

Heated Tobacco Products in the U.S.: Philip Morris International's IQOS



Philip Morris International's (PMI) IQOS and other heated tobacco products are among the latest iteration of tobacco products introduced by tobacco companies.

IQOS is currently marketed in more than 70 countries. Unlike in most other countries, PMI had to first obtain an order from the U.S. Food and Drug Administration (FDA) to market and sell IQOS in the United States. FDA authorized PMI to sell an initial version of IQOS on April 30, 2019 and authorized IQOS as a "modified risk tobacco product" (MRTP), allowing the marketing of IQOS with specific reduced exposure claims (but denying reduced risk claims) on July 7, 2020. The IQOS MRTP order does not allow the product to be marketed as "safe" or even "safer," "FDA approved," or as presenting less risk of disease than other tobacco products. IQOS was off of the U.S. market for two years due to a patent infringement dispute, but PMI began selling IQOS 3 in Austin, TX, in March 2025 and has expanded to several other cities.

What are heated tobacco products?

While conventional cigarettes rely on the combustion of tobacco to create the inhaled smoke, heated tobacco products (HTPs), sometimes called "heat-not-burn" products by the tobacco industry, use an electronic device to heat a stick or plug of compressed tobacco and other chemicals to a high enough temperature to produce an inhalable aerosol, but below the temperature required for full combustion. The aerosol contains nicotine and varying amounts of other chemicals that can also be found in cigarette smoke.

Heated tobacco products are not entirely new to the United States. In the late-1990s, Philip Morris test-marketed a product similar to IQOS called Accord, but it was not well-accepted by consumers and the company dropped it.¹ In the mid-1990s, Reynolds American marketed Eclipse, a cigarette with a charcoal tip that is lit with a lighter to heat the tobacco. Reynolds American test-marketed a similar product, Revo, in 2015, but ended sales of both products after minimal interest.² Now owned by British American Tobacco, Reynolds American received marketing orders from FDA to market a new version of Eclipse and Eclipse menthol,³ but it does not appear the product is yet being sold.

Currently, most of the major transnational tobacco companies sell heated tobacco products in various countries: British American Tobacco (parent company of Reynolds American, Inc.) markets glo, Japan Tobacco International sells Ploom TECH, KT&G (Korea) markets lil, and Imperial Tobacco sells Pulze.

What is IQOS?

Philip Morris International (PMI) started selling IQOS products in 2014 in Japan, and has expanded sales to more than 70 countries. In the countries where the products are currently for sale, newer versions of IQOS have been released since the initial launch.

Consumers buy or lease a device kit, which comes with a charging pack, a heating device, and components such as cleaner brushes and charging cords. Heatsticks, branded in some countries as Marlboro Heatsticks and branded in others as HEETS, come in packs of 20, like cigarettes, and are sold and marketed separately from the devices. Depending on the country, Heatsticks or HEETS are available in a variety of flavors, including berry, menthol, and menthol varieties ("Smooth Menthol"), and less obvious options such as "Amber Label," "Yellow Label," and "Turquoise Label." Heatsticks contain approximately half the amount of tobacco in a traditional cigarette.



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IQOS Market in the U.S.

PMI has marketing orders from FDA to sell IQOS 2.4 and IQOS 3 versions and five Heatstick flavors (Red, Blue (menthol), Green (menthol), Amber, Bronze) in the United States. Originally, PMI contracted with Altria to sell IQOS in the U.S., using the Marlboro branding for the Heatsticks, between 2019 and April 2024, when the contract ended. Due to a patent infringement lawsuit brought by British American Tobacco (BAT) that was settled in February 2024,⁴ IQOS was not being sold in the U.S. between the end of 2021 and early 2025.

