

Tesla has little connection to China's graphite pollution problem

By Carolyn Amon

[ChinaDaily's article](#) "For Tesla, graphite-pollution worries ratchet up China sales challenge" provides yet another example of an off the mark and unjustifiably bearish article about electric vehicles. In the same way that every EV fire makes the news even though hundreds of thousands of vehicle fires occur annually in the US, this article by Michael Barris tries to make news of Tesla's connection to Chinese graphite pollution – even though there is nothing remarkable about the connection.

Baris argues that graphite pollution is likely to tarnish the image of Tesla and other EV producers, which use batteries containing graphite, and hurt efforts to encourage widespread adoption of EVs in China. But why would publicity about Chinese graphite pollution be tied to Tesla any more so than publicity about [rare earth pollution](#) is tied to, say, GM? All vehicles have dozens of motors that use rare earths like neodymium and dysprosium. So do other "green" products such as solar panels and wind turbines. The smartphone or laptop you're probably reading this on contains graphite and rare earths too. Yet growth in the Chinese market for the latest vehicles and electronics has continued unabated. Anger over pollution from particular industries has mostly focused on the offending plant and/or local government officials.

The real story here is the Chinese provincial governments' inability to regulate industry and enforce minimal environmental standards with woefully inadequate enforcement resources complicated by their cozy relationship with local producers. Many of the graphite mines in China are unofficial operations that use hazardous and wasteful processes, [30-year-old equipment](#), and leaching tailing ponds. Unsurprisingly, tremendous water and air pollution have ensued. In the rare earths sector, after whole villages had to be evacuated and radioactive wastewater started making its way towards the Yellow River, the central government wrested control of the mines away from provincial governments and forced industry relocations, consolidation, and waste treatment. It appears the central government has decided to proceed likewise with the graphite industry, beginning with the closure of dozens of mines.

Chinese regulatory issues aside, Tesla is hardly the corporate face of China's graphite pollution. While the growing Li-ion battery market heavily relies on natural graphite from China, it is important to bear in mind that batteries, including non-automotive ones, currently account for only [8%](#) of global graphite demand. For its part, Tesla mostly uses [synthetic graphite](#) sourced from Europe and Japan. So there is no basis for singling out EVs, let alone Tesla, as the bearers of graphite-pollution worries.

Next, Barris cites industry analyst predictions that China's closure of graphite mines will lead to a 30% jump in graphite prices, suggesting an effect on the price of Tesla's cars. Given that China accounts for around 70% of global graphite production and reserves, it is indeed likely that graphite prices will rise as China restricts supply. But it just so happens that Tesla has announced plans to build a \$5 billion battery [Gigafactory](#) in the U.S. that it projects will bring battery prices down by that very same 30%. Furthermore, Tesla plans to source all the plant's raw materials from North America, thereby completely eliminating Chinese graphite from its supply chain. In other words, of all the companies that might be affected by the situation in China, Tesla is best positioning itself to prevent any effect on the price of its products.

Tesla's gigafactory would be a market game changer, requiring [six to nine](#) new mines' worth of graphite from North America. Canadian producers will certainly be able to bring new mines on line, but tightened supply might also provide a boost to alternative and cleaner sources of high-quality graphite flakes, such as [steelmaking kish](#)¹. The U.S. currently produces no graphite, but has substantial kish reserves that could be recovered using relatively simple processing. This is all in the realm of the hypothetical, but regardless of how new graphite sources are developed there is not doubt the gigafactory will turn Tesla into a leading player in this market. And ChinaDaily will have a legitimate basis for stories connecting Tesla to the situation in the graphite industry. Perhaps they will be more bullish then, with headlines like: "For Tesla, pursuit of recycled graphite leads to US industry renaissance".

¹ Steelmaking kish is a mix of slag, graphite and iron that is skimmed from molten iron before it is poured into a basic oxygen furnace for steelmaking. Currently, only the iron is recycled; the rest is buried as waste.