

Ethical and Geopolitical Risk Assessment of Apple Inc. for the Government Pension Fund Global

I. Executive Summary

This report presents a comprehensive ethical and geopolitical risk assessment of Apple Inc. ("Apple"), a significant holding within the Government Pension Fund Global (GPFG), conducted in accordance with the "Guidelines for observation and exclusion of companies from the Government Pension Fund Global." The analysis evaluates Apple's activities against the specific product-based exclusion criteria (§ 3) and conduct-based observation or exclusion criteria (§ 4) set forth in the Guidelines. The assessment focuses on risks related to human rights in the supply chain, environmental performance, anti-competitive practices, and exposure to key geopolitical conflicts.

The analysis concludes that Apple faces negligible risk under the product-based criteria of § 3. The company's core business is not involved in the production of controversial weapons, tobacco, or thermal coal.

The primary risks identified fall under the conduct-based criteria of § 4. The most severe of these relate to human rights (§ 4a, 4b), specifically concerning the sourcing of minerals from conflict-affected regions and allegations of forced labor within its manufacturing supply chain. Credible, persistent allegations and an active criminal investigation in Belgium regarding the use of "conflict minerals" from the Democratic Republic of Congo (DRC) represent a significant ethical risk. Similarly, reports from reputable organizations have linked parts of Apple's supply chain to state-sponsored forced labor programs involving the Uyghur minority in China.

However, these severe risks are met with one of the most comprehensive and well-resourced corporate mitigation frameworks in the industry. Apple has implemented extensive supplier codes of conduct, robust auditing programs, and has demonstrated a willingness to take decisive, albeit sometimes reactive, remedial action. A critical mitigating step was the company's June 2024 directive to its suppliers to suspend the sourcing of tin, tantalum,

tungsten, and gold (3TG) from the DRC and Rwanda, directly addressing the most acute source of risk. While the efficacy of its systems in detecting state-sponsored forced labor remains a concern, the existence of these extensive due diligence mechanisms is a significant mitigating factor.

In contrast, Apple demonstrates industry leadership in environmental stewardship (§ 4e, 4f). Its ambitious "Apple 2030" goal to achieve carbon neutrality across its entire value chain, coupled with substantial progress in reducing greenhouse gas emissions and increasing the use of recycled materials, positions the company favorably against these criteria.

Risks related to anti-competitive practices (§ 4h) have been identified through legal proceedings, notably the *Epic Games v. Apple* case. While a U.S. court found certain of its App Store policies to be anti-competitive, this conduct, while serious, does not meet the high threshold of a "particularly gross breach of fundamental ethical norms" required for exclusion under the Guidelines.

Finally, Apple's profound geopolitical exposure to the U.S.-China relationship presents a high degree of operational and financial risk. This dependency on China for both manufacturing and sales acts as a significant contextual stressor that could impact its ability to uphold its ethical commitments.

Balancing the gravity of the human rights allegations against the company's extensive and demonstrable mitigation efforts, and adhering to the directive for a generous assessment that prioritizes the forward-looking risk of norm violations, this report assigns a final risk category for Apple Inc. of **3 - Moderate Risk**. This rating reflects the presence of serious, ongoing ethical challenges but acknowledges the substantial corporate systems in place to manage them, suggesting that continued investment with active monitoring is the most appropriate course of action.

II. Product-Based Risk Assessment (per § 3 Criteria)

The analysis of Apple Inc. against the product-based criteria for observation and exclusion, as defined in § 3 of the Guidelines, finds no grounds for concern. The company's products and business model do not align with the activities proscribed by these criteria.¹

§ 3(1)a - Controversial Weapons

Apple is a consumer electronics and technology company. Its primary activities involve the design, manufacture, and sale of products such as the iPhone, Mac, iPad, and related software and services. There is no evidence to suggest that Apple or any entity it controls is involved in the development or production of weapons that violate fundamental humanitarian principles, including biological, chemical, or nuclear weapons, anti-personnel mines, or cluster munitions.¹ While one source mentions a U.S. government initiative to harvest minerals for "weapons systems" in the context of a rare earth mining company, MP Materials, this is unrelated to Apple's direct activities and does not imply any involvement by Apple in weapons manufacturing.²

§ 3(1)b & § 3(1)c - Tobacco and Cannabis

Apple is not involved in the production of tobacco, tobacco products, or cannabis for recreational purposes.¹ The company's business is entirely focused on the technology sector.

