



HEATED TOBACCO PRODUCTS

Definition and Global Market

What Are Heated Tobacco Products (HTPs)?

Heated tobacco products (HTPs) are tobacco products that require the use of an electronic device to heat a stick or plug of compressed tobacco. The stick (by definition, a cigarette) or plug is heated to a temperature high enough to produce an inhalable aerosol, but the temperature is below that which is required for full combustion. HTP systems are fully integrated so that the heating device and compressed cigarettes or plugs for each system must be used together. The systems are exclusive to each manufacturer in that the components are not interchangeable. HTP cigarettes and plugs come in different flavors, including menthol and a variety of fruit flavors.

The phrasing “heat-not-burn” was initially promoted by tobacco companies as a way to describe HTPs, avoiding an overt reference to tobacco while suggesting a lack of combustion. Today, tobacco companies use other terms when referring to HTPs, including “tobacco heating system” and “tobacco vapor products.”

HTP Brands

The three largest HTP brands are *IQOS* manufactured by Philip Morris International (PMI), *glo* produced by British American Tobacco (BAT), and *Ploom TECH* from JT Group and marketed globally by Japan Tobacco International (JTI).

IQOS

- *IQOS* launched in 2014 in Japan and is now sold in at least 47 countries.¹ In 2018, *IQOS* had 78.8% of the global HTP market,⁸ and in the third quarter of 2019, volume shipments of *IQOS* increased 28.3% compared with the same period in the previous year.⁹
- *IQOS* cigarettes are branded as HeatSticks or Marlboro HEETS.
- *IQOS* includes a portable battery pack that recharges the heating device after each use.

glo

- *glo* launched in 2016 and is sold in at least 15 countries.¹⁰ It had 13.3% of the global HTP market in 2018.⁸
- *glo* cigarettes are branded as Kent Neostiks or Neo in most countries. In 2019, shipment of Kent Neo/Neosticks increased by 17.2% in the first half of 2019 compared with the same period in 2018.¹¹
- The *glo* heating device holds enough charge to heat several sticks and has no separate battery pack.



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Do HTPs Produce Smoke?

Tobacco companies claim that HTPs do not burn tobacco or emit smoke.^{1,2,3} However, early studies conducted with *IQOS* have found charring after use and carbonyl compounds in the emissions. Both are evidence of pyrolysis, a chemical reaction that is integral to tobacco burning.^{4,5,6} Pyrolysis inevitably produces smoke,⁷ suggesting that some HTPs are not, in fact, “smokeless” products.



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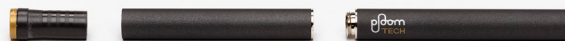
Ploom TECH

- Ploom TECH (the successor to Ploom which launched in 2013) is only available in Japan, Switzerland and Canada, although it is marketed in the US as Logic Vapeleaf. Ploom Tech had 5.3% of the global HTP market in 2018.⁸
- The pods used in Ploom TECH are branded under several names, including Mevius and Winston.
- With Ploom TECH, small pods of ground tobacco are attached to a separate cartridge of e-liquid. The heating device creates an aerosol by heating the e-liquid which is drawn through the pod of tobacco.



Other tobacco companies with HTPs are KT&G, manufacturer of *lil*, which is only available in Korea, China National Tobacco with *Mok*, and Imperial Brands with *Pulze* which is available in one city in Japan.^{12,13,14}

A Note About Technology



Some HTPs heat tobacco directly, for example *IQOS* and *glo*. On the other hand, other HTPs like *Ploom TECH* and *lil*, employ a “hybrid” technology that first heats an e-liquid that, in turn, heats the tobacco.

The Global HTP Market

- HTPs are available in approximately 47 countries across Europe, North and South America, Eurasia and East Asia. In sub-Saharan Africa, HTPs – in this case *IQOS* – are currently only available in South Africa.
- The global value of the HTP market was \$11.9 billion (USD) in 2018, with 52.6 billion heated tobacco sticks sold. This represents only 1.46% of the global tobacco market.⁸
- In 2018, the strongest market for HTPs was Japan at \$7.70 billion (USD), accounting for 65% of the global value of HTPs. That year, HTPs had 22.4% of the total Japanese tobacco market.⁸ The tobacco companies’ focus on Japan and the subsequent growth of the Japanese HTP market are attributable in part to limited restrictions on tobacco advertising and promotion, a consumer interest in technology and new products, and the de facto ban on electronic cigarettes.
- Korea was the second-largest market for HTPs in 2018 at \$1.68 billion (USD), 14% of the global market value.⁸ HTPs became available in Korea with the launch of *IQOS* in June 2017, followed quickly by *glo* and *lil* (by KT&G).¹⁵ Sales from HTPs rose to 6.1% of the Korean tobacco market by December 2017 and to 10.7% by the end of 2018.⁸
- The overall value of the European HTP market in 2018 was \$2.4 billion (USD), just 20% of the global HTP market.⁸ The largest European markets for HTPs were Italy (the third largest market globally worth \$658 million USD); Russia (\$387 million USD), and the Czech Republic (\$189 million USD).⁸
- In October 2019, Altria Group Inc. (formerly Philip Morris USA) began selling *IQOS* in the United States at one retail location in Atlanta, Georgia.^{15,16}

Future Projections for HTPs

- Internal PMI documents from 2014 detail a strategy to make HTPs available across the globe¹⁷ and IQOS trademarks have been registered in at least 20 other countries where IQOS is not yet on sale.¹⁸
 - PMI investor reports indicate that in the first quarter of 2019, IQOS cigarettes had 2% of the combined global market for conventional cigarettes and HTPs, up from 1.6% in the third quarter of 2018, which suggests the size and relative proportion of the HTP market continues to grow.¹⁹
 - PMI has said that by 2025, it aims for 30% of its total tobacco sales volume to be generated from IQOS.²⁰
- BAT experienced a slowdown in HTP shipments in the first half of 2019, but told investors that it expected a stronger second half.²¹
 - Three new products, *glo Pro*, *glo Nano*, and *glo Sens*, were launched in August and September of 2019.²²
 - *glo* falls within BAT's "New Categories" portfolio which also includes vapor products and oral (smokeless) tobacco. The category is reportedly on track to achieve in the mid-range of 30% to 50% annual revenue growth through 2023–2024.²¹
- JT Group is viewed by analysts as having lost ground to PMI and BAT with its HTP product *Ploom TECH*, which is only available in three national markets. JT Group leadership has said forecasting for the future is difficult, but it expects growth in the long-term.²³ In early 2019, JT Group added two new products to its "tobacco vapor products" portfolio: *Ploom TECH+* and *Ploom S*.²⁴

Key Messages

- Heated tobacco products are integrated systems consisting of a cigarette or pod of compressed tobacco and an electronic device which heats the tobacco to a high enough temperature to produce an inhalable aerosol.
- All multinational tobacco companies have heated tobacco product brands.
- The heated tobacco market is small but growing.
- IQOS is the market leader in heated tobacco products globally.

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