



ANALYSIS OF FLAVORED VAPING PRODUCTS AS A HARM REDUCTION METHOD: IMPACT OF FLAVOR BANS IN THE REAL WORLD

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INTRODUCTION

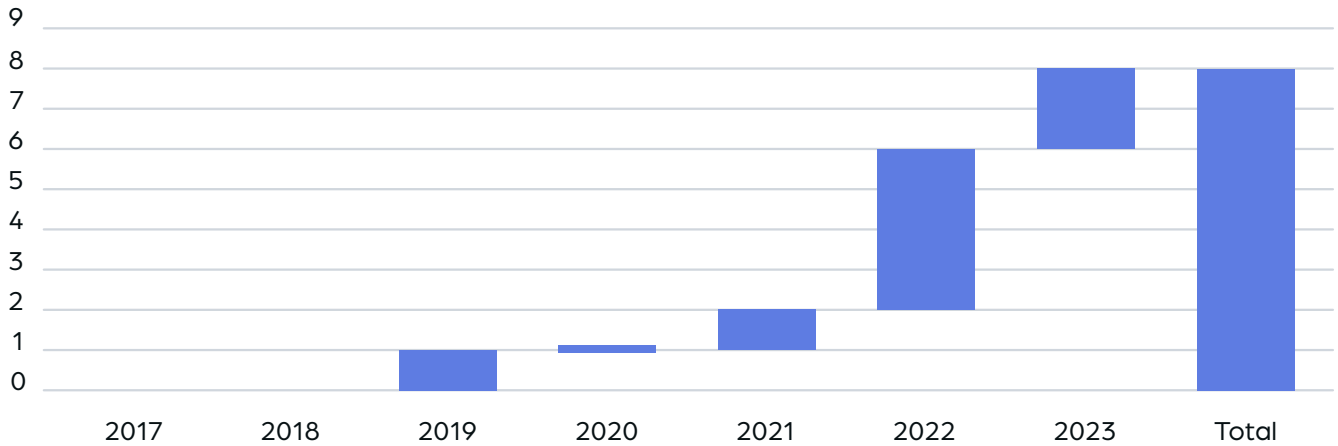
Numerous countries are presently either introducing or actively considering regulations to ban or restrict flavors in lifesaving reduced risk tobacco alternatives such as vaping products, despite evidence of the critical role that flavors in vaping products play in moving and keeping smokers away from cigarettes. Due to significant misinformation spread by harm-reduction deniers, it is likely that these political trends of ideology trumping science shall continue in the short to medium term. As such, this paper seeks to help educate policy-makers and member of the media on the impact of flavor bans.

Despite evidence showing that adults who use flavored vapor products being significantly more likely to quit smoking than an adult who uses unflavored products, regulators in both the US and Europe have begun implementing prohibition on the use of these products. In the US, nearly 400 localities and 7 states have adopted permanent restrictions.¹ In Europe, legislation is currently under consideration in the United Kingdom,² Latvia,³ and Spain,⁴ among others, while Denmark⁵ has already banned the sale of flavored vaping products excepting tobacco and menthol.

