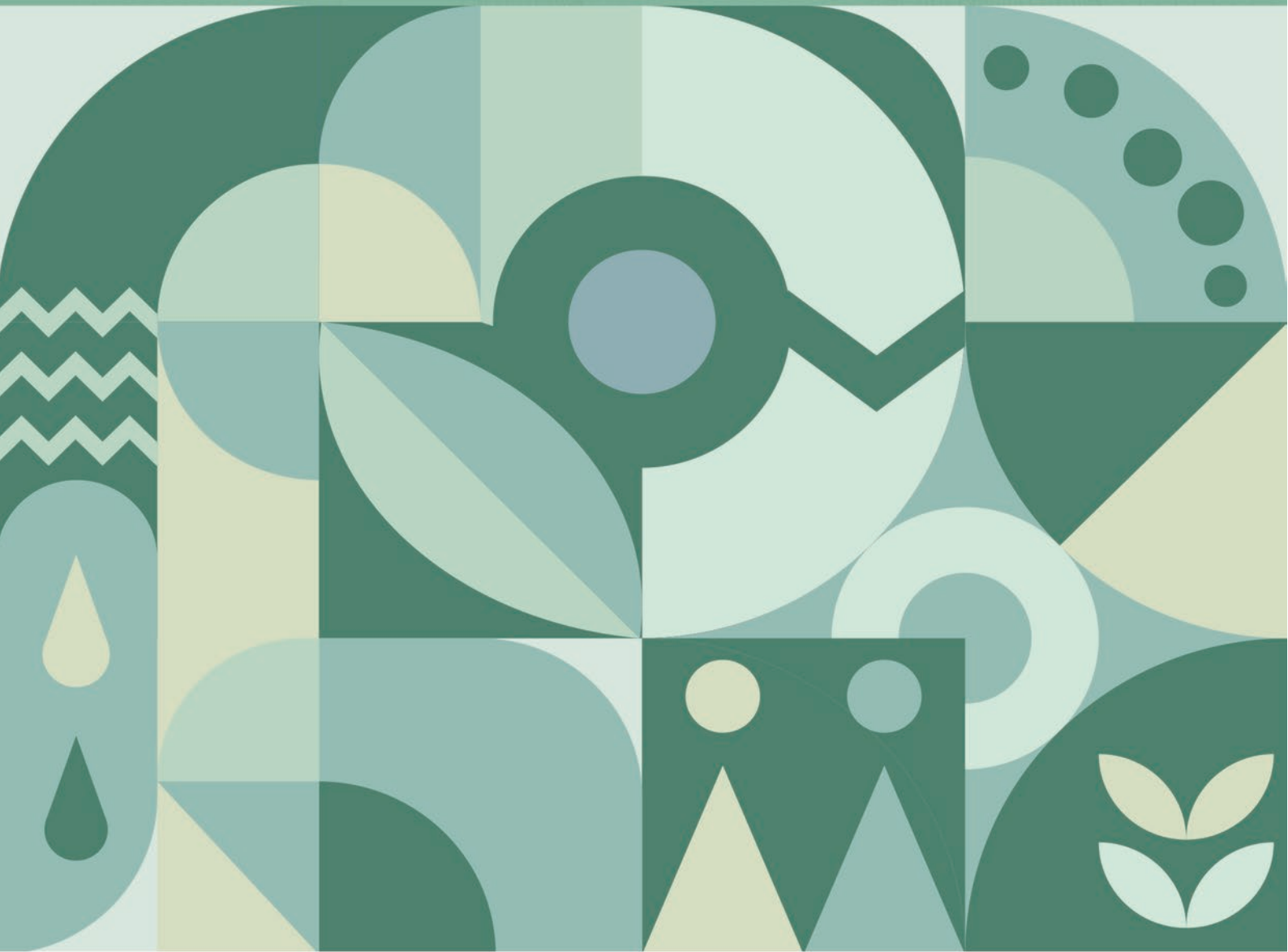


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23

Global Vaping Industry ESG Development Report

■ Jan. 2024 Free Edition



 2FIRSTS | Institute 央广网

*This report is intended for professionals of the e-cigarette industry. minors are prohibited from this report.

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- consider it as a standard for corporate governance
- Gradually explore ESG industry standards
- Strengthen ESG communication in the global NGP industry

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Introduction to the NGP Industry

NGP products mainly refer to tobacco products that differ from traditional combustion methods, using modern technology to satisfy the body's nicotine intake needs through non-combustion methods. According to the main components, NGP products can be divided into four categories: e-cigarettes, heat-not-burn tobacco products, oral tobacco, and other smokeless tobacco products (nasal inhalation, patches, etc.).

Compared to traditional tobacco products, NGP products have certain harm reduction characteristics and enrich the user experience through modern technology. They integrate elements of modern technology and traditional tobacco, driving the development of non-combustible nicotine intake methods and representing a significant modernization shift in traditional tobacco consumption.

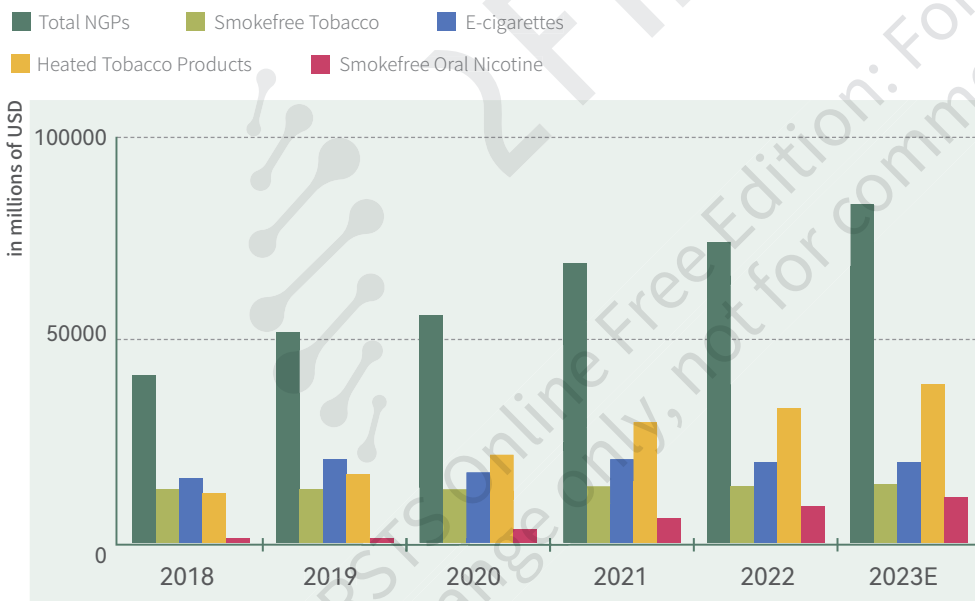
Main Types of NGP Products

Type	Product Description	Usage Method	Key Features
E-cigarettes	Uses a battery-powered heating element to vaporize a liquid containing nicotine, creating inhalable vapor.	Inhale vapor produced by e-cigarettes	Adjustable nicotine levels and flavors, no tobacco combustion
Heat-Not-Burn (HNB)	Releases nicotine by heating tobacco instead of burning it, reducing harmful chemicals.	Inhale vapor from heated tobacco	Resembles traditional smoking experience, reduces certain harmful substances
Chewing Tobacco	Tobacco products placed in the mouth for chewing or sucking.	Absorb nicotine through oral mucosa	No combustion, does not produce secondhand smoke
Snuff Tobacco	Powder or granular tobacco inhaled through the nostrils.	Absorb nicotine through the nostrils	No combustion, does not produce secondhand smoke

Global NGP Market Is Growing Steadily

According to data, the global market size of NGP products reached \$73.23 billion in 2022, a year-on-year increase of 9.2%. The breakdown includes smokeless tobacco at \$13.60 billion, vaporized e-cigarettes at \$18.85 billion, heated tobacco at \$32.38 billion, and smokeless oral nicotine products at \$8.4 billion. In 2023, the global market size is expected to reach \$13.88 billion for smokeless tobacco, \$19.34 billion for vaporized e-cigarettes, \$38.30 billion for heated tobacco, and \$10.58 billion for smokefree oral nicotine products, with a year-on-year growth of 2.1%, 2.6%, 18.3%, and 26.0%, respectively. The global e-cigarette market is expected to steadily grow at a compound annual growth rate of 28% from 2023 to 2030.