PMI launched a marketing campaign for IQOS 3 and HEETS-branded Heatsticks in Austin, TX, in October 2024⁵ and began selling them in that area in late March 2025.⁶ As of October 2025, IQOS is also available in Fort Lauderdale, FL,⁷ Jackson, MS, and several military bases (Fort Hood, TX, Quantico, VA, Camp Lejeune, NC).⁸ PMI also created a subsidiary, Triaga, Inc., to market IQOS in the U.S., and built a factory in Wilson, NC, to manufacture the products. In October 2023, PMI submitted premarket applications to FDA for a new device, IQOS ILUMA and a new type of Heatsticks.⁹

FDA authorized PMI to use a specific “reduced exposure” claim about an individual’s exposure to harmful chemicals for IQOS 2.4 and IQOS 3:

“AVAILABLE EVIDENCE TO DATE:

- The IQOS system heats tobacco but does not burn it.
- This significantly reduces the production of harmful and potentially harmful chemicals.
- Scientific studies have shown that switching completely from conventional cigarettes to the IQOS system significantly reduces your body’s exposure to harmful or potentially harmful chemicals.”

However, FDA denied PMI’s request to market IQOS as a “reduced risk” MRTP, finding there was not enough evidence that switching completely to IQOS “presents less risk of harm than continuing to smoke cigarettes” or “can reduce the risks of tobacco-related diseases.” Importantly, FDA did not find either that IQOS is “safe” or even “safer” than conventional cigarettes, or that IQOS can help smokers quit. Thus, PMI is not allowed “to make any other modified risk claims or any express or implied statements that convey or could mislead consumers into believing that the products are endorsed or approved by the FDA, or that the FDA deems the products to be safe for use by consumers.”¹⁰ PMI has also applied to use the same reduced exposure claim for IQOS ILUMA.¹¹

Awareness and Use of HTPs

Before this latest relaunch, IQOS was available in the U.S. for only about two years and then pulled from the market, so trend data for adults and youth in the U.S. do not exist currently. However, the available data thus far can provide a baseline for comparison going forward.

Adults. A study surveyed U.S. adults in 2017 and found that less than one percent had ever used a heated tobacco product, but more were aware of the products.¹² The very low use rates are reflective of the fact that heated tobacco products, particularly the newest generation, were not yet officially on the market in the U.S.

Youth. The 2021 National Youth Tobacco Survey (NYTS) found that 2.3 percent of high schoolers reported ever use of HTPs, and less than one percent reported use of HTPs in the past 30 days.¹³ An analysis of 2019 NYTS data found that “current tobacco use is associated with higher odds of HTPs ever and current use.”¹⁴ The survey findings are somewhat limited in that IQOS was not available in all states during these surveys, and some respondents could have confused HTPs with e-cigarettes.

What is known about IQOS?

There is a big knowledge gap about both the short- and long-term health impacts of HTPs. The majority of currently available evidence on potential health effects is industry-funded, and the tobacco industry has a long history of funding research to support its business objectives.¹⁵ Thus far there is little independent

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evidence to demonstrate that they are less harmful than conventional tobacco products or that they can help smokers quit smoking entirely.

The tobacco industry claims that by heating the tobacco, rather than burning it as with conventional cigarettes, the harms associated with combustion are significantly reduced.¹⁶ This makes review by FDA and other independent scientists critical. PMI provided FDA with more than 2 million pages of research as part of its IQOS 2.4 MRTP application.¹⁷ As part of that process, FDA's Tobacco Product Scientific Advisory Committee (TPSAC) also analyzed that research and notably, expressed significant concerns about IQOS being marketed as an MRTP. Independent studies on the product are slowly being published, including some that challenge results submitted by PMI to FDA.¹⁸