§ 3(2) - Thermal Coal

The criteria for observation or exclusion related to thermal coal apply specifically to mining companies and power producers. Apple does not operate in these sectors. It does not derive revenue from thermal coal, base its operations on thermal coal, extract thermal coal, or possess power generation capacity from thermal coal that would meet the specified thresholds.¹

Corroborating Evidence

This assessment is further supported by Apple's inclusion in numerous Environmental, Social, and Governance (ESG) investment funds that apply strict negative screens. For example, iShares and STOXX offer funds that explicitly screen out companies involved in civilian firearms, controversial weapons, tobacco, thermal coal, and oil sands.³ Apple's presence in these indices serves as independent, third-party validation that its business activities do not fall within the scope of § 3 of the Guidelines.

Conclusion on Product-Based Risk

The risk of Apple Inc. violating any of the product-based exclusion criteria is assessed as negligible. The company's core business is fundamentally unrelated to the sectors and products targeted for exclusion under § 3.

III. Conduct-Based Risk Assessment (per § 4 Criteria)

The assessment of Apple Inc. under the conduct-based criteria of § 4 presents a complex picture, with significant risks identified in certain areas, counterbalanced by extensive and industry-leading mitigation efforts. This section evaluates whether there is an "unacceptable risk" that Apple contributes to or is responsible for gross breaches of fundamental ethical norms as specified in the Guidelines.¹

3.1 Gross or Systematic Human Rights Violations (§ 4a) & Violations of Rights in Conflict Situations (§ 4b)

This area represents the most significant ethical risk associated with an investment in Apple. The risks are concentrated in its vast, multi-tiered global supply chain and relate to the sourcing of raw materials and labor practices in manufacturing facilities.

3.1.1 Systemic Risk in Mineral Sourcing: Conflict Minerals and Cobalt

Persistent and severe allegations link Apple's supply chain to the sourcing of minerals from conflict-affected and high-risk areas, particularly the Democratic Republic of Congo (DRC). These allegations directly engage the criteria concerning gross human rights violations (§ 4a) and violations of individual rights in conflict situations (§ 4b).

Risk Profile and Allegations:

The risk profile in this area has escalated from a long-standing issue to an acute legal and

reputational crisis. Reports from organizations like Amnesty International, dating back to 2016, have consistently highlighted the connection between artisanal cobalt mining in the DRC—which involves child labor and hazardous working conditions—and the supply chains of major electronics companies, including Apple.⁶ These reports have documented children as young as seven working in perilous, hand-dug tunnels, risking fatal accidents and permanent lung damage for wages as low as one dollar per day.⁶

This long-term risk has intensified dramatically. In December 2024, the government of the DRC filed criminal complaints against Apple's subsidiaries in Belgium and France.⁹ The allegations are exceptionally grave, accusing Apple of knowingly sourcing "blood minerals" (specifically tin, tantalum, tungsten, and gold, or 3TG) from mines controlled by armed groups, thereby fueling war and atrocities in eastern DRC.⁹ Lawyers for the DRC have characterized Apple's reliance on flawed certification schemes as a "massive laundering and greenwashing operation".⁹ Following these complaints, Belgian authorities launched a formal criminal investigation into Apple in January 2025.⁹ These legal actions, supported by a UN report detailing the fraudulent export of Congolese coltan through Rwanda, represent a direct and credible challenge to the integrity of Apple's supply chain due diligence.⁹

Apple's Due Diligence and Mitigation Framework:

In response to these risks, Apple has developed and implemented one of the most comprehensive responsible sourcing programs in the industry. The company's approach is grounded in its formal Human Rights Policy and Supplier Code of Conduct, which align with internationally recognized standards such as the UN Guiding Principles on Business and Human Rights and the OECD Due Diligence Guidance.¹¹

A cornerstone of this framework is its rigorous auditing and transparency program. As detailed in its annual Conflict Minerals Reports, for ten consecutive years, Apple has ensured that 100% of the identified 3TG smelters and refiners in its supply chain participate in independent third-party audits.¹³ The company actively enforces compliance, having removed 14 non-compliant smelters and refiners in 2023 and 23 in 2022.¹⁵ This sustained effort led Amnesty International to previously recognize Apple as an "industry leader for responsible cobalt sourcing," while cautioning that the overall industry bar was low.¹⁷

Most critically, in response to the escalating conflict in the DRC and the associated legal challenges, Apple took a decisive remedial action. In June 2024, the company formally notified its suppliers to cease sourcing 3TG, directly or indirectly, from the DRC and Rwanda.⁹ While the DRC's legal team has framed this move as a "smoking gun" admission of a tainted supply chain⁹, from a risk management perspective under the Fund's Guidelines, it represents the most significant mitigating action possible. It is a direct and powerful step to sever the link to the source of the alleged norm violations. This action implicitly acknowledges that even Apple's extensive audit system was insufficient to guarantee a clean supply chain from a region with deeply compromised certification processes. By eliminating the source, Apple has drastically reduced the forward-looking risk of being complicit in future human rights abuses

related to mineral sourcing in this specific conflict zone.

3.1.2 Systemic Risk in Labor Practices: Forced Labor Allegations

Serious allegations have also been raised concerning the use of forced labor in Apple's manufacturing supply chain, specifically involving the Uyghur minority from the Xinjiang region of China.

Risk Profile and Allegations:

A 2020 report by the Australian Strategic Policy Institute (ASPI) identified numerous factories across China, including some in Apple's supply chain, that were using Uyghur labor under a state-sponsored transfer program with conditions "that strongly suggest forced labour".¹⁸ The report detailed abusive working conditions, including constant surveillance, political indoctrination, and a ban on religious practices.¹⁸ Specific Apple suppliers, such as Nanchang O-Film Tech, were implicated and later sanctioned by the U.S. government.¹⁹ These allegations, if substantiated, would constitute a gross and systematic violation of human rights under § 4a of the Guidelines.

Apple's Due Diligence and Mitigation Framework:

Apple maintains a "zero tolerance" policy for forced labor, which is embedded in its Supplier Code of Conduct and Human Rights Policy.¹¹ The company's public statements and reports consistently affirm this position. In its 2024 "People and Environment in Our Supply Chain" report (covering fiscal year 2023), Apple explicitly stated that its assessments found "0 instances where people were forced to work in our supply chain".¹² CEO Tim Cook has also testified before the U.S. Congress that Apple would immediately terminate any supplier relationship if forced labor were discovered.²⁰

The company's mitigation strategy relies on a comprehensive system of supplier assessments, which includes thousands of worker interviews, surprise audits, and mandatory training for over 28 million supplier employees on their workplace rights since 2008.¹¹

A significant contradiction exists between the findings of credible external organizations like ASPI and Apple's own internal audit results. This discrepancy does not necessarily imply deceit on the part of the company but rather points to the profound challenges of conducting effective due diligence in an opaque and repressive political environment. It is highly plausible that workers in these facilities cannot speak freely to auditors for fear of severe reprisal from state authorities. The risk, therefore, is not one of corporate complicity or a lack of policy, but of the potential fallibility of even a robust auditing system when confronted with state-sponsored human rights abuses. Under the "generous" assessment principle mandated by the query, the existence of Apple's comprehensive policies, verification processes, and public reporting on the matter must be given significant weight as a mitigating factor against

the risk of *future* violations.