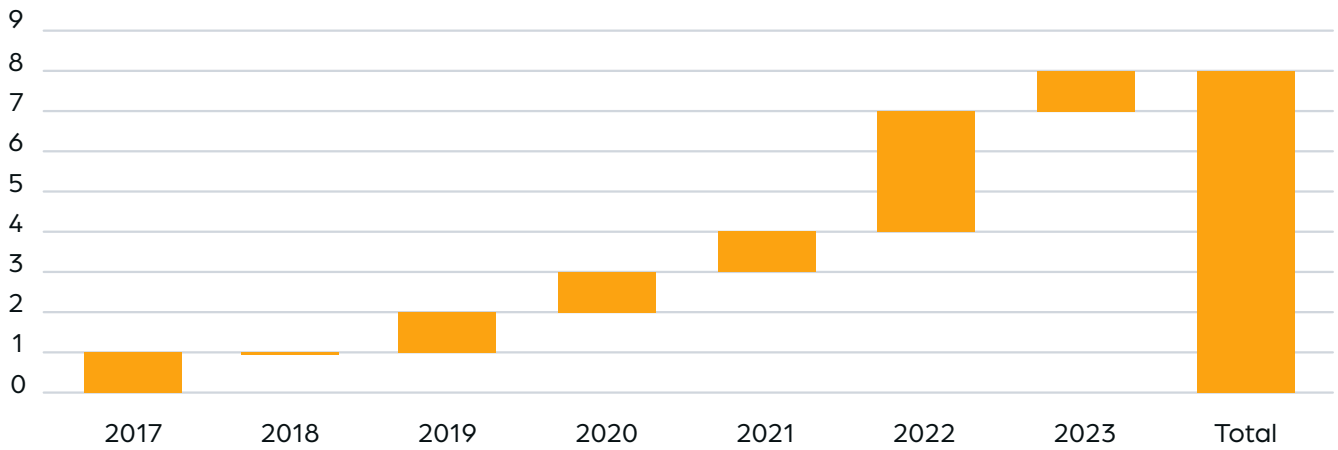
1. Friedman, Abigail, Alex C Liber, Alyssa Crippen, and Michael Pesko. 2023. "E-Cigarette Flavor Restrictions' Effects on Tobacco Product Sales." Social Science Research Network, January. <https://doi.org/10.2139/ssrn.4586701>.
2. "Creating a Smokefree Generation and Tackling Youth Vaping: Your Views." GOV.UK. Accessed May 17, 2024. <https://www.gov.uk/government/consultations/creating-a-smokefree-generation-and-tackling-youth-vaping/creating-a-smokefree-generation-and-tackling-youth-vaping-your-views>.
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4. "El Gobierno Prohíbe La Venta de Cigarrillos Electrónicos de Sabores Y Equipara El Tabaco Calentado al Convencional." 2024. El Español. January 16, 2024. https://www.elespanol.com/invertia/observatorios/sanidad/20240116/gobierno-prohibe-venta-cigarrillos-electronicos-sabores/825417612_0.html.
5. Indenrigs- og Sundhedsministeriet. 2024. "LOV Nr 2071 Af 21/12/2020, Indenrigs- Og Sundhedsministeriet." Retsinformation. 2024. <https://www.retsinformation.dk/eli/lt/2020/2071>.

Figure 1: Increasing number of countries are banning flavors

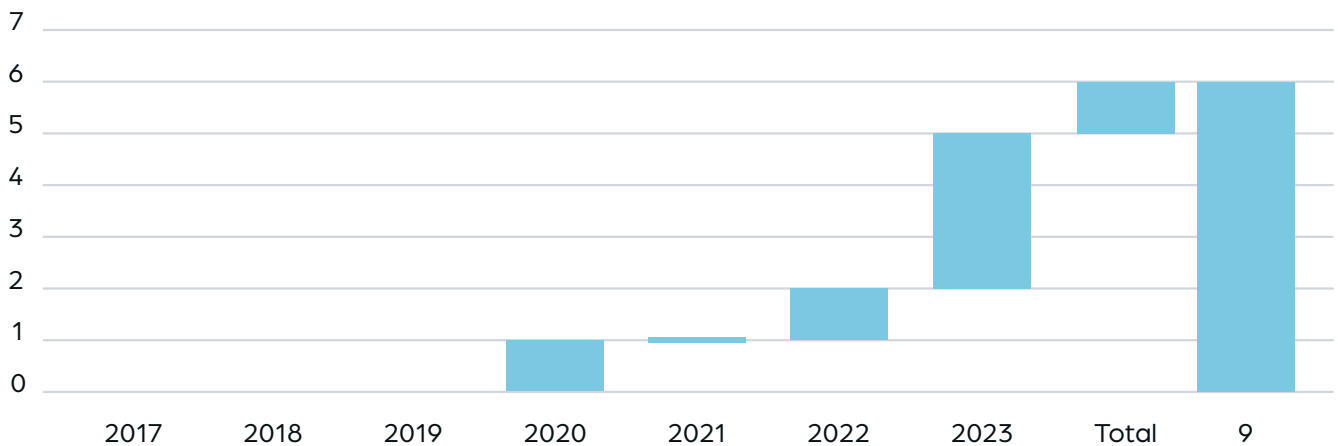
Ban on All Flavours except Tobacco, Increase per Year



Ban on Overt Fruit Flavours, Increase per Year



Ban on Overt Menthol Flavours All Flavours except Tobacco, Increase per Year



Estonia,⁶ the Netherlands,⁷ Finland,⁸ Lithuania,⁹ and Ukraine¹⁰ have introduced legislation allowing only tobacco-flavored vaping products, while Hungary has banned the sale of all types of flavored vaping products, including tobacco. Furthermore, the European Commission is under pressure to harmonize a ban across all 27 EU countries as part of the third review of the Tobacco Products Directive, the Union's main tobacco and nicotine product regulatory instrument.