Market Sizes of Various Categories of NGP



Source: Euromonitor Passport; Guojin Securities Research Institute

In recent years, the short-term growth of the NGP product market has slowed due to industry restrictions on fruit flavors and uncertainties in overseas regulatory policies. However, from a long-term perspective, the growth space of NGP remains promising. NGP businesses have gradually become an important revenue growth driver for major tobacco giants.

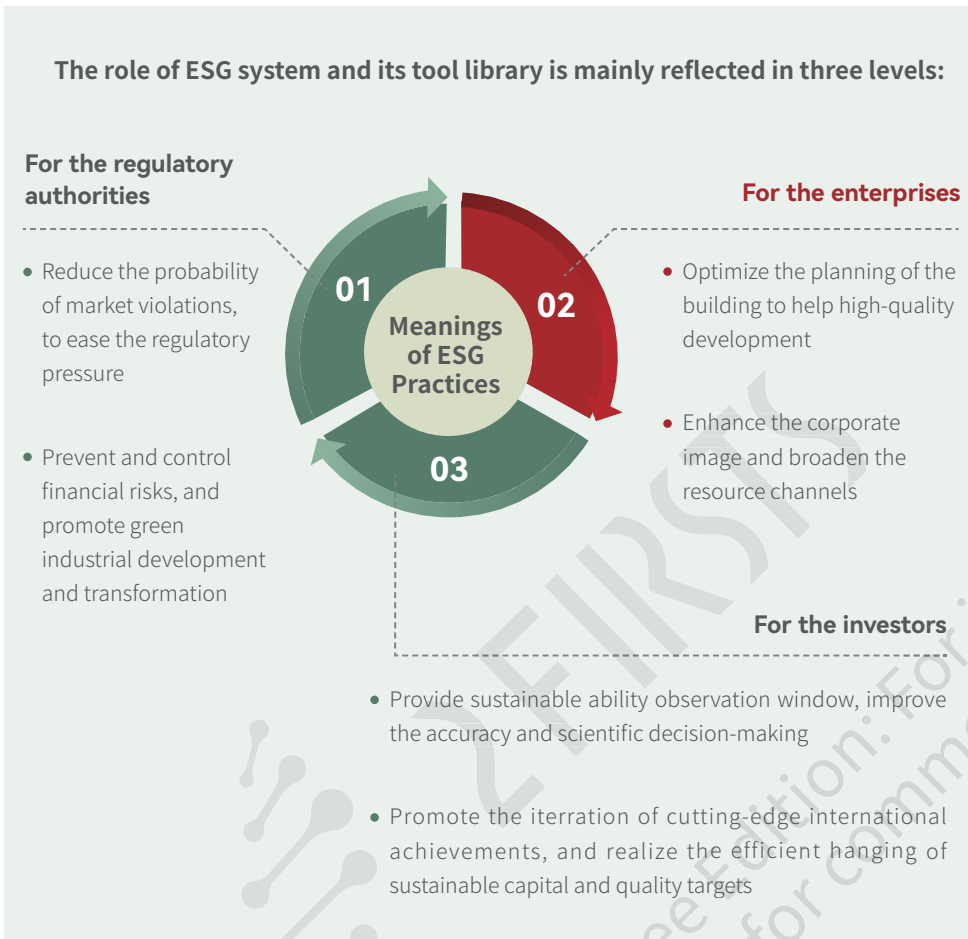
Introduction to ESG Theory

1. ESG Theory:

ESG stands for Environmental, Social, and Governance.

ESG System emphasizes the benefits to the environment and society, with a focus on the perfection of corporate governance systems. Regarding the environment, the emphasis is on issues related to carbon dioxide emissions, resource usage, waste, and pollutant emissions in a company's business and operations. Concerning society, companies disclose issues related to employee benefits, labor standards, community engagement, and impact. On governance, the focus is on the internal operations of the company, including corporate governance structure and strategies, law enforcement policies, compliance with laws and standards, and transparency to the public.

Environmental, Social, and Governance (ESG) are three key dimensions of value assessment. They focus on analyzing non-financial information about companies to judge their capabilities and effectiveness in sustainable development. This assessment method goes beyond traditional financial reporting, revealing a company's core values, such as reputation, brand value, sustainability strategies, and human rights equality. ESG assessments can effectively complement the shortcomings of market evaluation standards, providing a more comprehensive perspective to assess a company's credit quality and overall risk management capabilities, reflecting the intrinsic long-term value of the company.



Source:Compiled by the international Institute of Green Finance, Central University of Finance and Economics.

2. ESG Development History:

ESG investment originated in Europe and the United States. The ESG concept stems from concerns about social responsibility, especially in Western countries where rapid economic growth has led to social and environmental issues. Environmental protection and social responsibility became hot topics of public concern, gradually integrating into business activities and becoming focal points for many stakeholders.

In 2004, the United Nations Global Compact released the report "Who Cares Wins—Connecting Financial Markets to a Changing World," formally introducing the ESG concept. Subsequently, in 2006, then-UN Secretary-General Kofi Annan initiated the Principles for Responsible Investment (PRI), formally incorporating ESG into the fundamental principles of responsible investment and encouraging investment institutions to consider ESG indicators in decision-making.

Currently, a series of important and representative information disclosure standards and assessment frameworks have been established globally. These standards are mainly provided by well-known institutions such as MSCI, S&P DJI, Thomson Reuters, and Sustainalytics. The ESG rating systems of these institutions are widely recognized and have had a significant impact on the development of ESG investment globally.

For companies themselves, the disclosure of ESG reports plays a crucial role. Through ESG reports, companies can demonstrate their efforts and achievements in sustainable development and responsible business to investors, consumers, and other stakeholders. ESG reporting is essential for attracting socially responsible investments and long-term capital, enhancing corporate image, and strengthening competitiveness. Additionally, a company's ESG practices have practical significance for regulatory authorities and investors.

3. ESG Disclosure Requirements:

ESG disclosure requirements vary worldwide, but overall, regulatory authorities are rapidly increasing their demands for ESG information disclosure by listed companies. Currently, there is no mandatory requirement for the guidelines and frameworks used in preparing ESG reports globally. However, as the global demand for ESG information disclosure rises, more and more well-known companies need to invest more time and effort into addressing issues related to ESG disclosure.