3.2 Severe Environmental Damage (§ 4e) & Unacceptable Greenhouse Gas Emissions (§ 4f)

As one of the world's largest manufacturers of consumer electronics, Apple's operations have a substantial environmental footprint. However, the assessment under criteria § 4e and § 4f, which concern "severe environmental damage" and "unacceptable" greenhouse gas (GHG) emissions, finds that Apple's extensive and industry-leading mitigation programs significantly reduce this risk.

Environmental Performance and Mitigation:

Apple has established itself as a corporate leader in environmental stewardship, with ambitious, transparent, and well-funded initiatives designed to minimize its impact.

- **Climate Action:** The company's flagship "Apple 2030" initiative is a commitment to become carbon neutral across its entire value chain—from manufacturing to product use—by 2030, a goal that is 20 years ahead of IPCC targets.²⁴ The company has already made substantial progress, reducing its overall GHG emissions by more than 55% since 2015.²⁶ A key driver of this reduction is the Supplier Clean Energy Program, which has brought over 17.8 gigawatts of renewable electricity online in its supply chain. This program alone avoided an estimated 21.8 million metric tons of GHG emissions in 2024.²⁹ Over 320 suppliers have committed to transitioning to 100% renewable energy for Apple production.²²
- **Circular Economy and Resource Management:** Apple is actively working to reduce its reliance on virgin raw materials, a strategy that directly mitigates both environmental damage from mining and the associated human rights risks. The company has a goal to one day make its products using only recycled and renewable materials.³¹ In 2023, 22% of the material mass shipped in its products came from recycled or renewable sources.²² The company has set aggressive targets to use 100% recycled cobalt in all Apple-designed batteries and 100% recycled rare earth elements in all magnets by 2025, and has already surpassed 99% progress on the latter.¹³
- **Waste and Water Stewardship:** Through its Zero Waste program, Apple's suppliers have diverted a total of 3.6 million metric tons of waste from landfills since the program began in 2015.²⁹ The company has also committed to replenishing 100% of the freshwater it uses in corporate operations in high-stress locations by 2030.²⁷

The strategic integration of Apple's environmental programs with its supply chain management and product design is a crucial factor. For instance, the drive for recycled cobalt is simultaneously an environmental goal and a human rights risk mitigation strategy, reducing

exposure to the DRC. This integrated approach demonstrates a deep, strategic commitment that lowers the risk of future conduct that could be deemed to cause "severe environmental damage" or "unacceptable" emissions. The primary remaining risk is one of execution on its ambitious 2030 targets, not a lack of commitment, policy, or action.

3.3 Gross Corruption or other Gross Economic Crime (§ 4g) & Other Particularly Gross Breaches of Fundamental Ethical Norms (§ 4h)

The research provides no evidence of involvement in gross corruption or other gross economic crimes, such as bribery, that would trigger § 4g. The most relevant issue for consideration under § 4h, which covers "other particularly gross breaches of fundamental ethical norms," is the company's anti-competitive behavior.

Anti-Competitive Practices:

Apple has faced significant legal and regulatory scrutiny over its App Store policies. The landmark case was *Epic Games v. Apple*, filed in August 2020.³² In its September 2021 ruling, the U.S. District Court found that while Apple did not hold an illegal monopoly in the "digital mobile gaming transactions" market, its "anti-steering" provisions were anti-competitive.³² These provisions contractually barred developers from informing users within their apps about alternative, and often cheaper, payment methods available outside the App Store. The court ruled that this conduct violated California's Unfair Competition Law and issued an injunction to prohibit it.³² Similar findings of anti-competitive conduct have been reached in other jurisdictions, including Australia.³³

The central question for this assessment is whether this behavior constitutes a "particularly gross breach of fundamental ethical norms." This is an exceptionally high threshold, typically reserved for conduct that is universally condemned and on a par with the most severe human rights abuses. While anti-competitive practices are serious, harm consumers and developers, and represent an abuse of market power, they are primarily regulatory and commercial in nature. These issues are being addressed through established legal and regulatory channels in multiple jurisdictions. Given the "generous" assessment standard, it is determined that this conduct, while a significant business and reputational risk, does not meet the high ethical bar required for observation or exclusion under § 4h.

