

## Commodity Report: Cobalt (2025)

Cobalt is reportedly produced with forced labor (FL) and/or child labor (CL) in the following country:<sup>1</sup>

- Democratic Republic of the Congo (FL, CL)

Top ten countries that export cobalt worldwide:<sup>2</sup>

1. Democratic Republic of the Congo
2. China
3. Belgium
4. South Africa
5. Zambia
6. United Kingdom
7. Republic of the Congo
8. Namibia
9. Netherlands
10. Brazil

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<sup>1</sup> This list is based solely on findings from the [U.S. Department of State's 2025 Trafficking in Persons Report](#) and the [U.S. Department of Labor's 2024 List of Goods Produced by Child Labor and Forced Labor](#).

<sup>2</sup> [International Trade Center, Trade Map](#). (ITC Calculations based on UNCOMTRADE Statistics).

## Where is cobalt reportedly produced with forced labor and/or child labor?

According to both the U.S. Department of Labor's 2024 *List of Goods Produced by Child Labor and Forced Labor* and the U.S. Department of State's 2025 *Trafficking in Persons Report*, cobalt is listed as being produced with forced labor and child labor in the Democratic Republic of the Congo (DRC).<sup>3</sup>

The DRC is listed as a Tier 2 Watch List country by the U.S. Department of State's 2025 *Trafficking in Persons Report*.<sup>4</sup>

## What does human trafficking and/or child labor in cobalt production look like?

This section includes countries with publicly available research and reporting on forced labor and child labor, in addition to the countries listed in the above-mentioned government reports.

Cobalt is commonly found in the Central African Copperbelt which spans regions in northern Zambia and southeastern DRC (Haut Katanga and Lualaba provinces). Most of the world's cobalt comes from the **DRC**, where it is typically produced as a byproduct of copper mining. Cobalt-bearing ore can be mined through both industrial large-scale mining (LSM) and artisanal and small-scale mining (ASM).<sup>5</sup> Each type of mining presents different kinds of labor risks, and growing global demand for cobalt has sparked an increase in artisanal cobalt mining in the DRC in recent years.<sup>6</sup>

Artisanal mines are often under-capitalized, ad hoc, informal mining sites that rely on manual labor performed by adults and children to extract material. They are less regulated than industrial large-scale

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<sup>3</sup> [U.S. Department of State. 2025 Trafficking in Persons Report. 2025.](#)  
[U.S. Department of Labor. List of Goods Produced by Child Labor or Forced Labor. 2024.](#)

<sup>4</sup> [For the 2025 Trafficking in Persons Report's tier ranking methodology, see "A Guide to the Tiers."](#)

<sup>5</sup> Artisanal and small-scale mining (ASM) refers to a largely informal economic sector that includes workers around the world who use basic tools to extract a wide range of minerals and metals from the earth. ASM activities are usually informal and may be illegal or unregulated; however, when ASM is properly managed, it provides an important source of livelihood for individuals and communities. ASM is usually conducted by individuals or small groups of people, although it may include larger partnerships or cooperatives. ASM is defined based on the type of equipment used, level of formality, depth of the work, size of the surface area, volumes produced, and other criteria.

<sup>6</sup> [Anderson, Kara. The Harmful Effects of our Lithium Batteries. Greenly, 23 Jul 2024.](#)

mines and are not regularly visited by labor inspectors.<sup>7</sup> Both formal and informal ASM mines operate in the DRC, with formal ASM mines organized into cooperatives. Informal ASM mines account for approximately 20 percent of cobalt production. Informal ASM operations occur on both active and inactive privately-owned mining concessions, which can lead to conflicts between security forces on LSM sites and informal ASM miners.<sup>8</sup> ASM mines are particularly hazardous for the adults and children who work in them with little to no protections. Workers face the risk of tunnels collapsing on them and falling down mine shafts.<sup>9</sup> It is estimated that between 150,000 and 200,000 people work on ASM sites across the DRC, supporting more than a million people who rely on them.<sup>10</sup> Child labor, including hazardous child labor, is the primary labor rights issue associated with ASM in the DRC, although forced labor has also been documented.<sup>11</sup>