Different ESG Disclosure Requirements for Listed Companies in Various Regions

Country	ESG Report Requirement	ESG Information Requirement
HK, China	Mandatory disclosure	Mandatory disclosure & “Comply or Explain”
Singapore	Mandatory disclosure	Based on “Comply or Explain”
Japan	Voluntary disclosure	Mandatory disclosure for Corporate Governance Statement
Indonesia	Mandatory disclosure	Mandatory disclosure
EU	Mandatory disclosure (listed companies)	Mandatory disclosure
UK	Voluntary disclosure	Mandatory disclosure for Strategic Report, covering ESG issues
U.S.	Voluntary disclosure	Mandatory disclosure for environment information
Australia	Voluntary disclosure	Mandatory disclosure for Corporate Governance Statement
Canada	Voluntary disclosure	Mandatory disclosure for Corporate Governance Statement

Organizaion	Explanation
HKEX	Starting from July 2020, listed companies are required to disclose ESG reports, including the application of
Singapore Exchange (SGX), Monetary Authority of Singapore (MAS)	Since 2016,all listed companies must publish sustainability reports starting from the accounting year
Tokyo Stock Exchange (TSE), Japan Exchange Group (JPX)	Apart from corporate governance information,there are no other ESG information disclosure requirements.
Financial Services Authority (FSA)	Since 2020, all listed companies are obligated to publish sustainability reports covering environmental, social and labor, human rights, as well as corruption and bribery issues
Relevant institutions of the European Union and its member states	Information on corporate governance, environmental matters, employee information,ect.
Financial Reporting Council (FRC), HM Treasury	Since 1977, disclosure of environmental compliance information has been required
Securities and Exchange Commission (SEC)	Following the 'If not, why not?' principle
Australian Securities and Investments Commission (ASIC)	No specific ESG information disclosure requirements
Canadian Securities Administrators (CSA)	Only involving corporate governance

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1. Overall ESG Rating Performance

In terms of rating performance, NGP industry companies generally exhibit high ESG ratings, receiving awards in climate, water security, forests, gender equality, etc. Notably, CDP (Carbon Disclosure Project) and Dow Jones Sustainability Indices (DJSI) are representative evaluation systems. In climate-related aspects, BAT ranked in the top 2% in CDP ratings in 2022, receiving A, A-, A- ratings in "Climate Change," "Water Security," and "Forest Assessment," respectively. In 2023, BAT scored 85 points (on a 100-point scale) in S&P Global CSA (Corporate Sustainability Assessment) and 80 points (on a 100-point scale) in S&P Global ESG, entering the Bloomberg Gender Equality Index.

PMI Included in the Dow Jones Sustainability World Index for the first time in 2023 consistently included in the Dow Jones Sustainability North America Composite Index for the fourth consecutive year, upgraded to an "excellent" status in ISS ESG corporate ratings. In the 2023 S&P Global CSA, PMI scored 85 points (on a 100-point scale), obtained 3 A-level ratings for the third consecutive year in CDP, and was included in the Bloomberg Gender Equality Index for the second consecutive year.

RELX: In the 2023 S&P Global CSA, RELX scored higher than the industry average in multiple ESG themes such as product innovation management, business ethics, talent development, greenhouse gas emissions, and information disclosure transparency. RELX's ESG score increased by 13% compared to the previous year, securing the top position among global e-cigarette companies for the second consecutive year.

2. Emphasis on Strategic Importance

At the strategic level, the industry as a whole places significant emphasis on ESG practices, incorporating sustainability and attention to ESG issues into corporate strategies and board-level management. For example, BAT and PMI have outlined clear strategic roadmaps for ESG, providing detailed explanations of key issues, goals, timelines, and interim achievements. BAT appointed its first Chief Sustainability Officer (CSO) in 2022, aiming to integrate sustainability into its strategy and daily decision-making processes. Through collaboration with other functional departments such as operations, marketing, R&D and investor relations, BAT seeks to drive sustainable development and progress in ESG.

3. ESG Focus Areas

ESG focus areas between Chinese and foreign NGP industry companies differ. A comparative analysis of ESG reports from major Chinese atomization tobacco listed companies (such as RELX and Smoore) and the ESG reports of four major tobacco companies overseas reveals that foreign NGP industry companies, such as BAT, PMI, IMB, and JTI, focus on product harm reduction, circular economy and recycling, and human rights protection. In contrast, Chinese companies like RELX and Smoore emphasize ESG practices with Chinese characteristics, focusing on product compliance, rural revitalization, and environmental protection.

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NGP Industry ESG Practices Analysis

Topic 01 Harm Reduction of Products

Highlighting the harm reduction of products is a crucial topic in ESG practices for companies in the NGP industry. Tobacco companies generally emphasize gradually increasing the proportion of NGP business within the group. This is manifested in the research and development of NGP products, market expansion, and penetration among consumers.

Case One

BAT's Harm Reduction Strategy

Harm reduction goals:

Achieve £ **5** billion in NGP revenue by 2025;

Acquire **50** million smokefree product consumers by 2030.

Performance in 2022:

NGP revenue reached £**2.9** billion,

and the number of smokefree product consumers was **22.5** million.

Case Two

PMI's Harm Reduction Strategy

PMI implements a product harm reduction strategy by consciously phasing out the cigarette market and maximizing the revenue from smokefree product categories.

Strategy 1: Consciously phasing out the cigarette market

Smokefree products' performance in 2022:

- In 73 markets, smokefree products accounted for over 50% of net income in 17 markets.
- The proportion of smokefree products in business expenditure (marketing) reached 74% (expenditure on smokefree products/total expenditure).
- The proportion of product shipments for smokefree products reached 15.1% (total shipments of smokefree products/total shipments), while the shipment volume of combustible tobacco products decreased by 26.8% compared to the 2015 baseline.

Strategy 2: Maximizing the benefits of smokefree product categories

PMI maximizes the benefits of smokefree product categories through a scientific assessment of these products and by expanding and marketing smokefree products.

Scientific assessment of smokefree products:

- In 2022, 99% of R&D expenditure (\$642 million) was allocated to smokefree products.
- Since 2008, over \$10.5 billion has been invested in research and development of better alternatives to cigarettes.
- Since 2015, 2500 patents related to smokefree technology have been granted by the world's five major intellectual property offices (IP5).

Market expansion and promotion:

Deployment of consumer-centric brand activities:

- Interaction with adult smokers through cigarette packaging, e.g., JustScan.
- In 2022, approximately 1.3 million adult consumers were reached globally through JustScan.
- Transitioning to a more consumer-centric, B2C commercialization model. In 2022, PMI achieved sales of smokefree products in 73 markets globally and owned 285 flagship IQOS boutiques and stores worldwide.

Topic 02 Circular Economy and Recycling

Given the widespread criticism of environmental pollution in the vaping industry, many NGP industry companies attach importance to product packaging and recycling. This is currently a crucial topic in ESG practices within the industry. In terms of packaging, efforts are made to simplify product and packaging design, reducing the use of raw materials and resources while increasing recyclability. Attention is also given to the post-use recycling of products, increasing the reusability and recyclability of products to reduce their impact on the environment.

Case One

BAT Circular Economy Strategy

- **Goals:**

Achieve less than **1%** landfill waste by 2025 and ensure **100%** of packaging is reusable, recyclable, or biodegradable.