IV. Geopolitical Risk Exposure: The U.S.-China Nexus

While not an explicit criterion for exclusion under the Guidelines, an analysis of Apple's

geopolitical risk exposure is essential. This context is critical as it can directly influence the company's ability to conduct due diligence, maintain its ethical standards, and can exacerbate the conduct-based risks outlined above. Apple's deep integration with China places it at the epicenter of the escalating U.S.-China strategic rivalry.

4.1 Entrenched Supply Chain Dependency

Apple's operational model is profoundly dependent on China, a reliance built over decades that is difficult and costly to unwind.

- **Manufacturing Hub:** Estimates indicate that between 80% and 95% of Apple's flagship products, including the iPhone, are assembled in China.³⁴ This dependency is not merely for final assembly but extends deep into the supply chain, with a dense and highly sophisticated ecosystem of Chinese suppliers providing critical, high-value components like semiconductors, displays, and batteries.³⁷
- **Vulnerability to Trade War:** This concentration creates an acute vulnerability to the U.S.-China trade and tech war. Apple is directly exposed to U.S. tariffs on Chinese-made goods, which could potentially rise to 145% and add billions of dollars to its annual costs.³⁴ The company has already been forced to absorb hundreds of millions in tariff-related costs.³⁷ Furthermore, Beijing holds significant leverage and could retaliate against U.S. policies by restricting Apple's access to critical components, such as rare earth minerals, or by creating logistical disruptions that could cripple global production.³⁴

4.2 Market Access and Retaliation Risk

China is not only Apple's factory but also one of its most important consumer markets, accounting for roughly 20% of its total revenue.³⁶ This market access is increasingly precarious.

- **Regulatory and Political Pressure:** Beijing has demonstrated its willingness to use this market access as a political lever. The Chinese government has already imposed restrictions on the use of iPhones by state employees and is reportedly considering antitrust investigations into Apple's App Store, potentially as a retaliatory measure in trade disputes.³⁶
- **Rising Competition and Nationalism:** The geopolitical tensions are compounded by a surge in Chinese nationalism and fierce competition from domestic tech giants like Huawei. This has led to a decline in Apple's market share in China, threatening a key

source of revenue and growth.³⁶

4.3 Strategic Diversification as a Mitigant

In response to these escalating risks, Apple is actively pursuing a "China Plus One" strategy, aiming to diversify its manufacturing footprint. The company is making significant investments to shift a portion of its final assembly operations to new hubs in India and Vietnam.³⁷ The stated goal is for India to produce as much as 25% of all iPhones by 2027.³⁵

However, this diversification is a partial and long-term solution. The new manufacturing facilities in India and Vietnam remain heavily dependent on Chinese-made sub-assemblies and components; one analysis suggests Indian factories rely on China for 71% of their parts.³⁴ Furthermore, these new regions present their own challenges, including higher production costs, infrastructure gaps, and significant execution risks in scaling up to meet Apple's immense production volumes.³⁴ Therefore, while the strategy may mitigate risks associated with tariffs on final assembly, it does not resolve the deeper, more critical dependency on China's component ecosystem. This high and persistent geopolitical exposure remains a major risk to Apple's operational stability and creates pressure that could force the company to compromise on its human rights and ethical standards to maintain its position in China.

V. Synthesis and Final Risk Categorization

The final risk categorization for Apple Inc. is determined by integrating the findings from the product-based, conduct-based, and geopolitical analyses, with a primary focus on the forward-looking "unacceptable risk" of future norm violations as stipulated by the Guidelines.

The product-based risk under § 3 is negligible. The core of the assessment rests on the conduct-based criteria of § 4, which are summarized in the table below.