Characteristics of the Product and Health Risks

- Heated tobacco products deliver a significant level of nicotine to the user.¹⁹
- Studies have demonstrated that heated tobacco products contain many of the same chemicals found in cigarette smoke, but that most of the chemicals identified are present at significantly reduced levels.²⁰ In reviewing the evidence presented to FDA, TPSAC found sufficient evidence to support the statement, "Scientific studies have shown that switching completely from cigarettes to the IQOS system significantly reduces your body's exposure to harmful or potentially harmful chemicals."²¹
- A report from the WHO Framework Convention on Tobacco Control (FCTC) Secretariat concluded that the emissions from HTPs are smoke: "Novel and emerging tobacco products, particularly HTPs, emit pyrolysis products such as volatile aldehydes; therefore, these aerosols are clearly within the scientific definition of "smoke", and any smoke emitted by HTPs is unambiguously 'tobacco smoke.'"²²
- A 2022 Cochrane review, *Heated tobacco products for smoking cessation and reducing smoking prevalence*, concluded, "There was insufficient evidence for differences in risk of adverse or serious adverse events between people randomised to switch to heated tobacco, smoke cigarettes, or attempt tobacco abstinence in the short-term. There was moderate-certainty evidence that heated tobacco users have lower exposure to toxicants/carcinogens than cigarette smokers and very low- to moderate-certainty evidence of higher exposure than those attempting abstinence from all tobacco." The review only included research funded by the tobacco industry.²³
- A recent study reviewed the available science on biomarkers of potential harm (BoPH) and adverse effects from HTP use and concluded, "the existing data indicate HTPs have the potential to be harmful to both smokers and non-smokers, and that potential benefits in smokers switching to HTPs may be restricted to a limited subset of biomarkers whose clinical relevance is unclear."²⁴
- In granting PMI exposure modification order for IQOS, FDA stated in its decision summary, "Although the available scientific evidence shows that the IQOS system produces lower concentrations of many harmful and potentially harmful constituents (HPHCs) compared to cigarette smoke and the non-clinical data suggests a favorable toxicological profile of the IQOS system compared to combusted cigarettes, the overall body of evidence was not sufficient to demonstrate that completely switching from combusted cigarettes to the IQOS system reduces the risk of tobacco-related disease or harm."²⁵ Related, in its exposure modification order for IQOS, FDA noted that the reduced exposure from IQOS use could be associated with reduced risk even though studies provided by PMI did not show that result.²⁶ When it met in January 2018, TPSAC voted that the evidence provided by PMI did not adequately support its proposed claim that "Switching completely to IQOS presents less risk of harm than continuing to smoke cigarettes."²⁷
- Evidence shows that consumers believe that claims about reduced exposure to chemicals means a lower risk. Analysis of PMI's own data submitted in the MRTP application showed "that adult consumers in the USA perceive reduced exposure claims as reduced risk claims."²⁸ When it met in January 2018, TPSAC

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noted concerns about this consumer confusion.²⁹ FDA did not adequately address this issue in its decision summary on the MRTTP orders.³⁰

- The design of the product itself could impact consumers' beliefs about IQOS. FDA stated in its decision summary authorizing IQOS as a MRTTP, "The novel design of the product may contribute to these risk perceptions ["that [IQOS] is lower in risk than cigarettes"] in the same way that many consumers perceived that e-cigarettes were a less harmful alternative to cigarettes when their use was becoming more common."³¹
- Studies continue to highlight discrepancies in research on HTPs from independent sources versus from the tobacco industry. This includes differences in findings on chemical contents in IQOS aerosol³² and selective reporting of data by companies.³³ These findings underscore the need for independent research.

Smoking Cessation and Potential for Dual Use

- A 2022 Cochrane review concluded, "No studies reported on the use of heated tobacco for cigarette smoking cessation, so their effectiveness for this purpose remains uncertain."³⁴
- In its decision summary authorizing IQOS as a MRTTP, FDA stated, "The 6-month study showed that incomplete switchers or dual users (as defined by the applicant) had much smaller reductions in exposure biomarkers as compared with IQOS use, suggesting that disease or mortality risk is unlikely to be substantially reduced as a result of exposure reduction in dual users of cigarettes and IQOS."³⁵
- Data from the International Tobacco Control Policy Evaluation Project (ITC Project) in Japan and South Korea show that most smokers who take up IQOS become long-term dual users, with actual rates of complete switching much lower than what PMI claims.³⁶ Studies provided by PMI similarly show large rates of dual use in several countries.³⁷
- In its decision summary for the marketing order for IQOS, FDA noted, "Dual use of CC [conventional cigarettes] and IQOS appears likely."³⁸ Previously, TPSAC had found that, based on the evidence provided by PMI, it was unlikely that smokers in the U.S. would switch completely to IQOS and there is a significant likelihood that smokers would become long-term dual users of IQOS and traditional cigarettes.³⁹
- Available evidence raises concerns that heated tobacco products are being used by some non-smokers.⁴⁰ At the population level, even use by one percent of all adult non-smokers translates into millions of users.