- **Performance in 2022:**

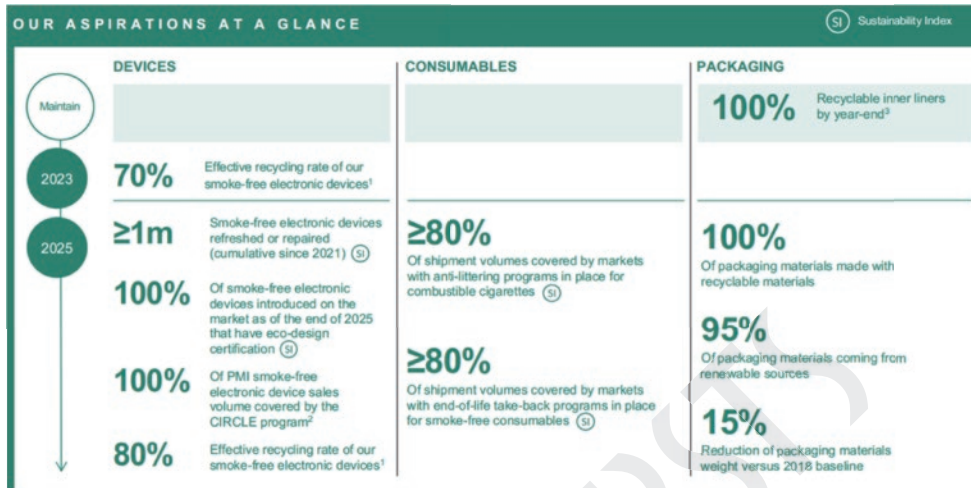
BAT achieved **4.9%** landfill waste, with **92%** of packaging being reusable, recyclable, or biodegradable, and implemented recycling programs for Vuse and glo in all markets.

Case Two

PMI "Reduce Post-Consumer Waste" Strategy

PMI has developed the "Reduce Post-Consumer Waste" strategy, specifying goals in three areas: devices, tobacco consumables, and packaging.

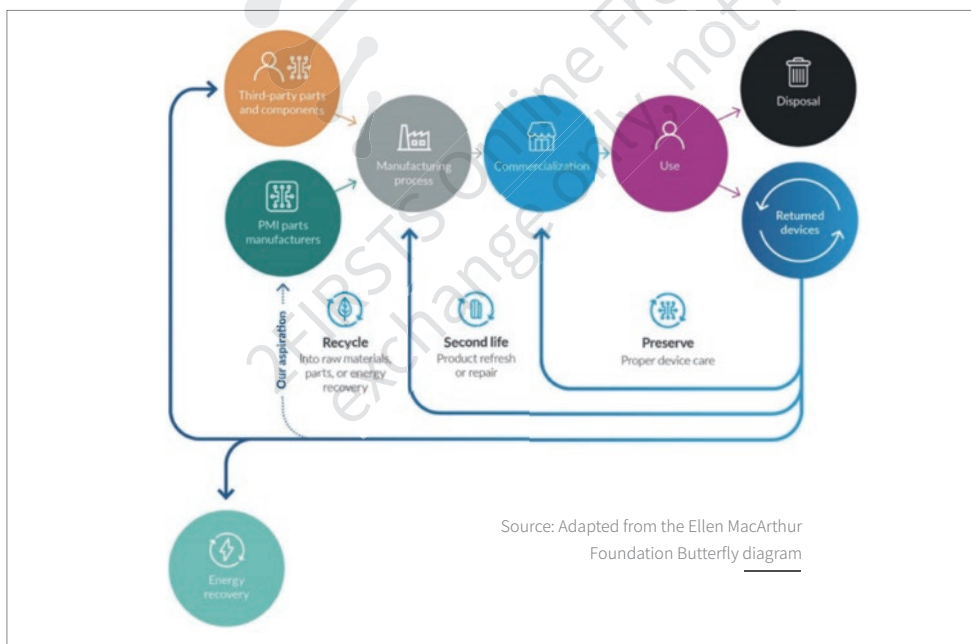
PMI's "Reduce Post-Consumer Waste" Targets



Source: 2022 ESG HIGHLIGHTS based on PMI's Integrated Report 2022

In terms of devices, through circular design, waste reduction, increased recyclability, and refurbishing used devices, PMI has enhanced the effective recovery rate of devices and the number of refurbished devices.

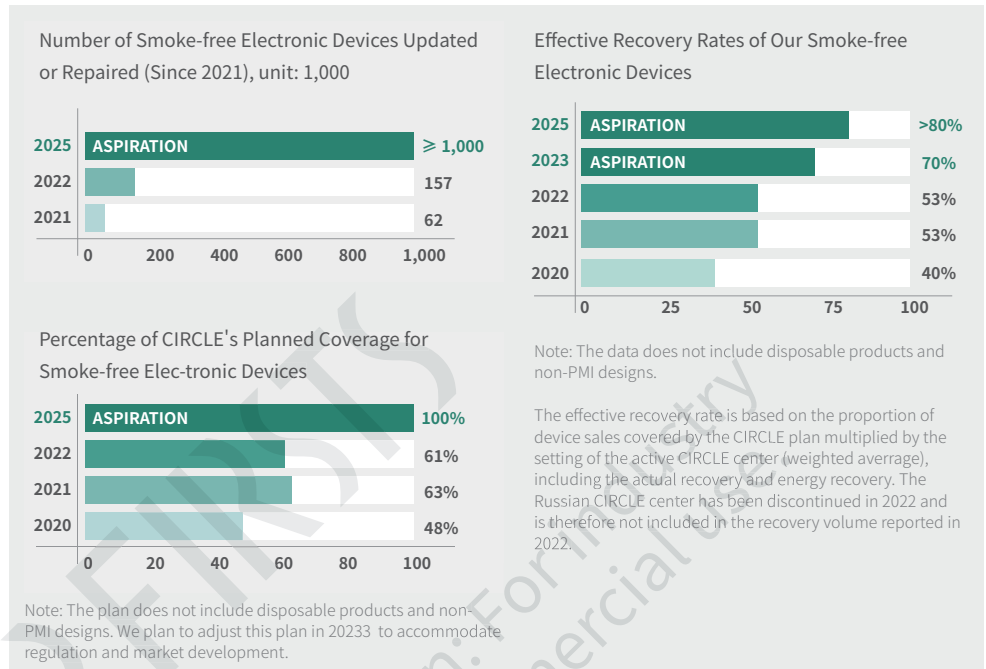
PMI Smoke-Free Electronic Equipment Recycling Process



Source: Adapted from the Ellen MacArthur Foundation Butterfly diagram

Source: 2022 ESG HIGHLIGHTS based on PMI's Integrated Report 2022

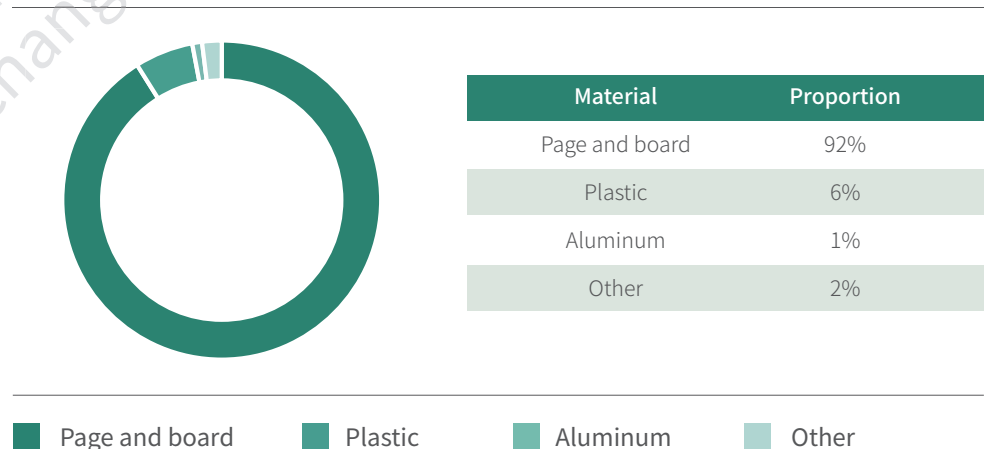
Progress in PMI Smoke-free Electronic Device Recycling (2022)