Guideline Criterion	Key Risk Factors Identified	Apple's Mitigating Actions & Policies	Assessed Sub-Risk Level
§ 4a, 4b: Human Rights	Conflict Minerals: Active criminal investigation	Conflict Minerals: 10-year 100% smelter audit	High, trending to Moderate

	<p>(DRC/Belgium); credible links to child labor, funding armed groups.</p> <p>Forced Labor: Credible reports linking supply chain to Uyghur forced labor programs.</p>	<p>program; removal of non-compliant suppliers; decisive suspension of sourcing from DRC/Rwanda (June 2024). Forced Labor: "Zero tolerance" policy; extensive supplier audits; public denial of findings of forced labor. Comprehensive Human Rights Policy and Supplier Code of Conduct.</p>	
§ 4e, 4f: Environment	<p>Significant GHG footprint and resource consumption inherent to business model.</p>	<p>Industry-leading "Apple 2030" carbon neutrality goal; >55% GHG reduction since 2015; extensive Supplier Clean Energy Program; aggressive targets and progress on recycled materials and waste reduction.</p>	Low
§ 4g: Gross Corruption	<p>No evidence of gross corruption or economic crime found in the research.</p>	<p>Anti-Corruption Policy; third-party screening.</p>	Low
§ 4h: Other Gross Breaches	<p>Anti-Competitive Conduct: Court finding of</p>	<p>Subject to legal injunctions and ongoing regulatory</p>	Moderate (Reputational/Legal), Low (Ethical)

	anti-competitive "anti-steering" rules in App Store.	oversight. Business conduct policies in place.	Exclusion)
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Justification of Final Risk Category

The human rights risks associated with Apple's supply chain are severe, systemic, and well-documented. The active criminal investigation regarding conflict minerals is a significant indicator of the gravity and persistence of this issue. However, the assessment must weigh the presence of risk against the substance of the company's response. Apple's mitigation framework is exceptionally comprehensive, and its recent decision to suspend mineral sourcing from the DRC and Rwanda is a powerful, if reactive, de-risking measure that directly addresses the source of the most acute risk of complicity in conflict. This action demonstrates a capacity and willingness to take drastic steps to reduce the risk of future norm violations.

While the risk of its audit systems failing to detect state-sponsored forced labor remains, the company has a robust policy and process in place. In contrast, Apple's environmental performance is a significant positive factor, demonstrating leadership and a strategic commitment that far exceeds basic compliance. The anti-competitive conduct, while a clear violation of commercial norms, does not meet the high ethical threshold for exclusion.

The directive to be "generous in risk assessment" and to reserve a "high risk" designation for "quite serious" cases is pivotal. The core principle of the Guidelines is to assess the "unacceptable risk for *future* normbrudd" (future norm violations).¹ Apple has demonstrated that when faced with credible evidence of unacceptable risk—even when prompted by intense external pressure—it will act decisively to sever the problematic link in its supply chain. This capacity for remediation, combined with its industry-leading proactive systems, suggests that while the historical and residual risks are high, the forward-looking risk is being actively and substantially managed.

Assigning a "High Risk" category would fail to acknowledge the extensive and effective nature of many of Apple's mitigating actions. Conversely, the gravity of the ongoing human rights challenges prevents an "Acceptable Risk" rating. The most accurate classification is one that recognizes the presence of significant, well-identified issues that are being addressed by a comprehensive, albeit imperfect, corporate governance and risk management framework.

Final Recommended Risk Category: 3 - Moderate Risk

This categorization acknowledges the severity of the human rights allegations and the ongoing legal and reputational challenges, which are too significant for a low-risk rating. However, it gives due weight to Apple's industry-leading mitigation systems, its decisive remedial actions regarding conflict minerals, and its strong environmental performance. This rating avoids a "High Risk" classification, in line with the directive to focus on the forward-looking risk of continued norm violations. A "Moderate Risk" designation indicates that continued investment is permissible but should be accompanied by robust, active ownership and close monitoring of the company's progress in addressing the identified human rights and anti-competition issues.

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