



TOXIC TRANSITION:

How the world's largest cobalt producer has allegedly poisoned communities for years

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EXECUTIVE SUMMARY

The Environmental Investigation Agency US (EIA)'s investigation into cobalt mining in the Democratic Republic of the Congo (DRC) exposes the toxic underbelly of the world's energy transition and offers pragmatic recommendations to correct its course.

EIA's breakthrough 3+ year investigation connects large-scale analysis of medical records, independent air pollution monitoring, geospatial intelligence, interviews with dozens of affected community members, and corporate insiders' knowledge to document a severe public health crisis apparently caused by the world's largest cobalt producer. The investigation ties the rapid growth of the world's largest cobalt producer and the booming production of electric vehicles (EVs) by some of the world's largest car manufacturers to what appears to be air pollution spanning multiple years, impacting dozens of families and workers.

The last few years have seen dramatic growth in the production and sale of EVs, as well as in the lithium-ion batteries needed to power these vehicles. As a consequence, demand is surging for critical minerals like cobalt, which these batteries rely on. Almost half the cobalt in the world is currently produced by a Chinese company called CMOC Group Ltd (CMOC; formerly China Molybdenum Co., Ltd.) through its mining operations in DRC, where the group controls two of the world's largest copper-cobalt mines: the Tenke Fungurume mine and the Kisanfu mine.

CMOC's mining operations have expanded rapidly over the past five years to meet the growing international demand for cobalt hydroxide, with astonishing 100+% year on year production growth. In order to dominate the world's cobalt hydroxide production, CMOC built in 2023 one of the largest copper-cobalt processing complexes in Africa - about the size of 500 soccer fields - right next to Fungurume, a mining town in Lualaba province in southeast DRC. This colossal processing facility is known as the "30k plant" because it is capable of processing 30,000 tons of copper-cobalt mixed ore every day.

The problem is that thousands of people live within a few kilometers of the cobalt mine and its massive processing plant.

In 2023 and 2024, communities and local civil society groups sounded the alarm about severe health issues, including severe nosebleeds, coughing up blood, and maternal issues, including stillbirth, that they attributed to the operations of CMOC's new processing plant. In its public statement, CMOC, via its subsidiary Tenke Fungurume Mining (TFM), denied the allegations of

environmental pollution, its adverse impact on the population, and any connection to its activities.

EIA's conclusions differ from TFM's public statement. According to EIA's findings, the expansion of CMOC's processing capacity at the Tenke Fungurume mine – and in particular the 30k plant – is at the heart of the public health crisis that has allegedly harmed nearby communities and the workers who labor in the facility.

More than 1,200 health records obtained and analyzed by EIA investigators – as well as independent medical experts – show that since 2023, doctors and nurses near the mine have treated a growing flow of patients for coughing up blood and severe respiratory illnesses like pneumonia and bronchitis. The data also reveal how the health crisis has persisted, spread across the populations and likely even worsened, affecting the more vulnerable individuals first before touching a broader proportion of the residents. The progression from a child-dominated pattern in 2022, to a mixed-age profile in 2023, and finally to an adult- and adolescent-weighted distribution in 2024, strongly supports the hypothesis of a worsening environmental exposure over time.

To understand the possible cause of the health crisis near TFM's facility, EIA commissioned independent air monitoring of the area from September 2024 to January 2025. The results indicated levels of sulfur dioxide (SO₂) – a toxic gas produced during the processing of copper-cobalt ore – well in excess of international standards. According to the United Nations Office for Disaster Risk Reduction (UNDRR), SO₂ exposure can affect the

respiratory system and lung function, with the inflammation of the respiratory tract causing coughing, mucus secretion, aggravation of asthma and chronic bronchitis. There is also strong evidence to suggest that SO₂ is associated with an increased rate of infant deaths.

EIA investigators also spoke to multiple TFM workers who described the dire reality of SO₂ pollution at TFM. One former TFM worker explained that periodic off-gassing of SO₂ at TFM was “not a secret,” and that management regularly off-gassed SO₂ when levels of the gas grew too high. Multiple workers further alleged to EIA that machines would not stop when the SO₂ alarm sounded because, as one worker explained, “it would take too long to restart them.” The worker told EIA that they had seen three sub-contractors who had not been wearing proper PPE pass out due to a buildup of SO₂. The alleged SO₂ pollution by TFM would appear to contradict the “right to breathe air that is not harmful to [one's] health,” enshrined in Congolese law.

In response to EIA's findings, TFM explained that company monitoring data collected during late 2024 and early 2025 indicate that ambient SO₂ concentrations remained within applicable regulatory limits. The company stated that “Allegations suggesting a direct causal link between TFM's expansion and health impacts in Mano Mapia are not supported by the monitoring data and assessments available to TFM.” The company clarified that their policy obligates any person on site to halt unsafe work, prohibits resumption until hazards are controlled, and strictly bars retaliation. The company also stated that supervisors are required to enforce evacuations when alarms activate or thresholds



Source: Herman Kambala/Arete/EIA

Aerial view of the 30k plant



Satellite view of communities' proximity to TFM's walls and the 30k copper-cobalt processing plant

are reached. TFM's full response is available on EIA's web page for this report.