Effects on Youth

- PMI has not provided FDA with any evidence about the impact of the product on youth in the U.S.⁴¹ Population health benefits that may accrue to smokers could be undermined if youth start using these products, exposing them to nicotine and other hazardous chemicals.
- IQOS packaging may be appealing to youth. The product packaging, sleek design, and IQOS stores resemble products that are attractive to youth.⁴² After showing adolescents aged 16 to 19 images of an IQOS device and a pack of regular HEETS-branded Heatsticks, researchers found that among youth never-users (never smokers and never vapers) in the U.S., susceptibility to trying IQOS was higher than for traditional cigarettes but lower than for e-cigarettes. About one in five of the never-users (21.8%) in the U.S. were interested in trying IQOS and more than one quarter of never-users (27.0%) showed susceptibility to trying IQOS. The researchers commented, "[q]ualitative evidence suggests that IQOS packaging and marketing may have particular appeal among youth and young adults, given the important role that technology plays in their lives."⁴³
- The importance of determining the likely impact of new heated tobacco products on young people is underscored by the experience with the rapid youth uptake of e-cigarettes in the U.S., to the extent that e-cigarette use among the young continues to exceed use of cigarettes and other tobacco products.⁴⁴

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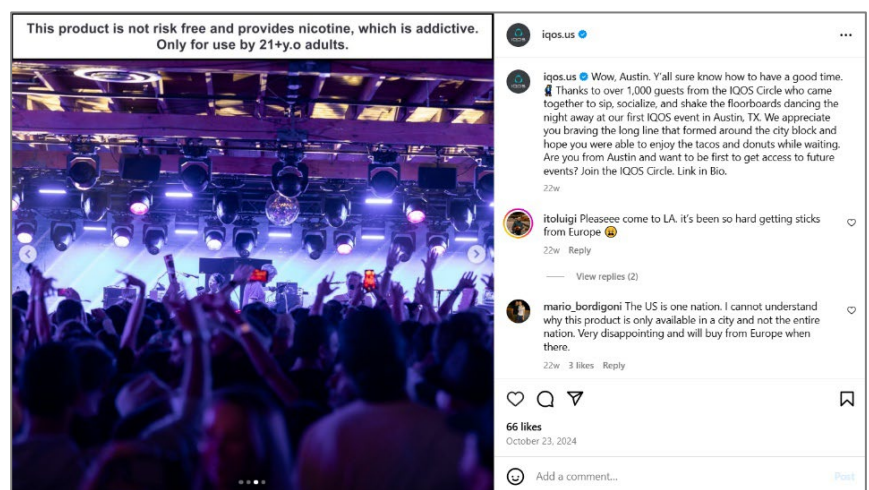
IQOS Marketing and Messaging

PMI has implemented an extensive marketing plan in countries where it currently sells IQOS. In presenting its U.S. marketing plan to FDA's TPSAC in 2018, the Vice President of Heated Tobacco Products for Philip Morris USA, Sarah Knakmuhs, stated, "we've also had the opportunity to learn from PMI's introduction of IQOS in markets outside the U.S."⁴⁵ The 2019 launch of IQOS in Atlanta, GA, reflected many of the same elements of PMI's marketing of IQOS abroad, and the relaunch of IQOS 3 appears to do so as well.