A survey of 1,431 artisanal cobalt miners in the DRC's Lualaba and Haut-Katanga provinces, conducted between 2021 and 2023, found that nearly 88 percent of respondents began working in ASM because there were no alternative means of survival. None signed written employment agreements. The project found that 37 percent of the respondents are working under conditions of forced labor, while 9.2 percent of respondents are engaged in child labor.<sup>12</sup> Over one-half of respondents experience threats and abuse at work. While debt bondage and human trafficking were not notably prevalent overall, identified "hotspots" are Kasulo and Mutoshi (debt bondage) in Lualaba province and Nsase (human trafficking) in Haut-Katanga province. Nearly two-thirds of all respondents reported a chronic illness, including respiratory illnesses, skin or gastrointestinal diseases, nausea and vomiting, gynecological

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<sup>7</sup> [U.S. Department of Labor. From Artisanal Mines to Electric Cars: How does cobalt mined with child labor end up in rechargeable lithium-ion batteries? 2021.](#)

<sup>8</sup> [World Bank. Cobalt in The Democratic Republic of Congo: Market Analysis. June 2021.](#)

<sup>9</sup> [U.S. Department of Labor. "How Batteries are Powered by Child Labor."](#)

<sup>10</sup> [RCS Global Group. Cobalt Supply Chain Mapping Report. May 2022.](#)

<sup>11</sup> [U.S. Department of State. 2025 Trafficking in Persons Report: Democratic Republic of the Congo. 2025.](#)

<sup>12</sup> [Kara, Siddharth. Blood Batteries: The human rights and environmental impacts of cobalt mining in the Democratic Republic of the Congo. University of Nottingham Rights Lab. August 2025.](#)

conditions, hernia, vision impairments, back and neck injuries, or broken bones. Medical care, while available, is reliant on community clinics that commonly lack basic supplies to treat fever and pain.<sup>13</sup>

In contrast to ASM, LSM operates on larger scales and typically utilizes heavy machinery. Many of the cobalt mines in the DRC are owned, operated, and/or financed by China.<sup>14</sup> LSM mines account for approximately 80 percent of cobalt production in the DRC. LSM can be vertically integrated, while others focus on a particular aspect of the cobalt supply chain, such as extraction or crude refining.<sup>15</sup> While LSM sites may be better resourced, they are not without risks. For example, reports indicate that workers at LSM sites in the DRC have experienced indicators of forced labor, including menace of penalty, restriction of movement, abusive overtime, and the inability to refuse hazardous work.<sup>16</sup>

**Child labor** is pervasive in the DRC's Copperbelt region, particularly in ASM. There are reportedly thousands of children working in artisanal cobalt mining.<sup>17</sup> As the vast majority of households in the Copperbelt region are dependent on ASM mining for their livelihoods, it is estimated that one in four ASM sites in the DRC use some form of child labor.<sup>18</sup>

There is less comprehensive publicly available data on forced labor in cobalt production in the DRC. However, the U.S. Department of State and the U.S. Department of Labor have both noted reports of adult workers experiencing forced labor in the production of cobalt ore at some mines in the DRC.<sup>19</sup> Workers have faced the following indicators of forced labor while working in cobalt production: inability to refuse hazardous work, abusive overtime requirements, physical abuse, restricted movement, denial

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<sup>13</sup> [Kara, Siddharth. \*Blood Batteries: The human rights and environmental impacts of cobalt mining in the Democratic Republic of the Congo\*. University of Nottingham Rights Lab. August 2025.](#)

<sup>14</sup> [U.S. Department of Labor. From Artisanal Mines to Electric Cars: How does cobalt mined with child labor end up in rechargeable lithium-ion batteries? 2021.](#)

<sup>15</sup> [World Bank. Cobalt in The Democratic Republic of Congo: Market Analysis. June 2021.](#)

<sup>16</sup> [U.S. Department of Labor. \*Forced Labor in Cobalt Mining in the Democratic Republic of the Congo\*. May 30, 2023.](#)

<sup>17</sup> ["Child Labor Report: Democratic Republic of Congo." U.S. Department of Labor. 2022.](#)

<sup>18</sup> [World Bank. Cobalt in The Democratic Republic of Congo: Market Analysis. June 2021.](#)

<sup>19</sup> [U.S. Department of State. \*2025 Trafficking in Persons Report: Democratic Republic of the Congo\*. 2025.](#)

[U.S. Department of Labor. \*List of Goods Produced by Child Labor or Forced Labor\*. 2024.](#)

of rights or threats of dismissal, and withholding of wages or other promised benefits.<sup>20</sup> Some workers are employed without contracts.<sup>21</sup>

Forced labor risk can occur at both ASM and LSM sites. In ASM, forced labor in the form of debt bondage has been reported. ASM miners reportedly borrow money at high interest rates from intermediaries to buy mining equipment, tools, supplies, and food. In order to repay the debt, they must find a productive area to mine, otherwise their debt can accumulate, especially as there are often no other employment or livelihood options available.<sup>22</sup>