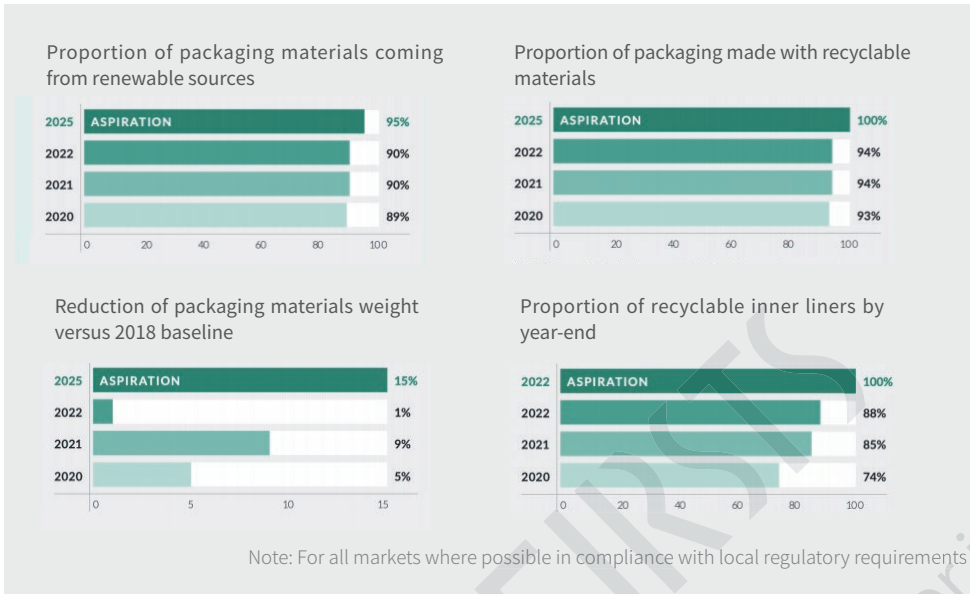
Source: 2022 ESG HIGHLIGHTS based on PMI's Integrated Report 2022

In terms of packaging, PMI minimizes packaging materials and enhances packaging recyclability by designing recyclable packaging, incorporating materials made from renewable resources.

The Proportion of PMI Packaging Materials Used (2022)



Progress in PMI Packaging Recycling (2022)



Source: 2022 ESG HIGHLIGHTS based on PMI' S Integrated Report 2022

Case Three

Green Recycling Solution by Chinese E-cigarette Companies

As the disposable e-cigarette market rapidly expands, its product characteristics lead to significant resource waste and environmental pollution. This has garnered widespread public attention, prompting Chinese e-cigarette companies to propose corresponding recycling measures, such as end-to-end full-chain recycling systems, collection bins, and removable batteries.

- **End-to-End Full-Chain Recycling System:**

In 2023, at the E-cigarette Exhibition in Birmingham, UK, Smoore announced a collaboration with RELX to launch the world's first end-to-end full-chain recycling system for disposable products in the UK. This system involves collaboration between e-cigarette brands, retailers, consumers, Chinese e-cigarette manufacturers, and compliance processing organizations. Consumers can recycle used disposable products through both courier companies and retail stores, receiving benefits in return.

In addition, Smoore has partnered with specialized recycling organizations to provide a 100% disassembly, zero-landfill environmentally friendly solution. Smoore believes that this system will significantly reduce the environmental impact of disposable products, contributing to the industry's sustainable development.

- **Collection Bins:**

Elux has designed a special collection bin and plans to place 200,000 such bins in various e-cigarette stores in the UK in 2023. The collected used disposable e-cigarettes will be shipped to Indonesia for disassembly. Additionally, Elux states that for every e-cigarette recycled, they will donate \$0.1 to charitable organizations.

- **Removable Batteries:**

At the exhibition, FLONQ introduced its first recyclable pen-style e-cigarette device, Flonq Plus-E, which can be easily disassembled for recycling after use. One unique design of this product is the removable battery located at the bottom of the device, enhancing its environmental friendliness and recyclability.

Topic 03 Human Rights Protection

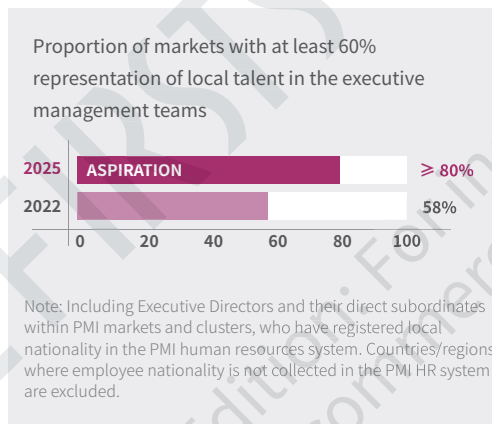
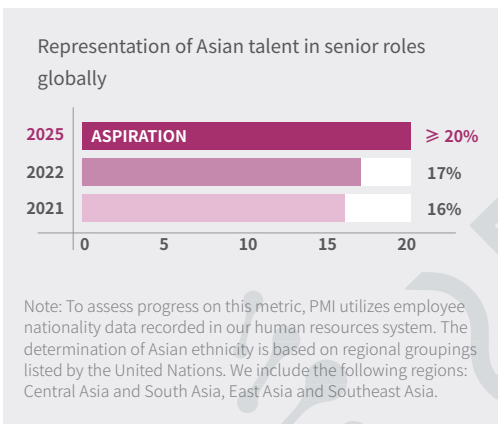
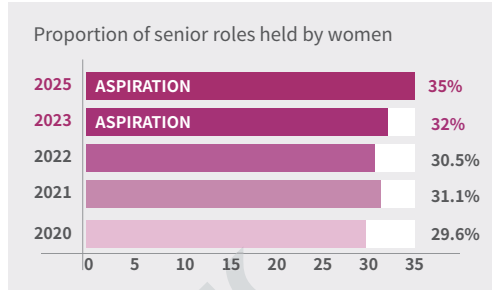
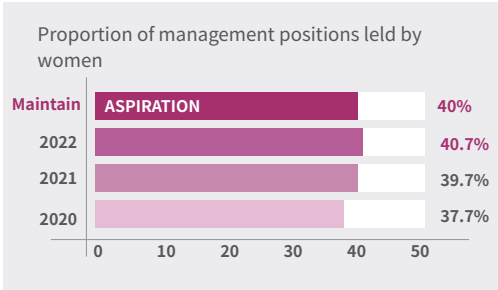
Western tobacco companies prioritize human rights protection in their ESG practices. In actions related to human rights protection, companies commonly focus on improving their own corporate work environment, enhancing the quality of life for people in the supply chain, and eliminating child labor.

Case One

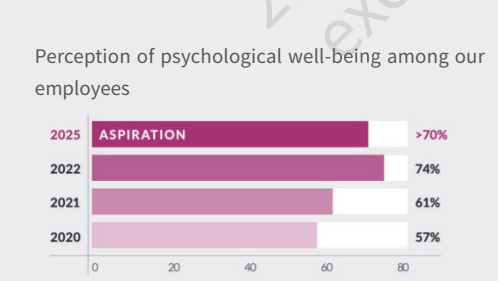
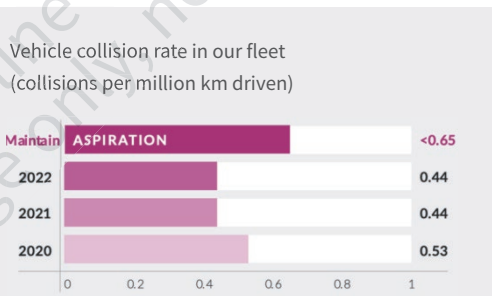
PMI Human Rights Protection Goals and Practices

PMI places a greater emphasis on gender equality, pay equity, and protecting the health, safety, and security of its employees in its human rights protection efforts. The company also strives to enhance labor psychological health and happiness.