IQOS is being marketed as a sophisticated, high-tech, and aspirational product.⁴⁶ Because youth and young adults are interested in such product categories, this approach raises concerns about youth appeal. PMI heavily markets IQOS in certain countries, often in ways that it cannot market its conventional tobacco products, including through outdoor advertisements, public displays, point-of-sale displays, sponsored parties and cultural events, product 'launch events,' partnerships with other businesses particularly related to fashion and design, branded vehicles, and social media.*

IQOS Re-Launch in the U.S. PMI

launched its marketing campaign for IQOS in October 2024, with posts on the official IQOS social media accounts introducing people to the product and encouraging them to sign up for the "IQOS Circle" to "join exclusive IQOS experiences" and "get special offers."⁴⁷ During the popular Grand Prix Formula 1 race weekend on October 19-20, 2024 in Austin, TX, PMI sponsored an IQOS Experience kick-off party with *Rolling Stone* magazine featuring the band LCD Soundsystem and DJ Cassidy.⁴⁸ To obtain a ticket, people had to sign up to join the IQOS Circle, which was then only open to residents of Austin and surrounding counties. However, information about the event spread beyond adult smokers on social media and posts indicate that non-registered users who just showed up were let into the event.⁴⁹ There was an open bar and attendees were given goody bags.⁵⁰ Since the initial event, PMI has hosted other parties and music events (with *Rolling Stone*) and set up pop-up kiosks at bars in Austin to provide product demonstrations and sell IQOS. Similarly, PMI launched a marketing campaign in Fort Lauderdale, FL, with an exclusive concert featuring Grammy-winning artists Lauryn Hill and Wyclef Jean.⁵¹



IQOS US Instagram, October 23, 2024,
https://www.instagram.com/p/DBePqm9yPPu/?img_index=3

IQOS went on sale in Austin in late March 2025, in pop-up venues across the city. Devices were being sold for \$60 and Heatsticks are approximately \$8 for a 20-pack. According to the vice president and chief marketing officer of PMI U.S., these prices are "lower...versus some other markets in part to reflect the fact it was trying to build up appetite among new consumers."⁵² Availability of IQOS and HEETs were originally limited to the Austin area, for both in-store and online sales, but that has since expanded to include more areas in Texas.⁵³

The first IQOS launch by Altria in 2019 was in Atlanta, GA, using many of the same elements PMI used in other countries, including flagship and pop-up stores, discount offers,⁵⁴ social media, a brand website to learn more about the product, schedule appointments for IQOS trial or service, find stores, and register their devices and online ordering.⁵⁵ Leading up to the launch, PMI had already paid for ads to appear in the Google search engine when searching for the term "heat-not-burn." The ad used language to suggest FDA

* Examples of early IQOS marketing in various countries described in this factsheet are available at:
https://www.tobaccofreekids.org/assets/content/press_office/2019/IQOS-mktg.pdf.

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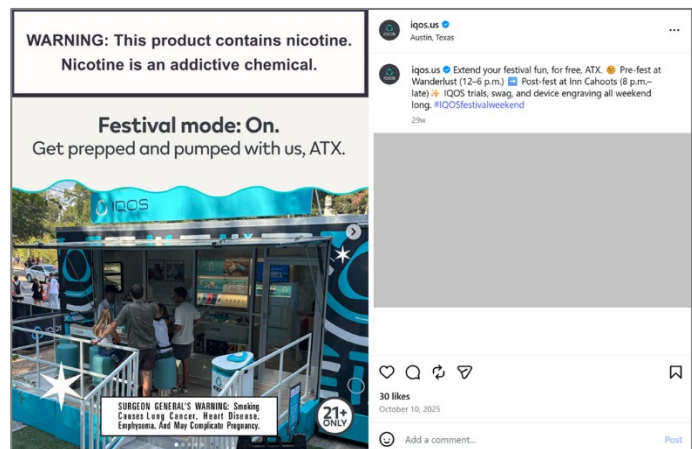
endorsement of IQOS and imply reduced risk, which is a violation of the FDA law. In addition, to visit the website at the link in the ad, viewers were required to accept or decline a note from PMI saying the website was not for advertising or marketing, even though it is clearly meant to promote IQOS.⁵⁶

As part of the MRTP order for IQOS, FDA specifically requires PMI to conduct analysis on the impact of the reduced exposure message on the percentage of youth and young adults below the legal age of purchase who start using IQOS.⁵⁷ FDA must also carefully monitor PMI's marketing strategies to ensure that it does not make unwarranted health claims and that it does not engage in the same marketing practices used abroad by PMI to broaden the appeal of IQOS beyond adult smokers to non-smokers, especially youth.

