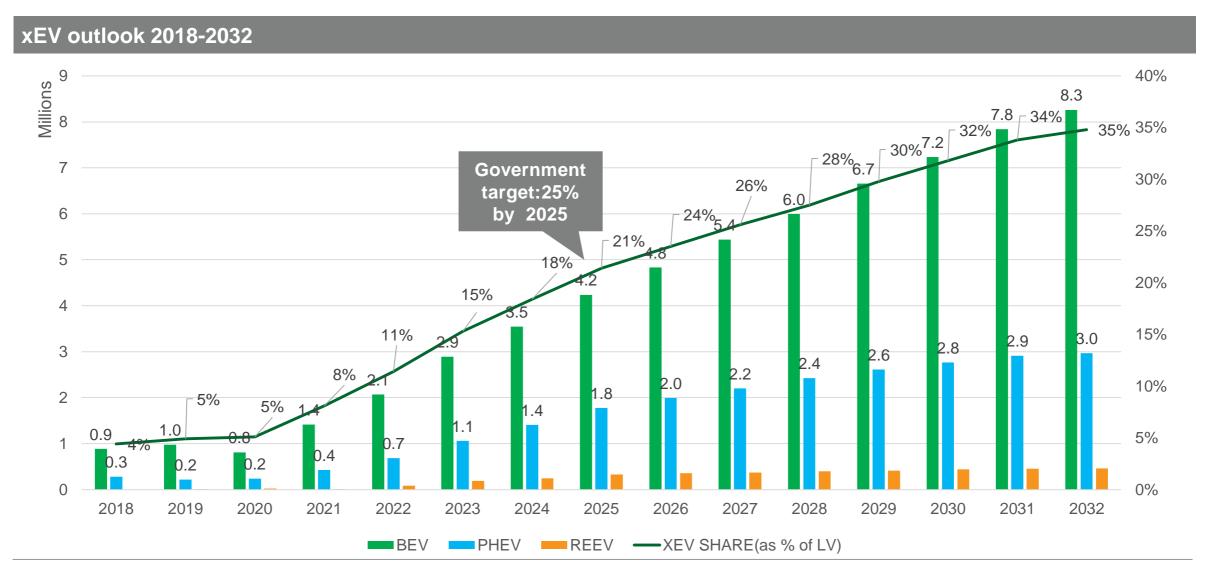
## NEV boundary

- Battery density/cost
- E-range
- Energy consumption performance
- ICE FC performance on PHEV
- NEV annual quota

2019	• 10% quota
2020	• 12% quota
2021	• 14% quota
2022	• 16% quota
2023	• 18% quota
2024	• TBD
+	,



## China's CO<sub>2</sub> technology landscape, xEV will be considered as major contributor in medium term



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