At industrial LSM sites – typically owned by multinational mining companies – workers are often recruited, and sometimes employed, indirectly through third party labor agencies, also known as subcontracting firms. Subcontracting firms are used to hire miners, cleaners, drivers, security personnel, and other types of workers.<sup>23</sup> The use of subcontracted recruiters has been associated with low wages (especially in comparison to workers hired and paid directly by the company), excessive working hours, degrading treatment, unsafe working conditions and inadequate personal protective equipment, and job insecurity.<sup>24</sup> Utilizing their services provides mining companies with a way to reduce labor costs and limit their liability for workers' safety.<sup>25</sup> Alongside these exploitative practices, workers have also reported instances of racism, discrimination, and physical and verbal abuse against Congolese workers

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<sup>20</sup> [U.S. Department of Labor. List of Goods Produced by Child Labor or Forced Labor. 2024.](#)

[Rights and Accountability in Development \(RAID\) and Centre d'Aide Juridico-Judiciaire \(CAJJ\). The Road to Ruin? Electric Vehicles and Workers' Rights Abuses at DR Congo's Industrial Cobalt Mines. November 2021.](#)

<sup>21</sup> [U.S. Department of State. 2025 Trafficking in Persons Report: Democratic Republic of the Congo. 2025.](#)

<sup>22</sup> [RCS Global Group. Cobalt Supply Chain Mapping Report. May 2022.](#)

<sup>23</sup> [Rights and Accountability in Development \(RAID\) and Centre d'Aide Juridico-Judiciaire \(CAJJ\). The Road to Ruin? Electric Vehicles and Workers' Rights Abuses at DR Congo's Industrial Cobalt Mines. November 2021.](#)

<sup>24</sup> [Rights and Accountability in Development \(RAID\) and Centre d'Aide Juridico-Judiciaire \(CAJJ\). The Road to Ruin? Electric Vehicles and Workers' Rights Abuses at DR Congo's Industrial Cobalt Mines. November 2021.](#)

<sup>25</sup> [Rights and Accountability in Development \(RAID\) and Centre d'Aide Juridico-Judiciaire \(CAJJ\). The Road to Ruin? Electric Vehicles and Workers' Rights Abuses at DR Congo's Industrial Cobalt Mines. November 2021.](#)

in mines owned by Chinese companies. Reports indicate that workers who stood up to this treatment were dismissed without pay.<sup>26</sup>

Other human rights harms have been reported in association with cobalt production in the DRC. The expansion of industrial scale mines has resulted in the forced evictions of entire communities from their homes and farmland, leading to the loss of livelihoods and income. In many cases, people are relocated to areas with much lower standards of living.<sup>27</sup> Violent clashes between large mining firms' security personnel and artisanal miners have also been reported.<sup>28</sup>

There are also health concerns associated with cobalt production beyond the dangerous nature of extraction, often performed by workers without protective equipment. The production of cobalt can result in toxic waste; unregulated toxic dumping has resulted in water supplies being polluted, the destruction of landscapes, and crop contamination.<sup>29</sup> All of these factors can impact livelihoods of vulnerable populations, as well as their health.

### Cobalt Supply Chain and Production:

Cobalt is produced as a by-product of copper and nickel. After cobalt bearing ore is mined, it is transported from the mining site to a processing site for initial processing, also known as crude refining. Crude refining separates cobalt from other ores and results in cobalt hydroxide. Cobalt hydroxide is then transported to refining facilities for value-added processing, resulting in a range of refined cobalt products, such as cobalt tetroxide and nickel cobalt manganese hydroxide, precursor components of lithium-ion batteries. Cobalt refining mostly occurs in China, accounting for 80 percent of cobalt refining and smelting operations in the world.<sup>30</sup> Verité has identified one cobalt-producing facility located in the

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<sup>26</sup> [Rights and Accountability in Development \(RAID\) and Centre d'Aide Juridico-Judiciaire \(CAJJ\). The Road to Ruin? Electric Vehicles and Workers' Rights Abuses at DR Congo's Industrial Cobalt Mines. November 2021.](#)

<sup>27</sup> [Amnesty International. Powering Change or Business as Usual? Forced Evictions at Industrial Cobalt and Copper Mines in the DRC. 12 Sep 2023.](#)

<sup>28</sup> [U.S. Department of State. 2025 Trafficking in Persons Report: Democratic Republic of the Congo. 2025.](#)