Selected for Bloomberg Gender Equality Index (GEI) for the 3rd Consecutive Year in 2023



PMI Promotes Empowering and Inclusive Work Environment (2022)



Case Two**BAT Human Rights Protection Goals and Practices**

- **Goals:**

BAT claims in its ESG priorities that its business and supply chain span multiple industries with significant human rights implications. BAT is committed to respecting the human rights of employees, colleagues, and the communities in which it operates.

The goals include achieving zero child labor and zero forced labor in the tobacco supply chain by 2025. By 2025, all BAT product material suppliers and high-risk indirect service suppliers will undergo at least one independent labor audit within a three-year cycle.

- **Performance:**

According to its disclosures, in 2022, BAT reduced the proportion of farms using child labor to 0.38%. Monitoring for the use of child labor covered 99.99% of farms. BAT achieved independent labor audits in a three-year cycle for 36.6% of product material suppliers and high-risk indirect service suppliers. Additionally, 96.4% of farmers received relevant training on child labor issues.

Topic 04 Product Compliance

For Chinese NGP companies, their ESG disclosures strongly emphasize demonstrating compliance with product regulations.

On one hand, they highlight compliance with national standards for their products. On the other hand, they emphasize cooperation with regulatory authorities to combat illegal e-cigarette products, protecting consumer rights and promoting the healthy development of the industry.

In February 2023, RLX Technology actively sought information from the public about the production and sale of counterfeit "RELX" products through public channels. This included details about production bases, sales channels, and forged authenticity verification web pages. They established a "complaint and report" channel on the WeChat public platform. Upon receiving user-reported information, after investigation and verification, RLX Technology cooperated with regulatory authorities to take action against such activities.

RLX Technology's Announcement Seeking Clues about Counterfeiting

关于征集假冒线索 及调整二维码验真服务的公告

自《电子烟》国家标准于 2022 年 10 月 1 日正式实施后，我们在国内市场已**停止生产和销售**包括水果味烟弹在内的非国标产品。

但近期，我们发现一些不法分子生产、售卖大量假冒“悦刻”品牌的水果味烟弹，甚至通过制作配套假冒验真网页等方式，欺骗、误导消费者。这类行为违反相关法律法规，侵犯雾芯科技的合法权利和良好声誉，更严重损害消费者的合法权益。

为进一步打击此类违法行为，我们向社会征集制售假冒“悦刻”品牌产品（如生产窝点、销售渠道及假冒验真网页等）的相关线索。

即日起，您可以通过以下方式举报，我们将在调查核实后积极协同监管部门予以打击。

举报渠道

1. 进入「飞悦陪你」公众号，“投诉与加入”，“投诉举报”，填写举报信息。
2. 「飞悦陪你」公众号，“咨询与服务”，“在线客服”，联系人工客服举报。



同时，我们将自 2023 年 5 月 1 日起，**停止对非国标电子烟提供二维码验真服务**，请大家通过正规渠道购买悦刻品牌符合《电子烟》国标的产品。

雾芯科技始终秉承合法合规经营的理念，不断研发及推出符合国家标准、品质安心的产品，**持续提升国标产品的二维码验真等配套服务**，给用户带来更好的体验！

深圳雾芯科技有限公司
2023 年 2 月 22 日

Source: RLX Technology's Social Responsibility Report 2022-2023

Topic 05 Rural Revitalization

Rural revitalization is a key focus of current development in China. Against this backdrop, Chinese NGP companies integrate closely with the local context in their ESG practices, considering rural development as an integral part of their ESG initiatives.

RLX Technology, in collaboration with the China Siyuan Foundation, has made several investments in rural development. For instance, they built the Feiyue Fengyu Bridge and Feiyue Convenience Bridge in the Muzidi Village, Enshi, Hubei, which were officially put into use in September 2023. The cement used in constructing the Feiyue Convenience Bridge is made from spent cartridges collected through the Empty Cartridge Rebirth Plan recycling program. Additionally, in the Ningxia Hui Autonomous Region, they initiated key support projects for industrial prosperity, constructing modern breeding bases and drying fields for rapeseed flowers. In Chenggenying Village, Chengde City, Hebei, they built rural roads, among other projects.

Feiyue Fengyu Bridge and Feiyue Cattle Shed by RLX Technology



Source: RLX Technology's Social Responsibility Report 2022-2023

ESG Practices - Analysis of Typical Enterprises

1. RLX Technology

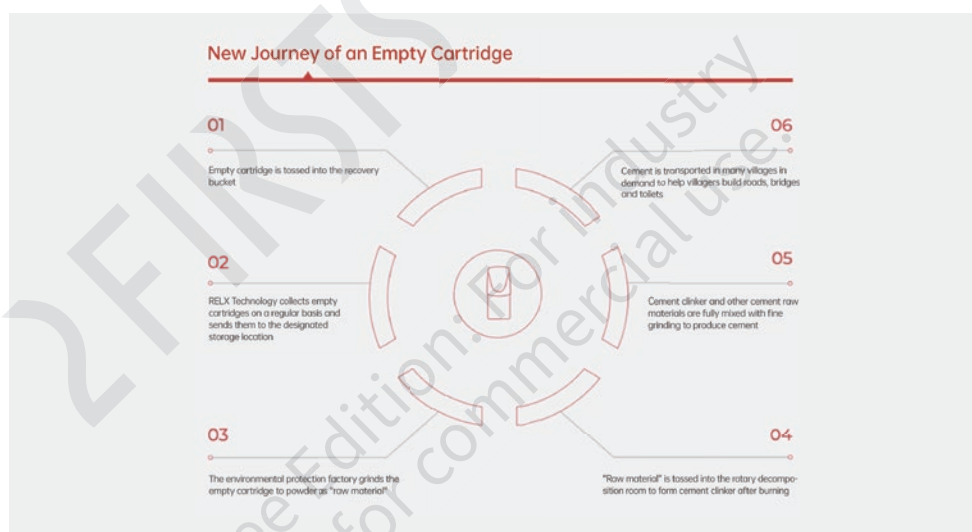
On December 11, 2023, RELX (RLX Technology) released the "Towards Excellence and Goodness: RLX Technology Social Responsibility Report 2022-2023" covering the period from July 1, 2022, to June 30, 2023. This marks the fourth consecutive year of publishing a social responsibility report for RLX Technology.

① Environmental:

In 2023, RLX Technology, as a guardian of the oceans, conducted a beach cleaning campaign on the Dachan Bay coast in Shenzhen. They also strengthened the standardized review and process management of chemical substances, water resource management, waste, and paper reuse, actively promoting the maximization of resource utilization.

• **RLX Technology made significant progress in two creative environmental projects:**

"Empty Cartridge Rebirth Plan" environmental recycling program is carried on to encourage users to use their products more environmentally friendly. Empty cartridges are processed into cement clinker, which is then used in rural revitalization. Since its launch in September 2021, the program has invested a cumulative total of 20 million yuan in the recycling, environmentally friendly disposal, and rural revitalization of spent cartridges. As of May 2023, "Empty Cartridge Rebirth Plan" has been established in 298 cities.



