



Aluminium 2022 – CRU's Market Outlook

Speakers' Corner Innovation & Sustainability

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CRU's Aluminium Team

The CRU Aluminum Analysis team is the largest aluminum analysis team in the world covering the entire value chain



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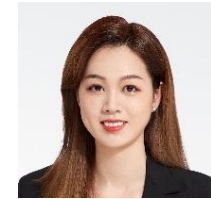
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Aluminium – Top 10 Calls for 2022

- 1**




Expect more recycled metal use in China

Investments in China will accelerate use of recycled metal with 7-8 M t/y of secondary capacity coming on stream in next five years or so. We will see primary metal re-starts in China as well.
- 2**




Guinea to supply third of China's bauxite need

Imports from Guinea will continue rising. Environmental monitoring will keep domestic mines constrained, while new refinery expansions will increase the surge in Guinea imports.
- 3**




Smelting costs are rising on higher power prices

Aluminium costs are rising on escalating power prices (as well as leading to smelter cuts in Europe). We should see a renewed steepening of the cost curve in 2022.
- 4**




Aluminium price to average highest since GFC

At least nominally, the LME will average the highest since before the GFC. Will we see more greenfield and brownfield expansion announcements as a result?
- 5**



Aluminium will emerge as major winner from EVs

Aluminium is a winner from rising EV production, thanks to rising intensity for rolled products and extrusions – battery foil will be a growing market.
- 6**




VAP premiums now set to stay stronger for longer

Smelter cuts in Europe spell further tightness in VAPs. We will see investment in secondary capacity and potential more switching to VAP at primary producers.
- 7**




Section 232 to stay

Section 232 duties are expected to remain in 2022, although come off at some point in future. The market favours a planned step-down approach versus surprise executive order which will derail nearby market order.
- 8**




Inventories lowest since GFC

Further large deficit in 2022 will see inventories fall closer to critical levels. This is a recipe for greater volatility for prices and premiums.
- 9**



