

**ELON MUSK IS KILLING POOR
BLACK CHILDREN FOR HIS
'BLOOD COBALT'**

Mines Linked to Child Labor Are Thriving in Rush for Car Batteries

By Thomas Wilson and Jack Farchy

Output at Congo's artisanal mines probably rose at least half

Metal vital to many electric vehicles has tripled in 18 months

The appetite for electric cars is driving a boom in small-scale cobalt production in the Democratic Republic of Congo, where some mines have been found to be dangerous and employ child labor.

Production from so-called artisanal mines probably rose by at least half last year, according to the estimates of officials at three of the biggest international suppliers of the metal, who asked not to be named because they're not authorized to speak on the matter. State-owned miner Gecamines estimates artisanal output accounted for as much as a quarter of the country's total production in 2017.

That's a concern for carmakers from Volkswagen AG to Tesla Inc., who are seeking to secure long-term supplies of the battery ingredient but don't want to be enmeshed in a scandal about unethical mining practices. Tech giants including Apple Inc. and Microsoft Corp. endured bad publicity after a 2016 Amnesty International report said children were being sent down some Congolese mines to dig for

cobalt destined for their gadgets. Pit and tunnel collapses killed dozens of workers in 2015, the advocacy group said.

Cobalt has tripled in value in the last 18 months as the rise of electric vehicles intensifies competition for scarce resources. Two-thirds of the world's supply comes from Congo, the second-poorest nation.

The boom in the metal, currently trading above \$80,000 a metric ton, has triggered more mining in the cobalt-rich Katanga region, where sprawling hand-dug mines dot the landscape, and searching for ore is as commonplace as farming.

Production Rebounds

Congo's overall cobalt production fell in 2016 after a crackdown following the Amnesty report, but it rebounded last year. Shipments of cobalt hydroxide -- a partially refined product that contains about one-third cobalt and is the main export product -- climbed about 20 percent in 2017 to 269,254 tons, government statistics show.

While output rose, production remained almost flat at the country's biggest mines, run by Glencore Plc and China Molybdenum Co., according to the companies. The government's statistics show that much of the growth can be attributed to small and medium industrial producers, who often add artisanal cobalt to supplies from their own mines to make cobalt-hydroxide for export.

Congo's Ministry of Mines estimates 86,923 tons of cobalt was produced last year. There are no exact data on how much of that cobalt is produced at artisanal mines, but the figure is about 13,000 tons

higher than the output reported by the country's industrial operators and published by the chamber of mines this month.

Smuggled Out

In addition, the state's own mining company says ore worth billions of dollars is being smuggled out of the country.

About 20,000 to 30,000 tons of cobalt a year is being smuggled across the border into Zambia and not declared to Congo's export agencies, Gecamines's Chairman Albert Yuma said in an interview in Cape Town this month. That amount would be worth as much as \$2.5 billion at today's prices.

The three suppliers who spoke to Bloomberg estimated Congo's artisanal output at 10,000 to 20,000 tons last year.

"It is not in our interest," Yuma said. "If we really want to benefit from cobalt, we need to progressively move towards economic integration and stop the artisanal production."