IQOS Stores and Pop-Ups. Located in popular shopping areas, IQOS stores use modern and sleek designs that mimic technology stores like Apple stores that are highly appealing to youth and young adults. As one design firm stated, these aim to create an “extraordinary so-called ‘consumer experience.’”⁵⁸ PMI has opened pop-up stores in bars and lounges, sometimes linked to special events like festivals, and in areas where young people frequent. IQOS representatives in the stores are meant to introduce potential consumers to the product and show how to use them.

Marketing to the General Public. PMI states that “We only market our smoke-free products to adult smokers and adult users of nicotine products...”⁵⁹ but its actions show the opposite – the product's marketing is exposed to and engages broad audiences in a wide range of ages. PMI has set up IQOS kiosks and extensive advertisements in shopping malls, train stations, airports, and other locations with ample exposure to non-smokers, including kids and teenagers.

IQOS displays have been placed in locations such as gyms, barber shops, and hotels, which have broad reach and clearly do not limit exposure to adult smokers. In addition, PMI has placed outdoor ads for IQOS in shopping areas and set up IQOS lounges at public festivals, auto shows, and sporting events that are attended by people of all ages. For instance, at a street food festival in Kyiv, Ukraine, where children were present, PMI associates interacted with people throughout the festival, not limited to the IQOS space, and were offering free samples.⁶⁰ PMI hosted an IQOS stage at the 2017 Belgrade Beer Festival.



IQOS US Instagram, October 10, 2025,
https://www.instagram.com/p/DPm-Y1oEgIJ/?img_index=1.

Sponsored Social Events and Parties. PMI hosts elaborate IQOS-branded social events and parties, sometimes hiring popular music artists, DJs, and celebrities linked to the art, fashion, or design world, to associate the product with a party lifestyle. PMI's relaunch of IQOS in the U.S. has been accompanied by several sponsored music events. PMI has partnered with Rolling Stone in the U.S. and the United Kingdom to sponsor concerts with popular music artists.⁶¹ In Romania, the company sponsors a beach bar and used to sponsor a series of parties hosted by A Brunch Affair. At a party to launch the new IQOS 3 device in Milan, Italy, musician Jamiroquai performed. Rather than educating attendees about the product, these events renormalize and re-glamorize tobacco use. It is unclear if PMI verifies that all attendees are adult smokers, but in at least one case, an attendee who identified herself as a non-smoker thanked PMI over social media for inviting her to the event.

IQOS + Fashion. To glamorize the product and link it to sophistication and fashion, PMI has sponsored fashion and design events, such as Mercedes-Benz Fashion Days in Ukraine; partnered with designers such as Karim Rashid to create limited-edition IQOS charger covers; and entered into partnerships with several women's magazines, including in Russia and Italy, for projects that include designing IQOS covers and

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empowering women in the workplace. Other special edition or limited edition IQOS devices and chargers include “motor edition,” to tie the products with the PMI-sponsored Formula 1 race car.

Paid Social Media Marketing. Images posted on social media platforms feature influencers and “IQOS team” members who have been paid by PMI to model with products, speak about and otherwise promote products, and invited to attend parties or other sponsored events that make IQOS look like part of a desirable lifestyle.[†] By posting from their own accounts, these influencers expose IQOS products to a much wider audience beyond only people who use tobacco.

Though some posts originate from outside of the U.S., some influencers have enough Americans followers to potentially reach millions of Americans.⁶² For instance, even before receiving the order from FDA allowing PMI to market IQOS in the U.S., PMI had already engaged in paid practices that advertised the product to a U.S. audience. PMI could minimize the exposure of those posts to Americans, but has not taken action to do so. A report analyzing major social media outlets through October 2023 found that PMI continues to feature IQOS on social media posts highlighting lifestyle, arts, and music sponsorships, reaching 47.6 million people worldwide, including in the U.S.⁶³



Jukiener Instagram, March 29, 2025,
https://www.instagram.com/p/DHxDINfxHTD/?img_index=2.