<sup>29</sup> [Anderson, Kara. The Harmful Effects of our Lithium Batteries. Greenly, 23 Jul 2024.](#)

<sup>30</sup> [OECD. The Role of Traceability in Critical Mineral Supply Chains. 28 Feb 2025.](#)

Xinjiang region.<sup>31</sup> There are many cobalt-producing facilities across China, and there is risk that state-sponsored labor transfer programs send Uyghur workers to those facilities. Per 2025 reporting, tens of thousands of Xinjiang minorities including Uyghurs, Kazakhs, and Kyrgyz have been transferred out of the Xinjiang region to work in a variety of factories in other regions of China, including electronics and automotive manufacturing. An estimated 39,000 Xinjiang workers were transferred to the Jiangsu province in 2023, for example, and a Wuhan-based automotive manufacturer also reportedly employed over 200 workers in 2025 who were transferred from Xinjiang. The forced transfers of labor have become a key facet of China's export economy, according to investigations conducted in 2025.<sup>32</sup>

Steel and cobalt are commonly alloyed together, producing a type of steel that can withstand high temperatures.<sup>33</sup> Refined cobalt products are sold to component producers and manufacturers (for example, cathode manufacturers).<sup>34</sup>

In the DRC, cobalt mined from different sources is mixed together for crude refining, rendering it impossible to distinguish between cobalt that has been mined from an ASM or LSM.<sup>35</sup>

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<sup>31</sup> ["2022 Minerals Yearbook: China \[Advance Release\]."](#) USGS, 2022.

<sup>32</sup> [Murphy, Daniel. "China's Economy Runs of Uyghur Forced Labour."](#) *The Bureau of Investigative Journalism*. May 29, 2025. [Business & Human Rights Resource Centre. "China: Over 100 global brands linked to factories using Uyghur workers recruited through state-imposed forced transfer programme, finds investigation; incl. cos. comments & cos. non-response."](#) May 2025.

<sup>33</sup> ["Types of Steel and How They Are Made."](#) MST Steel Corp., 2025.

<sup>34</sup> [RCS Global Group. \*Cobalt Supply Chain Mapping Report\*.](#) May 2022.

<sup>35</sup> [U.S. Department of Labor. \*From Artisanal Mines to Electric Cars: How does cobalt mined with child labor end up in rechargeable lithium-ion batteries?\*](#)

How consumers are linked to human trafficking and/or child labor in cobalt production:

Top ten countries that import cobalt:<sup>36</sup>

- |                                    |                    |
|------------------------------------|--------------------|
| <b>1.</b> Republic of Korea        | <b>6.</b> Spain    |
| <b>2.</b> Belgium                  | <b>7.</b> Germany  |
| <b>3.</b> Zambia                   | <b>8.</b> Japan    |
| <b>4.</b> Namibia                  | <b>9.</b> Malaysia |
| <b>5.</b> United States of America | <b>10.</b> Italy   |

Cobalt is a key component of cathodes which are used in lithium-ion batteries. Lithium-ion batteries are used in a wide range of consumer and commercial products: electric vehicles (such as automobiles and busses), smartphones and other electronics, and appliances. They are also used in a range of clean energy technologies like wind turbines and solar panels as well as in engine-start and emergency power mechanisms for planes.<sup>37</sup> Cobalt is also used in magnets, metals, ceramics, and paints.<sup>38</sup> It is considered a key critical mineral essential for energy technologies.

Examples of what governments, corporations, and others are doing:

Because cobalt is essential for lithium-ion batteries, which are important for electric vehicles and other products widely used and in high demand, many initiatives and standards have emerged to encourage responsible cobalt sourcing. Some examples are provided below.

### OECD Due Diligence Guidance

The OECD's Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High Risk Areas is the global standard developed for critical minerals. It elaborates on the concept

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<sup>36</sup> [International Trade Center](#) (ITC Calculations based on UNCOMTRADE Statistics).