Empty Cartridge Rebirth Plan Environmental Recycling Program, Source: RELX Technology Official Website

Similarly, at the end of December 2023, RELX launched the "RELX RECYCLE PROGRAM" in Japan. Consumers can receive a new product, "RELX MagicGo," by recycling ten old products. RELX MagicGo is a zero-nicotine disposable e-cigarette product. Permanent recycling windows are set up at "RELX VAPE & NEWS STAND" in locations like Shibuya, Tokyo. The RELX RECYCLE PROGRAM also plans to hold recycling events in major cities in Japan.

After launching the "Aim for Zero" initiative in April 2022, RELX Technology has fulfilled its commitment by achieving carbon neutrality for two consecutive years in offices and laboratories in Beijing, Shanghai, and Shenzhen.

2 Social:

- **Improve the employee training system, ensure employee welfare and create a safe working environment.**

By the end of 2022, 309 employee training sessions were organized. Safety training amounted to 26 sessions, and the "SHE LEADS" female leadership initiative was launched, focusing more on the needs of women in the workplace.

- **Participate in social responsibility activities**

By the end of 2023, RLX Technology invested a total of 44.3 million yuan in biodiversity protection, rural revitalization, and other areas. In September 2023, they officially opened the Feiyue Fengyu Bridge and Feiyue Convenience Bridge in the Muzidi Village, Enshi, contributing to the rural development.

These efforts reflect RLX Technology's commitment to integrating environmental sustainability and social responsibility into its core operations, aligning with the principles of ESG practices.



"Feiyue Fengyu Bridge" and "Feiyue Convenience Bridge," Source: RLX Technology Official Website

In July 2023, RLX Technology donated funds to build Feiyue Cattle Shed and Feiyue Drying Field in Tongxin County, Wuzhong City, Ningxia Hui Autonomous Region, opening the "path to prosperity" for villagers, contributing an annual average income increase of 10 million yuan for villagers.



"Feiyue Cattle Shed" and "Feiyue Drying Field," Source: RLX Technology Official Website

Additionally, RLX Technology continues to implement the "Northeast Tiger and Leopard Return to the Northeast" project to address the food source for wild Northeast tigers and leopards. They planted 300 acres of ecological fields in Zhen'anling Village, Sidao Gou Village, and Guandao Gou Village in Hunchun City, Jilin.

The company also focuses on public ecological protection education. In 2023, a new 120-square-meter natural education base called "Feiyue Starry Sky Classroom" was established in Zhen'anling Village, representing the first community natural classroom in the Northeast Tiger and Leopard National Park area.

3 Governance:

- **RLX Technology has upgraded its R&D system to explore scientific boundaries.**

Since its establishment, RLX Technology has invested a total of 800 million yuan in research and development. They established three new laboratories—Aerosol Innovation Laboratory, Aerosol Laboratory, and New Materials Laboratory—forming a matrix of eight laboratories and stringent factory quality control.

- **RLX Technology has achieved breakthroughs in areas such as cells, animals, and public health research.**

In November 2022, they initiated the first domestic clinical study on e-cigarettes, and the results were published in the medical SCI journal "Nicotine & Tobacco Research." As of April 2023, RLX Technology has applied for nearly 900 patents globally, collaborated on 17 external research projects, and published 11 research papers in authoritative journals.



RLX Technology's first clinical study on e-cigarettes published in "Nicotine & Tobacco Research," Source: RLX Technology Official Website

- **Ensure operational compliance in adherence to regulations**

RLX Technology assists regulatory authorities in promoting industry health. In 2022, RLX Technology and its subsidiaries obtained three "Tobacco Monopoly Production Enterprise Licenses" issued by the National Tobacco Monopoly Bureau. As of June 2023, 48 products from RLX Technology have passed technical evaluations. In February 2023, RLX Technology set up a "complaint reporting" window on the WeChat public platform and actively responded to the national "Golden Shield Action." In 2022, RLX Technology assisted regulatory authorities in initiating 35 anti-counterfeiting cases, seizing more than 49,000 counterfeit and imitation cartridges and over 5,600 counterfeit cigarette holders. Regular training sessions on business conduct guidelines were conducted for employees and partners, with a zero-tolerance approach towards corruption, fraud, and insider trading.

RLX Technology has implemented preventive measures against the use of e-cigarettes by minors, attempting to develop a child lock for e-cigarettes.

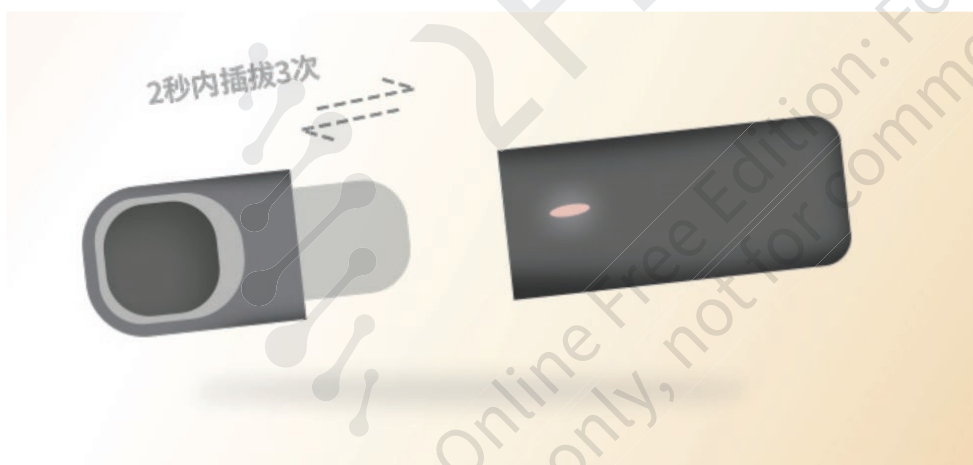


Figure 20: RLX Technology Child Lock Design, Source: RLX Technology Official Website

- **Continuously improve the functions of the board of directors, implementing the policy of diversified board members.**

RLX Technology's directors serve a one-year term, and various committees are established under the board. They are responsible for risk monitoring and early warning mechanisms.

- **Enhance user experience by launching the "Ask Me Anything" platform.**

As of December 31, 2022, the "Ask Me Anything" platform received 13,383 questions, with a 100% response rate within 24 hours.

2.PMI

PMI is actively accelerating efforts to achieve a smoke-free future. According to the ESG report released in 2022 based on the Integrated Report for the year 2022, many countries' cigarette sales can end within 10 to 15 years with appropriate regulatory incentives and societal support. Since 2008, PMI has invested over \$10.5 billion in developing, scientifically validating, and commercializing innovative smoke-free products with the aim of ultimately ending cigarette sales. As of March 31, 2023, PMI's smoke-free products are sold in 78 markets, with an estimated 18.5 million adult users having switched to IQOS and quit smoking. In 2022, 32.1% of net revenue came from smoke-free products.

According to the latest ESG report released in 2022, PMI has identified ESG report themes with sustainable development as the goal and prioritized them. Subsequently, PMI has established the 2025 roadmap and uses a set of key performance indicators (KPIs) to measure progress. These indicators collectively constitute the PMI Sustainability Development Index.