After *Reuters* reached out to PMI for comment on its extensive social media marketing in many countries using paid influencers, PMI abruptly announced that it would “suspend all of our product-related digital influencer actions globally” for IQOS.⁶⁴ However, PMI also claimed that social media marketing was needed to reach adult cigarette smokers.⁶⁵ In February 2020, PMI was still found to be using social media influencers in Ukraine to raise the image of IQOS.⁶⁶

Reduced Risk Messages. As mentioned above, although FDA has granted an exposure modification order allowing IQOS to be marketed with a specific “reduced exposure” claim, the agency did not find the evidence sufficient to allow the company to make any statements about reduced risk.⁶⁷ Similarly, while TPSAC found there was sufficient evidence that “switching completely from cigarettes to the IQOS system significantly reduces your body’s exposure to harmful or potentially harmful chemicals,” the committee did not find that this evidence translates into reduced harm, nor that consumers would fully understand what that message meant. One survey study, which explored youth understanding and perceptions of the claims of reduced risk and reduced exposure that PMI proposed in its MRTTP application, found that more than one in four youth did not understand “the term switching completely to mean exclusive use of IQOS and never smoking cigarettes again.”⁶⁸ Further, the study’s findings suggested that youth might interpret reduced exposure claims similarly to reduced risk claims.

PMI has acknowledged that consumers mistakenly believe that reduced exposure means that IQOS reduces harm. The company has stated, “It appears likely that consumers will typically infer a degree of reduced disease risk, even where such inferences are explicitly contradicted by warning statements.”⁶⁹ Separate surveys and studies have found similar results.⁷⁰ However, that has not stopped PMI from making and implying such broad messages in company statements⁷¹ and other marketing materials.

[†] Additional examples of IQOS marketing on social media are available at: <https://www.tobaccofreekids.org/media/2019/iqos-marketing>.

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Regulating and Taxing IQOS

FDA has categorized IQOS and Heatsticks as noncombusted cigarettes. In its marketing order for IQOS and Heatsticks, FDA stated that IQOS would be subject to the same regulations as other new tobacco products under its jurisdiction, including packaging and labeling requirements, ingredient reporting requirements, and advertising requirements. FDA is also requiring post-market surveillance of IQOS sales, use, and advertising.

Heatsticks are categorized as cigarettes under the current definition of cigarettes in the federal tax code, and therefore are subject to the federal excise tax for cigarettes.

At the state level, definitions for cigarettes vary and while it is expected that Heatsticks should be taxed as cigarettes, that may not be the case in every state. PMI and Altria have been actively lobbying states to change tax policy for their heated tobacco products. For instance, in 2017, when Altria was under contract with PMI to market IQOS, the company's CEO stated, "We have an engagement plan that we're talking to public policy officials, to state tax officials and others...We are particularly pitching that in the states, but as you know, state excise tax structures are highly complex and idiosyncratic by state, so the reception varies from state to state. But we are out there sharing our views about that and trying as best we can to persuade people to be thoughtful about that."⁷² This strategy was successful – the company ultimately swayed the Virginia government to exclude Heatsticks from the cigarette definition, thereby eliminating the tax on Heatsticks. After its contract with PMI ended and Altria began developing its own heated tobacco product that does not use cigarette-like sticks, the company again effectively lobbied the Virginia government to impose separate taxes on heated sticks and heated tobacco products, with the latter having the lowest tax compared to cigarettes and heated sticks.

In its statement on FDA's authorization to use specific reduced exposure messaging for IQOS, PMI stated, "the FDA's MRTP authorization shows that IQOS is a fundamentally different product than combustible cigarettes, and must be regulated differently, as the FDA has recognized."⁷³ To that end, Altria has been lobbying states to lower tax rates for products with an MRTP order, stating at its Q4 2020 earnings call, "our government affairs team has been able to secure that reduction in six states and then of course there is a slight definition change in the state of Virginia, so if you count that as a reduction, there would be seven states. But six that are part of if you will once it receives designation from the FDA step down taxation."⁷⁴ However, because these products have not been shown to show any reduction in risk, it is premature to regulate these products differently than cigarettes.