<sup>37</sup> ["Why Use Lithium-ion Batteries in Aviation?" MidContinent Instruments and Avionics, 30 Oct 2024.](#)

<sup>38</sup> [World Bank. Cobalt in The Democratic Republic of Congo: Market Analysis. June 2021.](#)

of human rights due diligence from the UN Guiding Principles on Business and Human Rights and applies to the sourcing of all minerals, including cobalt. It requires all companies in a supply chain to conduct due diligence on their suppliers when sourcing from conflict-affected and high-risk areas.<sup>39</sup>

### **The Fair Cobalt Alliance**

The Fair Cobalt Alliance is a multi-stakeholder action platform working to mobilize investment to professionalize the artisanal cobalt mining sector. The alliance works on-the-ground to improve working conditions, address and remediate child labor, and provide income diversification to support the resilience of artisanal mining communities.<sup>40</sup>

### **Global Trace Protocol**

The Global Trace Protocol has developed a set of policies and procedures designed to assist businesses and brands trace products throughout their supply chains. The tools and the protocol can be used with any commodity and were piloted in cobalt supply chains.<sup>41</sup>

### **Responsible Minerals Initiative's (RMI) Responsible Minerals Assurance Process**

The RMI's Responsible Minerals Assurance Process (RMAP) supports responsible sourcing by focusing on points in global metal supply chains where there are relatively few actors, which they call a "pinch point." RMAP utilizes independent third-party assessments of the management systems and sourcing practices of pinch point actors (smelters/refiners) to validate conformance with RMAP standards and validate company-level management processes for responsible mineral procurement.<sup>42</sup>

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<sup>39</sup> OECD. OECD [Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High Risk Areas](#). April 6, 2016.

<sup>40</sup> [Fair Cobalt Alliance](#).

<sup>41</sup> [The Global Trace Protocol Project](#).

<sup>42</sup> [RMI Assessments Introduction](#).

## Re|Source Pilot Project - Enabling Sustainable Cobalt Industry

The Re|Source Solution is a pilot project designed to trace responsibly produced cobalt from mine to electric car utilizing blockchain technology and unique codes assigned to sealed bags of mined cobalt. The Re|Source Solution pilot is supported by numerous partners including metals and mining companies, battery material suppliers, electric vehicle manufacturers, and standards initiatives.<sup>43</sup>

## Fair Cobalt Alliance (FCA) – Cobalt Credits

With the goal of incentivizing and enabling responsible artisanal cobalt production, The Impact Facility, Fairphone, and other member organizations of the FCA formed a Taskforce for Supply Chain Integration that launched Cobalt Credits in 2023. This “book and claim” based credit system enables downstream companies to contribute financially to vital developments and resources at artisanal and small-scale mining sites to professionalize their operations. By purchasing credits commensurate with their cobalt use, companies support ongoing improvements that can lead to the mine’s compliance with downstream requirements for responsible production.<sup>44</sup>

## Tariff Act and Uyghur Forced Labor Prevention Act

Section 307 of the Tariff Act of 1930, as amended, states that “all goods, wares, articles, and merchandise mined, produced, or manufactured wholly or in part in any foreign country by convict labor and/or forced labor or/and indentured labor under penal sanctions shall not be entitled to entry at any of the ports of the United States, and the importation thereof is hereby prohibited....” (19 U.S.C. § 1307).<sup>45</sup>

In 2021, the United States enacted the Uyghur Forced Labor Prevention Act (UFLPA). The UFLPA established a rebuttable presumption (presumed in violation unless evidence shows otherwise) that goods mined, produced, or manufactured wholly or in part in the Xinjiang Uyghur Autonomous Region (XUAR) of China, or by an entity on the UFLPA Entity List, are prohibited from U.S. importation under

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<sup>43</sup> [Re|Source Pilot Project - Enabling Sustainable Cobalt Industry](#).

<sup>44</sup> [Cobalt Credits - The Fair Cobalt Alliance. 2023.](#)

<sup>45</sup> ["Forced Labor Enforcement." U.S. Customs and Border Protection, 3 Feb 2025.](#)

Section 307 of the Tariff Act. U.S. Customs and Border Patrol enforces these acts. Under the UFLPA, an interagency Forced Labor Enforcement Task Force is directed to develop a strategy for “supporting enforcement of the prohibition on the importation of goods into the United States manufactured wholly or in part with forced labor in the People's Republic of China, especially from the XUAR.”<sup>46</sup>

## How can I learn more?

- [Read “The Road to Ruin? Electric Vehicles and Workers’ Rights Abuses at DR Congo’s Industrial Cobalt Mines” a 2021 report by RAID.](#)
- [Read the 2022 Cobalt Supply Chain Mapping Report, by LRQA’s Global Trace Protocol Project and RCS Global Group.](#)
- [Explore the U.S. Department of Labor’s Storyboard on how cobalt mined with child labor ends up in rechargeable lithium-ion batteries.](#)

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<sup>46</sup> [“Uyghur Forced Labor Prevention Act.” U.S. Customs and Border Protection, 4 Feb 2025.](#)