

E-CIGARETTES

Definitions and Global Markets

What Are Electronic Nicotine Delivery Systems (ENDS)?

Electronic cigarettes (e-cigarettes or electronic nicotine delivery systems [ENDS]) are battery-powered devices that heat nicotine-containing e-liquid to create an aerosol that the user inhales. ENDS products are either open or closed systems. Open systems feature a prominent chamber (tank) that is refillable with a third-party e-liquid solution. Closed systems consist of a disposable or reloadable pre-filled e-liquid cartridge. Some ENDS products, notably JUUL, are used with disposable cartridges known as “pods”, containing e-liquid.

E-liquids vary in nicotine concentration, flavors (e.g., fruit, menthol/mint, candy, herbs/spices), water content, propylene glycol and glycerin content, and the presence of other compounds. Though ENDS vary widely in look and functionality, most products consist of three main elements: an atomizer, a power source or battery, and a container, such as a cartridge or tank that holds e-liquid.

Health Effects of E-Cigarette Use

While e-cigarettes may deliver fewer toxins than conventional cigarettes, that does not mean their use is safe or without risk. Evidence of the health effects of e-cigarette use continues to emerge, and the virtually endless variety of products and their relative newness makes long-term health effects difficult to ascertain. Aerosol emitted from ENDS contains nicotine and numerous other harmful chemicals, including known carcinogens and heavy metals like nickel and lead.¹ The World Health Organization’s (WHO) Report on the Global Tobacco Epidemic² and other reviews³ detail the emerging evidence of the harmful effects of e-cigarettes, including several studies suggesting that these products have negative effects on aspects of cardiovascular and respiratory health.² ENDS pose serious risks to the health of young people. Nicotine is a highly addictive drug that can harm adolescent brain development, particularly the parts of the brain responsible for attention, memory, and learning. Furthermore, research suggests that ENDS use among non-smokers increases the risk of conventional cigarette smoking.³

Though evidence on e-cigarette use as an effective smoking cessation aid is limited, the tobacco industry spends millions of dollars and touts a harm reduction argument to lobby lawmakers in countries around the world for limited regulations on e-cigarettes.⁴ Furthermore, far from being targeted exclusively to smokers who are trying to quit if they were truly intended for harm reduction, e-cigarettes are designed and aggressively marketed to appeal to youth and other non-smokers, resulting in widespread adoption by young people in many countries.



Closed systems are either disposable or reloadable prefilled e-liquid cartridges.

Vuse, March 2023.



Open system e-cigarette products feature a refillable e-liquid tank. Contrary to closed systems, open system e-liquids are customizable, allowing users to purchase the basic ingredients necessary to mix the user’s own e-liquid.

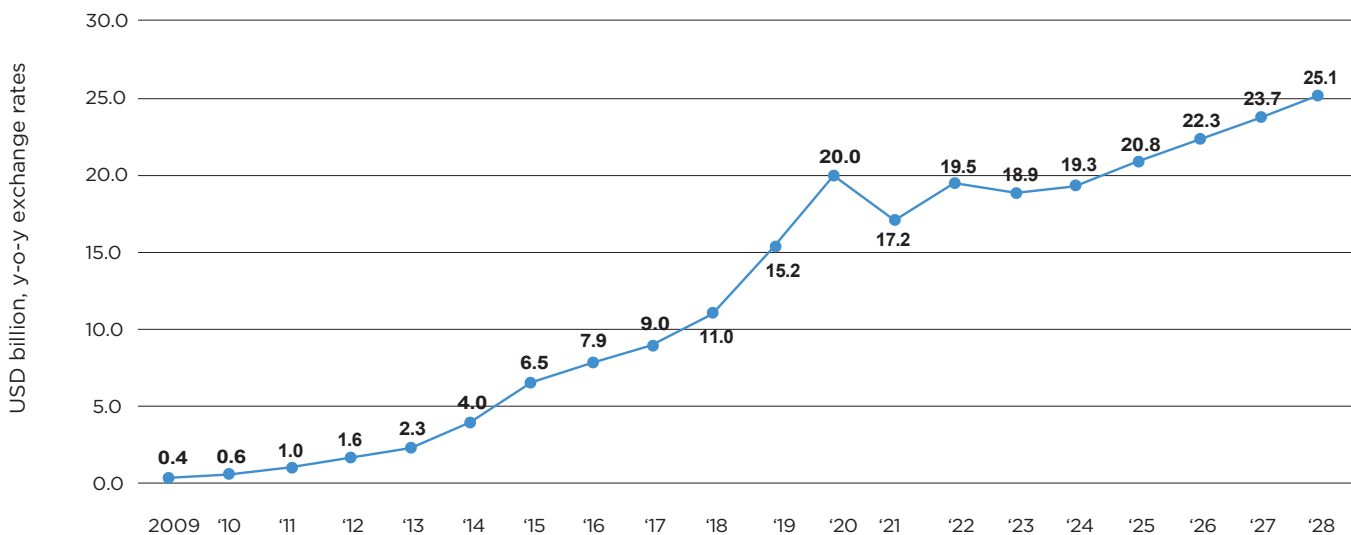
GeekVape, July 2023.