Geo-political risks could swamp other challenges

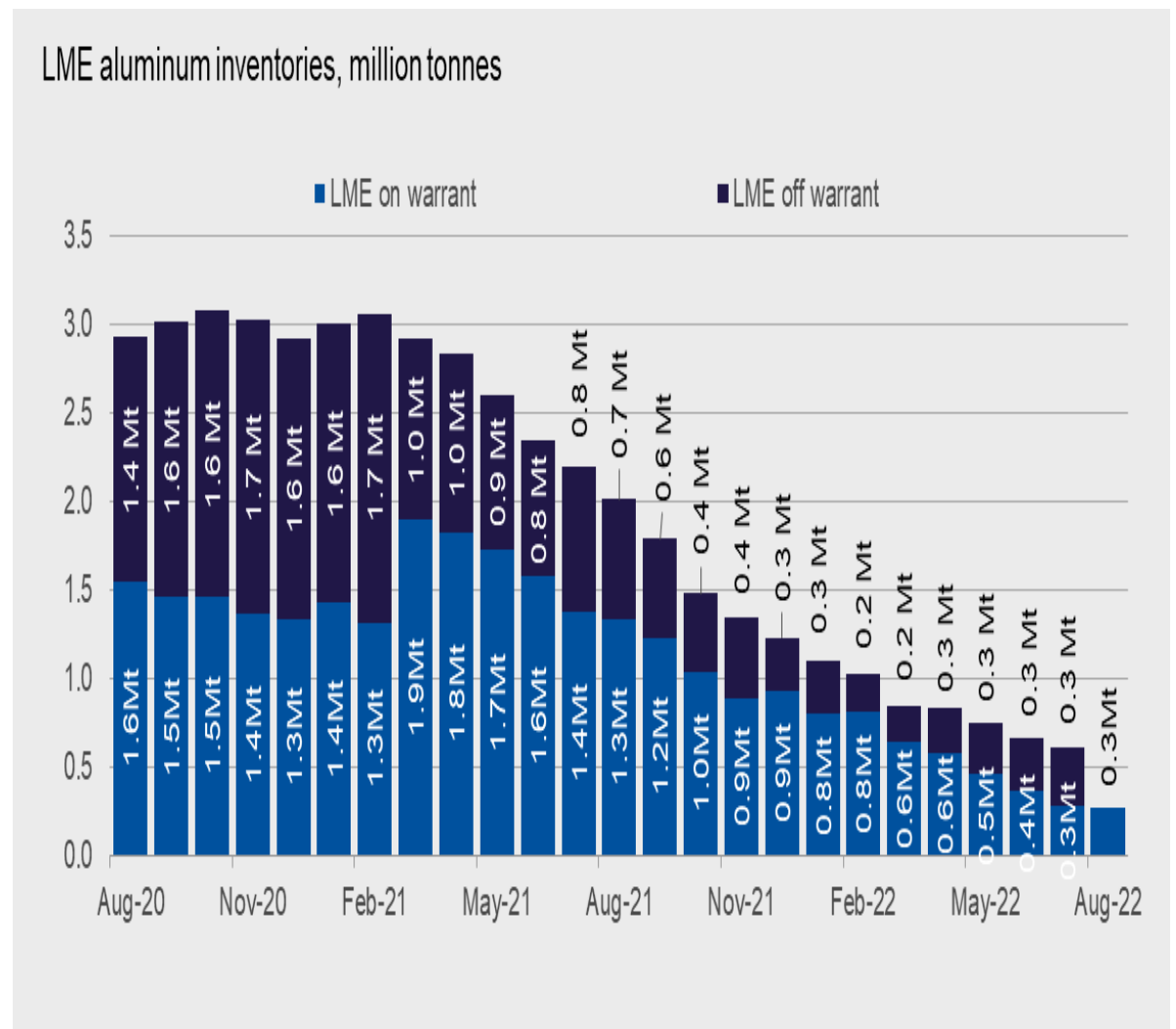
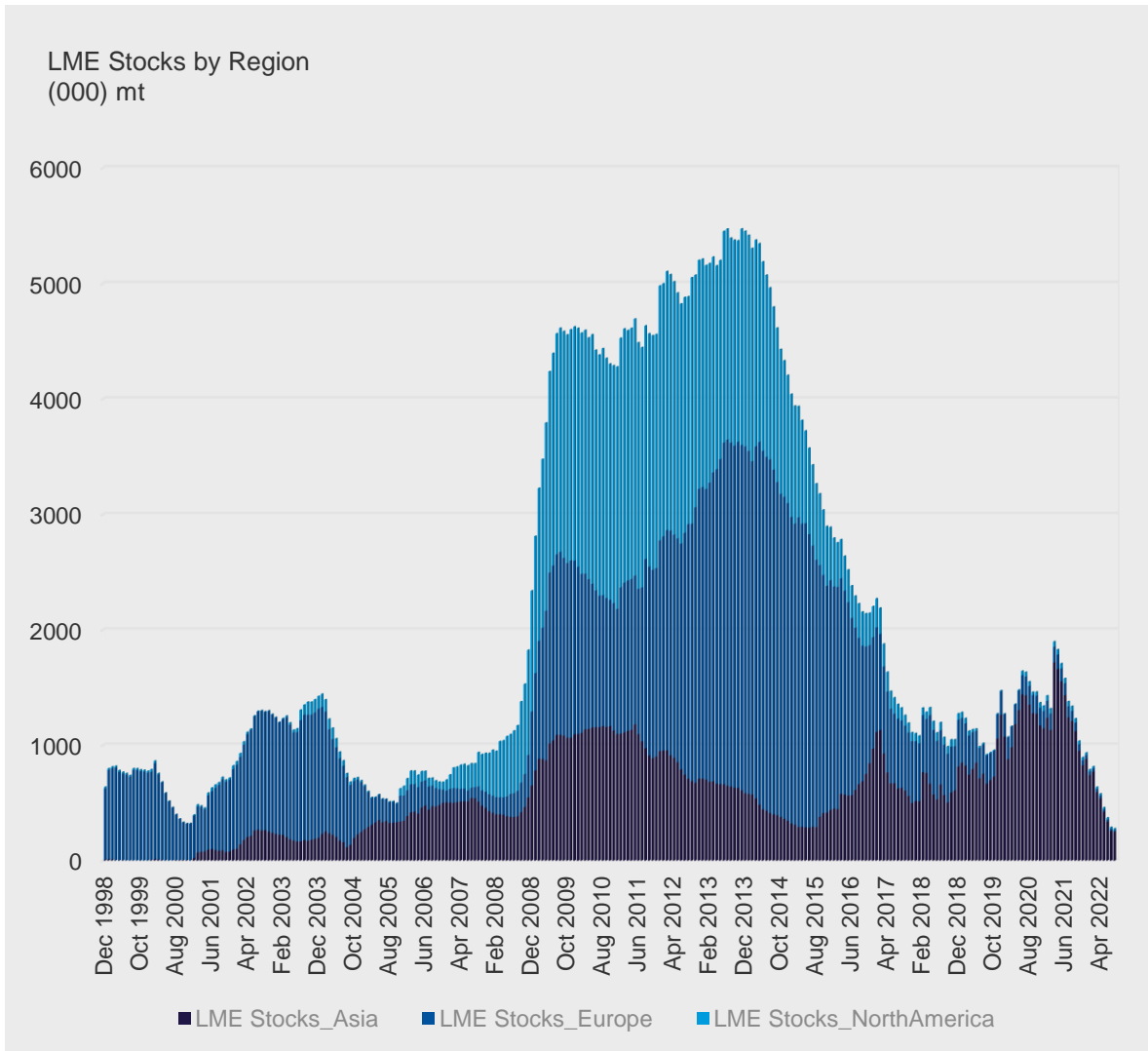
Global political tensions whether for human rights, or broader sovereignty issues may draw aluminium into play as financial, or strategic supply leverage.
- 10**



Scenario – what would crash the price?

