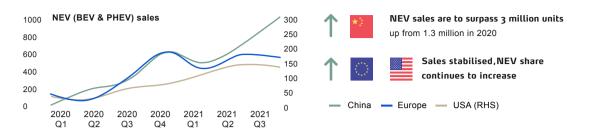
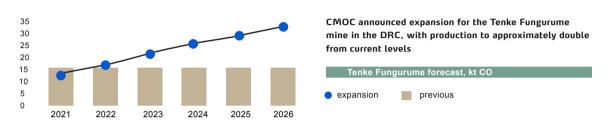
# **QUARTERLY COBALT MARKET UPDATE** 2021 Q3



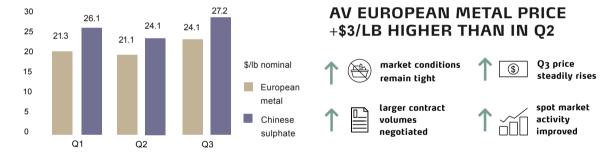
## STRONG EV MARKET DRIVING >60% OF COBALT DEMAND IN 2021



#### \$2.5 BN MINE EXPANSION IN THE DRC



## PRICES TREND UPWARDS, SPOT MARKET ACTIVITY IMPROVES



# **EV SNAPSHOT | COBALT CHEMICAL USE IN ELECTRIC VEHICLES**

The share of high Ni NMC cathodes is rising. NMC721 is popular amongst the European OEMs with high energy density whilst managing battery stability. NMC811 and NCMA are also becoming more common, particularly for high end vehicles with longer ranges. The chemistries highlighted are those of particular relevance to the cobalt outlook.

CHINA		EUROPE		USA	
Top 10 models	Chemistry	Top 10 models	Chemistry	Top 10 models	Chemistry
Hongguang mini EV	LFP & NMC	Tesla Model 3	NCA & LFP	Tesla Model Y	NCA & NCMA
Tesla China Model 3	LFP & NCA	Renault Zoe	NMC 721	Tesla Model 3	NCA & LFP
Tesla China Model Y	LFP & NCMA	VW ID.3	NMC 721	Chevy Bolt	NMC 721
Ora R1	LFP & NMC	VW ID.4	NMC 721	Mustang Mach-E	NMC 811
BYD Han **	LFP for BEV	Ford Kuga **	NMC 532	Nissan Leaf	NMC 532
GAC Aion S	NMC	Skoda Enyaq iV	NMC 721	VW ID.4	NMC 721
Cherry eQ	NMC	Fiat 500 Electric	NMC 622	Audi E-tron	NMC 622
CCAG Benben EV	LFP	Hyundai Kona Electric	NMC 622 / NCMA	Porsche Taycan	NMC 622
XPeng Motors	LFP	Kia eNiro	NMC 622	Tesla Model S	NCA
NIO ES6	NMC 811	Peugeot e208 **	NMC 532	Tesla Model X	NCA

DATA: CRU's Cobalt Market Outlook, CAAM, ACEA, Argonne National Laboratory. Note: \* EU metal Co 99.8% min (EXW); Chinese sulphate 20.5%, China 100%-Co basis.

\*\* PHEV model available. Remainder BEV only.