The Global E-Cigarette Market

The global ENDS market has grown rapidly and is projected to continue its expansion in the years to come.

- ENDS are available in at least 98 markets/countries globally. The global retail value of the ENDS market was \$21.2 billion (USD) in 2023, a 37.4% relative increase since 2018.⁵
- In 2023, the US was the largest market for ENDS — worth \$5.9 billion (USD), accounting for 27.8% of the global retail value of ENDS.⁵
- The United Kingdom was the second largest market for e-cigarettes in 2023 at \$3.3 billion (USD), worth 15.6% of the global retail value, followed by Canada at \$2.1 billion (USD).⁵
- The overall retail value of the North American ENDS market in 2023 was \$8.1 billion (USD), 38.2% of the global ENDS market. The European market in 2023 was \$9.5 billion (USD) or 44.8% of the global retail value.⁵
- ENDS are clearly expanding beyond these markets to other parts of the world. The Middle Eastern-African market experienced a 29.8% relative growth in retail value from 2022 to 2023.⁵ The introduction of these products to countries with very low smoking rates also flies in the face of industry harm reduction claims.

Global Retail Value of E-Cigarettes, Actual (2009-2023) and Projected (2024-2028)⁵



Notes: Global retail value of ENDS market using year-on-year exchange rates and current prices. Projections made for 2024-2028.

Source: Euromonitor International 2023 Ed. Accessed April 2025.

E-Cigarette Brands

The WHO has reported that more than 30,000 e-cigarette brands are available in the EU alone.² In the US, where ENDS products must apply for a marketing order to be sold, the Food and Drug Administration (FDA) has received applications for nearly 7 million different ENDS products.⁶ ENDS are available in at least 98 countries/markets.⁵ The three largest ENDS brands are Vuse, manufactured by British American Tobacco (BAT), JUUL, manufactured by JUUL Labs, and Elf Bar, manufactured by Shenzhen Imiracle Technology.⁵

VUSE

- In 2023, BAT's Vuse represented 20.5% of the global ENDS market, up from 17.7% in 2022 and 15.1% in 2021.⁵ Vuse's largest market is the US — worth approximately \$2.6 billion. Globally, BAT's Vuse is worth approximately \$4.3 billion.⁵
- Vuse Go, a disposable e-cigarette, is now sold in at least 24 countries.⁷
- BAT's Vuse was inherited from R.J. Reynolds Tobacco Company in 2017 following the companies' merger. In 2020, BAT consolidated its e-cigarette brand Vype with its brand, Vuse.⁸

JUUL

- JUUL launched in 2015 in the US and is now sold in at least 20 markets.⁵ In 2018, Altria, a spin-off tobacco company of Philip Morris International (PMI) acquired a 35% stake in JUUL Labs.⁹
- In 2023, JUUL Labs represented 8.7% of the global ENDS market, down from 11.1 in 2022 and 14.0% in 2021.⁵ JUUL's largest market is in the US — worth approximately \$1.6 billion in 2023. Globally, JUUL's market was worth \$1.8 billion in 2023.⁵
- The nicotine strength of JUULpods can vary, ranging from 2-5%. JUULpods can contain up to approximately 40 mg of nicotine, equivalent to the nicotine content found in about 1 package of cigarettes.¹⁰

Elf Bar

- Elf Bar was launched in 2022 in the United Kingdom, is now sold in at least 7 markets, and is seeking to launch in the US.⁵
- In 2023, Elf Bar had 6.0% of the global ENDS market, up from 3.9% in 2022 and 0.2% in 2021.⁵ Elf Bar's largest market is in the United Kingdom — worth approximately \$728.7 million.
- Globally, Elf Bar is worth approximately \$1.3 billion.⁵
- From 2022 to 2023, Elf Bar's global market share increased by 63.4%.⁵



Vuse e-cigarette
(vusevapor.com, December 2022)



Juul e-cigarette
(juul.com, December 2022)



RELX e-cigarette
(relxnow.com, December 2022)

Key Takeaways

- There are millions of ENDS products that vary widely in look and functionality, but all produce an aerosol that the user inhales. Many of the most popular brands are owned by multinational tobacco companies.
- The ENDS market has grown rapidly and is projected to continue that expansion.
- While the North American and European markets make up the largest share of global ENDS retail value, markets are expanding, and the Middle Eastern-African market experienced a 29.8% retail value growth from 2022 to 2023.
- While e-cigarettes are often promoted as less harmful than conventional cigarettes, they are not harmless, with evidence suggesting that use negatively affects both respiratory and cardiovascular systems. Nicotine is highly addictive and can be especially harmful to young users.
- The evidence of ENDS success in helping smokers quit is mixed at best, and no country has approved them as a smoking cessation device. Far from being targeted only to adult smokers, they are often designed and marketed to appeal to youth, resulting in high rates of use among young people.
- While the industry continues to claim they want only smokers to switch to ENDS, they continue to design and market them aggressively for youth and other non-smokers while still virulently opposing tobacco control policies (e.g., taxes, nicotine reduction, warning labels) for smoked products that might actually cause smokers to switch.

References

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