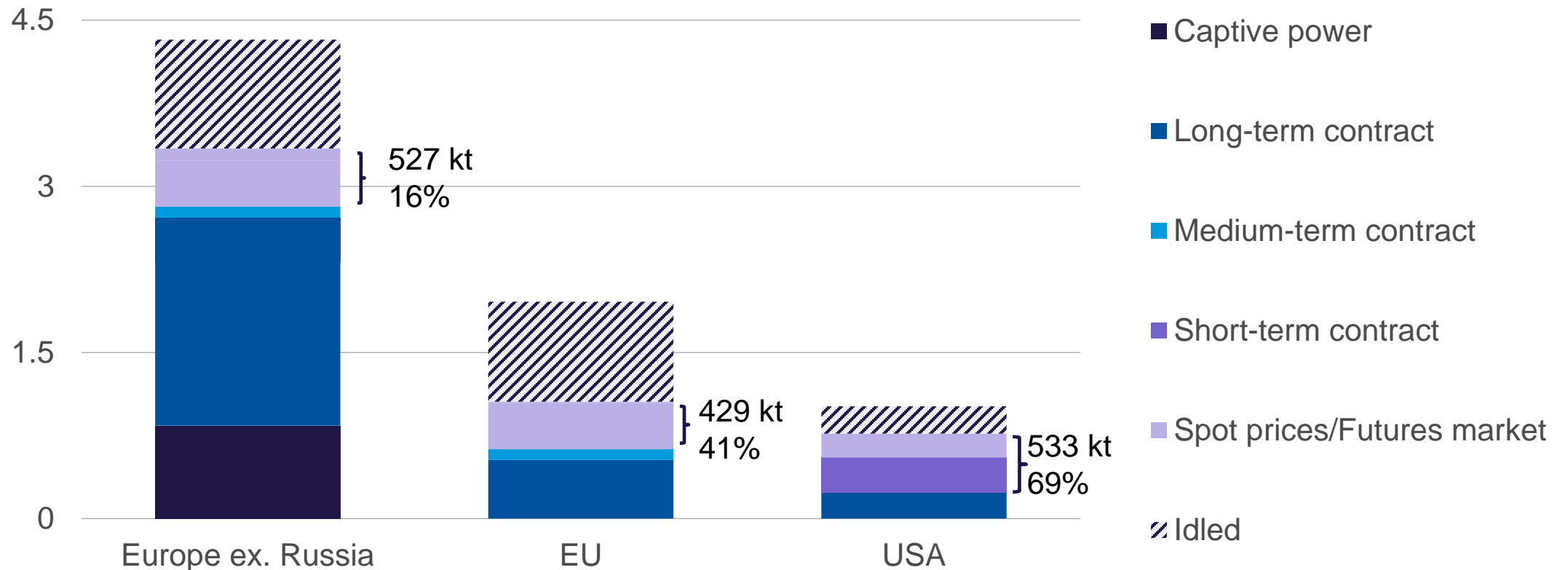
Chinese construction sector is the biggest demand risk, at 30% of Chinese demand. Financial difficulties could sink demand and lead to a price crash. Prices could drop to RMB 18,000 /t in China.

LME stocks finally show signs of rising off bottom as demand stalls



The wave of curtailments does not look to be over just yet

Annual production in Europe and the US 2022 divided by type of energy contract in Mt



US Rolling Mill investments to meet demand and close the can sheet supply gap, potential for surplus

#1 Novelis: Bay Minette, Alabama

- \$2.5bn for 600 kt operational in 2025
- 60/40 split between can stock and ABS
- Mid-South location for scrap and product flow
- Leverage: Core FRP business is Cans and ABS

#2 Manna Capital – Ball: Las Lunas, New Mexico

- \$2.0bn for 600kt operational in 2025
- 100% Can sheet powered by renewable energy
- Southwest location for scrap and product flow
- Leverage: Ball's forward order book

#3 Steel Dynamics: Southeast US location to be advised

- \$2.2bn for 600kt operational in 2025
- Can/Auto/Service Center mix 45%-35%-20%
- 5.6% stake by Unity Aluminum, formerly Braidy
- Leverage: OmniSource scrap management platform

North American Can Stock Balance