Key performance indicators		2022 performance	2022 progress	2025 aspirations	KPI weight	Contribution to total Index score	
Purposefully phase out cigarettes	1 Smoke-free product shipment ratio (smoke-free/total)**	15.1%		> 30%	85%		
	2 Adjusted net revenues ratio (smoke-free/total)**	32.1%		> 50%			
	3 Number of markets where PMI smoke-free products are available for sale**	73		100			
Maximize the benefits of smoke-free products	4 Proportion of markets where smoke-free products are available for sale that are low- and middle-income markets**	42%		> 50%			
	5 Total number of users of PMI smoke-free products (in millions)**	24.9					
	6 Proportion of shipment volume covered by markets with youth access prevention programs in place in indirect retail channels*	91%		> 90%			
Seek net positive impact in wellness and healthcare	7 Annual net revenue from wellness and healthcare products (in billions USD)**	0.3		≥ 1			
	8 Proportion of shipment volumes covered by markets with anti-littering programs in place for combustible cigarettes	68%		≥ 80%			
Reduce post-consumer waste	9 Proportion of shipment volume covered by markets with end-of-life take-back programs in place for smoke-free consumables*	8.5%		≥ 80%			15%
	10 Proportion of PMI smoke-free devices with eco-design certification*	n/a		1			
	11 Cumulative number of smoke-free electronic devices refreshed or repaired since 2021 (in thousands)	157		1,000			
Product Sustainability performance					100%	67%	
Foster an empowered and inclusive workplace	12 Proportion of women in senior roles ¹⁰	30.5%		35%	50%		
	13 Proportion of PMI employees who have access to structured lifelong learning offers	80%		70%			
Improve the quality of life of people in our supply chain	14 Cumulative number of human rights impact assessments conducted since 2018, with findings addressed ¹¹	7		10			
	15 Prevalence of child labor among contracted farmers supplying tobacco to PMI	0.1%		0%			
	16 Proportion of contracted farmers supplying tobacco to PMI who make a living income	73%		100%			
Tackle climate change	17 Net carbon emissions in scope 1+2 (in thousands of metric tons) ¹²	297,236		0			
	18 CO2e scope 3 absolute reduction versus 2019 baseline (in-line with science-based target)	7.9%		25%	50%		
Preserve nature	19 Proportion of tobacco purchased at no risk of deforestation of managed natural forest and no conversion of natural ecosystems ¹³	55%		100%			
Operational Sustainability performance					100%	33%	
PMI Sustainability Index						100%	

Key

- Target missed
- Target met
- Target partially met
- Target exceeded

2022 PMI Sustainable Development Index Data, Source: PMI official website

Highlights in PMI's latest ESG report include:

- **Sustainable Supply Chain Management**

30% of PMI's procurement spending is allocated to smoke-free products. In 2022, PMI provided tobacco protection equipment to 223,299 contract farmers to prevent tobacco green leaf disease. Measures were taken to improve the quality of life for supply chain workers and provide safe and adequate accommodation for tobacco farm workers.

- **Commercialization of Smoke-Free Products**

Furthermore, there is an increased focus on innovation and scientific capabilities for smoke-free products. In 2022, \$642 million was invested in research and development, with 99% exclusively dedicated to smoke-free products. 53 factories are committed to the production of smoke-free products. The proportion of smoke-free product shipments in 2022 accounted for 15.1% of the total, increasing from 500 million shipments in 2015

to 11.4 billion shipments in 2022. The smoke-free market for PMI products has expanded from 7 to 73 markets. At the consumer level, there is a shift from B2B to an increasingly consumer-centric model. For instance, PMI engages with adult smokers through cigarette packaging, such as JustScan, covering approximately 1.3 million adult consumers in 36 markets worldwide in 2022.

- **Promotion of a Fair and Inclusive Work Environment**

PMI emphasizes equal employment opportunities, with 40% of managerial positions held by women, ensuring equal pay for female and male employees. Efforts to improve the working environment include the establishment of internal online training systems, safeguarding employee health and safety. PMI's talent initiatives have led to a reduction in employee turnover to 9.3%.

- **Environmental Protection**

In pursuit of sustainable development goals, PMI is dedicated to environmental protection. In 2022, PMI implemented awareness programs against littering in over 60 countries/regions, engaging more than 2,000 employees. Additionally, PMI conducted scrapping and recycling programs, achieving smoke-free recycling and reuse of product waste. By 2022, 157,000 smoke-free electronic devices were accumulated through updates or repairs. PMI is committed to using renewable energy sources, with 95% of packaging materials sourced from renewable resources. They focus on biodiversity and climate change, aiming for net-zero greenhouse gas emissions in scopes 1+2+3 according to science-based targets (SBT). These measures represent PMI's commitment and practices in environmental protection and carbon emission reduction, aligning with sustainability.

This ESG report reflects PMI's increased investment this ESG report, showcasing their increased investment of time and effort in the research, development, and urgency of sustainability in smoke-free products.

1 INTRODUCTION P05

2 NGP INDUSTRY ESG INFORMATION
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→ **4 RECOMMENDATIONS FOR GLOBAL
NGP INDUSTRY ESG PRACTICES** P35

At present, the global development of the NGP industry is at a unique and critical juncture. On one hand, there is a rapid expansion of strong consumer demand, but on the other hand, there is significant policy uncertainty in different regions globally, posing the primary external risks for companies in the NGP industry.

NGP companies promote their products based on features such as "smoker conversion" and "harm reduction." However, in market practices, they face criticism from governments and the public due to underage use, environmental pollution, insufficient scientific evidence on health impacts, and illegal trade.

In the formulation and implementation of ESG strategies, NGP companies should fully consider the industry's specificity, organically combining the general requirements of ESG with the industry's characteristics and their own features, continuously improving the level of ESG development.

For the future ESG development of the global NGP industry, the following recommendations are proposed:

- 1 Companies should fully recognize the necessity of ESG construction and consider it as a standard for corporate governance. The top executive of the company should personally engage in ESG planning, incorporating ESG development into the corporate strategy.
- 2 Gradually explore ESG industry standards for the global NGP industry to promote industry self-discipline and global sustainable development through ESG.
- 3 Strengthen ESG communication in the global NGP industry. Recognize the strong "economies of scale" in the ESG development of the NGP industry. Collaboration among leading companies and the participation of more enterprises will help reduce costs and enhance effectiveness in ESG development, promoting better globalization.

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About 2FIRSTS

2FIRSTS was established in early 2022 and is a globally influential vaping technology media and think tank. The core readership of 2FIRSTS includes regulatory authorities from various countries, international new tobacco companies, distributors worldwide, supply chain enterprises, non-profit organizations, media, and more. 2FIRSTS brings readers the latest global information, forward-looking topics, in-depth analysis and insights, as well as rich data and information. 2FIRSTS is committed to promoting the high-quality development of the global new tobacco industry through media and research, making efforts for harm reduction worldwide.

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2FIRSTS maintains good cooperation and close communication with international new tobacco companies, regulatory authorities from various countries, media, etc. 2FIRSTS is also a partner and official media for major global new tobacco exhibitions. 2FIRSTS has offices in Shenzhen, China, Hong Kong, New York, Europe, and other locations.



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China National Radio Online is the largest comprehensive news website in China, sponsored by China Central Television (CCTV). It is a key national news website and one of the most influential online media outlets in China. The mission of the website is to "tell China's story and spread China's voice."

As a leading national team in internet news communication and an important new media platform for CCTV, China National Radio Online continuously innovates communication concepts and development models. Leveraging its advantages in original news, it features authoritative, timely, and diverse content, emphasizing "fast news" and highlighting "exclusive reports by China National Radio Online." The platform focuses on reporting current affairs news, capturing hot topics, addressing issues related to people's livelihoods, providing authoritative commentary, and guiding the correct direction of public opinion.

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