¹ New York Times News Service, "Battery-pack Puffer Aimed At Smokers," *Chicago Tribune*, October 23, 1997, http://articles.chicagotribune.com/1997-10-23/news/9710230178_1_nicotine-delivery-secondhand-smoke-benson-hedges.

² Craver, R, "Reynolds' decision to stop marketing of heated cigarette Revo illustrates challenges in selling adult smokers on new products," *Winston-Salem Journal*, August 2, 2015, https://www.journalnow.com/business/business_news/local/reynolds-decision-to-stop-marketing-of-heated-cigarette-revo-illustrates/article_afc1a516-29dc-55a5-8a54-75bd32cddd60.html.

³ U.S. Food and Drug Administration (FDA), letter to R.J. Reynolds Tobacco Company, July 19, 2018, <https://www.fda.gov/media/115492/download>. FDA, letter to R.J. Reynolds Tobacco Company, November 14, 2019, <https://www.fda.gov/media/138564/download>.

⁴ "BAT, Philip Morris settle patent disputes over heated tobacco, vapes," *Reuters*, February 2, 2024, <https://www.reuters.com/business/healthcare-pharmaceuticals/bat-philip-morris-settle-all-patent-litigations-relating-heated-tobacco-vapes-2024-02-02/>.

⁵ PMI, Philip Morris International's 2023 Investor Day Transcript, September 28, 2023, <https://philipmorrisinternational.gcs-web.com/static-files/539f900e-e06e-469d-8851-934a5c0bf334>.

⁶ "Philip Morris' heated tobacco device IQOS goes on sale in Texas," *Reuters*, March 27, 2025, <https://www.reuters.com/business/healthcare-pharmaceuticals/philip-morris-heated-tobacco-device-iqos-goes-sale-texas-2025-03-27/>.

⁷ PMI, PMI U.S. Reveals Ft. Lauderdale as Next IQOS Launch City to Provide Residents 21+ Who Smoke a Better Alternative to Leave Cigarettes Behind, Press Release, *BusinessWire*, May 2, 2025, <https://www.businesswire.com/news/home/20250502143425/en/PMI-U.S.-Reveals-Ft.-Lauderdale-as-Next-IQOS-Launch-City-to-Provide-Residents-21-Who-Smoke-a-Better-Alternative-to-Leave-Cigarettes-Behind>.

⁸ PMI, FDA TPSAC Briefing Materials, October 7, 2025, <https://www.fda.gov/media/189099/download?attachment>.

⁹ PMI, Philip Morris International Submits Applications to Commercialize IQOS ILUMA Tobacco Heating System to U.S. Food and Drug Administration, October 20, 2023, <https://www.pmi.com/investor-relations/press-releases-and-events/press-releases-overview/press-release-details/?newsId=26891>.

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- ¹⁰ FDA, "FDA Authorizes Marketing of IQOS Tobacco Heating System with 'Reduced Exposure' Information," Press Release, July 7, 2020, <https://www.fda.gov/news-events/press-announcements/fda-authorizes-marketing-iqos-tobacco-heating-system-reduced-exposure-information>.
- ¹¹ PMI, Philip Morris International's 2023 Investor Day Transcript, September 28, 2023, <https://philipmorrisinternational.gcs-web.com/static-files/539f900e-e06e-469d-8851-934a5c0bf334>.
- ¹² Marynak, KL, et al., "Awareness and Ever Use of 'Heat-Not-Burn' Tobacco Products Among U.S. Adults, 2017," *American Journal of Preventive Medicine*, published online first, <https://doi.org/10.1016/j.amepre.2018.04.031>, July 19, 2018. Nyman, AL, et al., "Awareness and use of heated tobacco products among US adults, 2016–2017," *Tobacco Control* 27(Suppl 1):s55–s61, 2018.
- ¹³ Gentzke, AS, et al., "Tobacco Product Use Among Middle and High School Students—United States, 2021," *Morbidity and Mortality Weekly Report (MMWR)*, 71(5), March 11, 2022, <https://www.cdc.gov/mmwr/volumes/71/ss/pdfs/ss7105a1-H.pdf>.
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