**The double edged sword of EV demand**

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# ABSTRACT

The first rechargeable lithium-ion battery (LiB) was conceived in the 1970s and commercialised in portable devices throughout the 1990s and early 2000s. At the same time, LiBs were beginning to find use in electric vehicles (EVs), first in Tesla’s Roadster, the world’s first production all-electric sports car. In 2012, Tesla began production of the Model S, a full-size electric luxury sedan. In 2015, Tesla released the Model X, a full-size electric luxury SUV. That same year, 196 countries/regions committed to the Paris Agreement, which would seek to limit emissions of greenhouse gasses, including those from the transportation sector. By 2016, enhanced performance and environmental regulation had culminated in pushing EVs to become the main end use of LiBs. By 2018, the main end-use for lithium was LiBs, no longer dominated by things like ceramics, grease and pharmaceuticals.

In this presentation, we argue that LiBs will continue to dominate the EV landscape, now complicated by sodium-ion (Na-ion/NiB) batteries, resurgent due to briefly unsustainably high lithium prices. We will also explore the possibility for higher lithium demand & market opportunities presented by lithium metal and its role in solid-state batteries (SSB), the first of which are being deployed in China as early as this year. Finally, we will explore how geopolitics and emissions legislation have shaped each of these key themes, and how it will continue to do so in the years ahead.