Most of the cobalt hydroxide produced at the Tenke Fungurume mine goes to China or Europe, where lithium ion battery cells are manufactured. EIA's supply chain and shipment analysis indicate that cobalt hydroxide produced at TFM is being used by some of the largest automakers, including BMW, Mercedes-Benz, Stellantis (Peugeot's parent company), and Volkswagen.

None of the automakers named in this report denied indirectly sourcing cobalt from TFM for their EVs production. Mercedes-Benz explained that they had initiated a dialogue with TFM based on EIA's findings, and that "Mercedes-Benz subsequently conducted outreach through relevant standard setting initiatives and its own supply chain," but that their review "did not indicate shortcomings related to SO₂ emissions." BMW Group stated that "If there are any indications of possible violations in our supply chains, we investigate these indications." Stellantis confirmed their sourcing relationship with TFM and stated that a third-party auditing partner had identified reports about "serious illness linked to pollution in the Manomapia area." The company explained that it "continue[s] to follow up with TFM to understand the progress of mitigation efforts." At the time of writing, Volkswagen had not responded to EIA's findings. The full responses from

these automakers are available on the EIA web page for this report.

In June 2024, TFM became the first mine in Africa and the first Chinese-owned mine in the world to receive the Copper Mark, an environmental, social, and governance (ESG) standard that includes specific criteria on relocation, labor conditions, and pollution. EIA's findings contradict the audit statements and conclusions regarding air pollution. EIA's investigation calls into question the reliability of the auditing process and the credibility of the standard, as TFM was assessed to "fully meet" 100% of the 31 applicable criteria as of July 2025. Responding to EIA's findings, the Copper Mark indicated that pollution concerns were taken into account in the initial audit. The Copper Mark further explained that "[o]nly after implementing corrective actions specifically related to these issues was the site able to achieve a rating of 'fully meets.'"

At the time of writing, TFM is being assessed by the Initiative for Responsible Mining Assurance (IRMA) standard, which covers a broad swathe of ESG issues, including worker health and safety, human rights, and environmental protection. EIA's investigation raises major questions about TFM's adherence to the IRMA standard, and EIA looks forward to having information made publicly available regarding the first phase of the auditing process and its conclusions.

EIA recommends:

To the DRC government:

- Investigate the alleged violation of Congolese laws and regulations related to citizens' health, environmental pollution, and relocation.
- With the support of multilateral organizations, make the multifaceted environmental and public health crisis caused by copper-cobalt mining in Haut Katanga and Lualaba provinces a national policy priority, and implement interministerial programs to remediate, control, and prevent it.
- Establish a world-leading, government-mandated and civil society-led independent monitoring program for the mining sector, building on lessons learned from a decade of independent forest monitoring, to be piloted in Lualaba province.

To CMOC:

- Immediately establish a transparent and multipartite process of reparation for the alleged harm being done to dozens of residents and workers due to SO₂ pollution.
- Suspend TFM's "30k plant" operation until any needed preventive SO₂ neutralization systems are in place, adapted continuous emissions monitoring is operating, and a qualified independent third party can reliably guarantee that SO₂ emissions respect DRC laws on environmental rights and international standards.
- Proactively disclose TFM's SO₂ monitoring data through a publicly accessible platform, including daily measurements from on-site monitoring systems.

To CMOC's clients:

- Immediately inform CMOC that, as of May 1st 2026, cobalt hydroxide purchase will be conditional on the guarantee by a qualified independent third party that TFM's SO₂ emissions respect DRC laws on environmental rights and international standards.

To BMW, Mercedes-Benz, Stellantis, and Volkswagen:

- Do not purchase cobalt-containing products that risk being indirectly sourced from TFM until solid evidence shows that the 30k plant's emissions respect DRC laws and international standards.
- Support a regional community- and civil society-led SO₂ monitoring program that would allow residents near copper-cobalt mines to collect science-backed information about air quality and make it publicly available.
- Establish the "new normal" regarding energy transition supply chain transparency by publicly disclosing all available information regarding cobalt sourcing up to the mine of origin.
- Join a multi-stakeholder body to accompany the IRMA auditing process at TFM, alongside representatives from local communities and civil society organizations, provincial and federal government, and international non-governmental organizations.

To IRMA:

- Establish an independent multi-stakeholder body - with full access to audit information, the associated corrective measures, and their implementation by TFM - to accompany the IRMA auditing process, with representation of local communities and civil society organizations, provincial and federal government, automakers, and international non-governmental organizations.