Much of the recent activity against vaping flavors is attributable to the efforts of the WHO and organizations who claim that "flavors play a key role in product use initiation, as they are often cited as one of the reasons for youth trying e-cigarettes (as with other nicotine and tobacco products), serving as a path from experimentation to regular use, and perpetuating the global tobacco epidemic"¹¹ despite this being contradicted by all available academic evidence. Therefore they recommend "banning all flavoring agents, including menthol and synthetic menthol analogues".¹²

The overall rationale of these policies has been questioned by a variety of studies which have warned about the unintended consequences of blanket bans on flavored products. For instance, a study which analyzed retail data from areas of the US that had introduced flavor bans found "a tradeoff of 12 additional cigarettes [sold] for every single less 0.7 mL [e-liquid] pod sold due to restrictions," adding that "cigarette sales increase even among brands disproportionately used by underage youth".¹³ A separate study found that if some flavored vaping products were banned, 28.8% of respondents in Canada, the US, and the UK would continue vaping an available flavor, 28.3% would turn to the black market to source their preferred option and 17.1% would switch back to smoking.¹⁴

6. "Tubakaseaduse muutmise seadus," *Riigikogu, Tallinn*, December 13, 2017, <https://likumi.lv/ta/id/306295-grozijumi-tabakas-izstradajumu-augu-smekesanas-produktu-elektronisko-smekesanas-iericu-un-to-skidrumu-aprites-likuma>.
7. "Wijziging van de Regeling toezicht trustkantoren 2018," *Staatscourant*, July 18, 2022, <https://zoek.officielebekendmakingen.nl/stcrt-2022-32367.pdf>.
8. "Tobacco Act (No. 549/2016)," *Tobacco Control Laws*, 2016, [https://www.tobaccocontrolaws.org/files/live/Finland/Finland%20%20Tobacco%20Act%20\(No.%20549_2016\).pdf](https://www.tobaccocontrolaws.org/files/live/Finland/Finland%20%20Tobacco%20Act%20(No.%20549_2016).pdf).
9. "Lietuvos Respublikos Tabako, Tabako Gamininių ir Su Jais Susijusių Produktų Kontrolės Įstatymo Nr. I-1143 Pakeitimo Įstatymo Projektas," Seimas of the Republic of Lithuania, May 8, 2020, <https://eseimas.lrs.lt/portal/legalAct/lt/TAP/86ce19b0b15211ea9a12d0dad0a3ca61b?positionInSearchResults=4&searchModelUUID=6d839240-b758-4aed-a2f6-03fc22c6ea7f>.
10. "Law of Ukraine on Amendments to Certain Laws of Ukraine Concerning Public Health Protection from the Harmful Effects of Tobacco," Verkhovna Rada of Ukraine, 2021, <https://zakon.rada.gov.ua/laws/show/1978-IX#n296>
11. "WHO Report on the Global Tobacco Epidemic, 2021: Addressing New and Emerging Products," World Health Organization, 2021, https://cdn.who.int/media/docs/default-source/tobacco-hq/regulating-tobacco-products/ends-call-to-action-background.pdf?sfvrsn=7dd2856e_11&download=true
12. "ELECTRONIC CIGARETTES Call to Action." n.d. https://cdn.who.int/media/docs/default-source/tobacco-hq/regulating-tobacco-products/ends-call-to-action.pdf?sfvrsn=ea4c4fdb_12&download=true.
13. Friedman, Abigail, Alex C Liber, Alyssa Crippen, and Michael Pesko. 2023. "E-Cigarette Flavor Restrictions' Effects on Tobacco Product Sales." Social Science Research Network, January. <https://doi.org/10.2139/ssrn.4586701>.
14. Gravely, Shannon, et al. 2022. "Responses to Potential Nicotine Vaping Product Flavor Restrictions among Regular Vapers Using Non-Tobacco Flavors: Findings from the 2020 ITC Smoking and Vaping Survey in Canada, England and the United States." Addictive Behaviors 125 (February): 107152. <https://doi.org/10.1016/j.addbeh.2021.107152>.

Flavors have been found to play an important role in successfully supporting smoking cessation: a 2021 study found that smokers who also used vaping products with “sweet flavors” were 44% more likely to quit smoking cigarettes than those who vaped tobacco flavors, while being no more likely to continue vaping long-term.¹⁵ In a similar vein, a 2022 literature review by the Cochrane network of independent scientists found that people who vape for smoking cessation do not tend to stick to a single flavor but switch as their preferences change, highlighting the importance of flavor variety in cessation.¹⁶ A further 2023 study by London South Bank University found that tailored advice on flavor choice increased the odds of successful smoking cessation by 55% among participants who quit using vaping products.¹⁷

Beyond this academic evidence, the importance of flavors has also been underlined by consumer surveys conducted in countries either considering or having already implemented a flavor ban.

A SURVEY OF VAPOR RESPONSES TO FLAVOR BANS

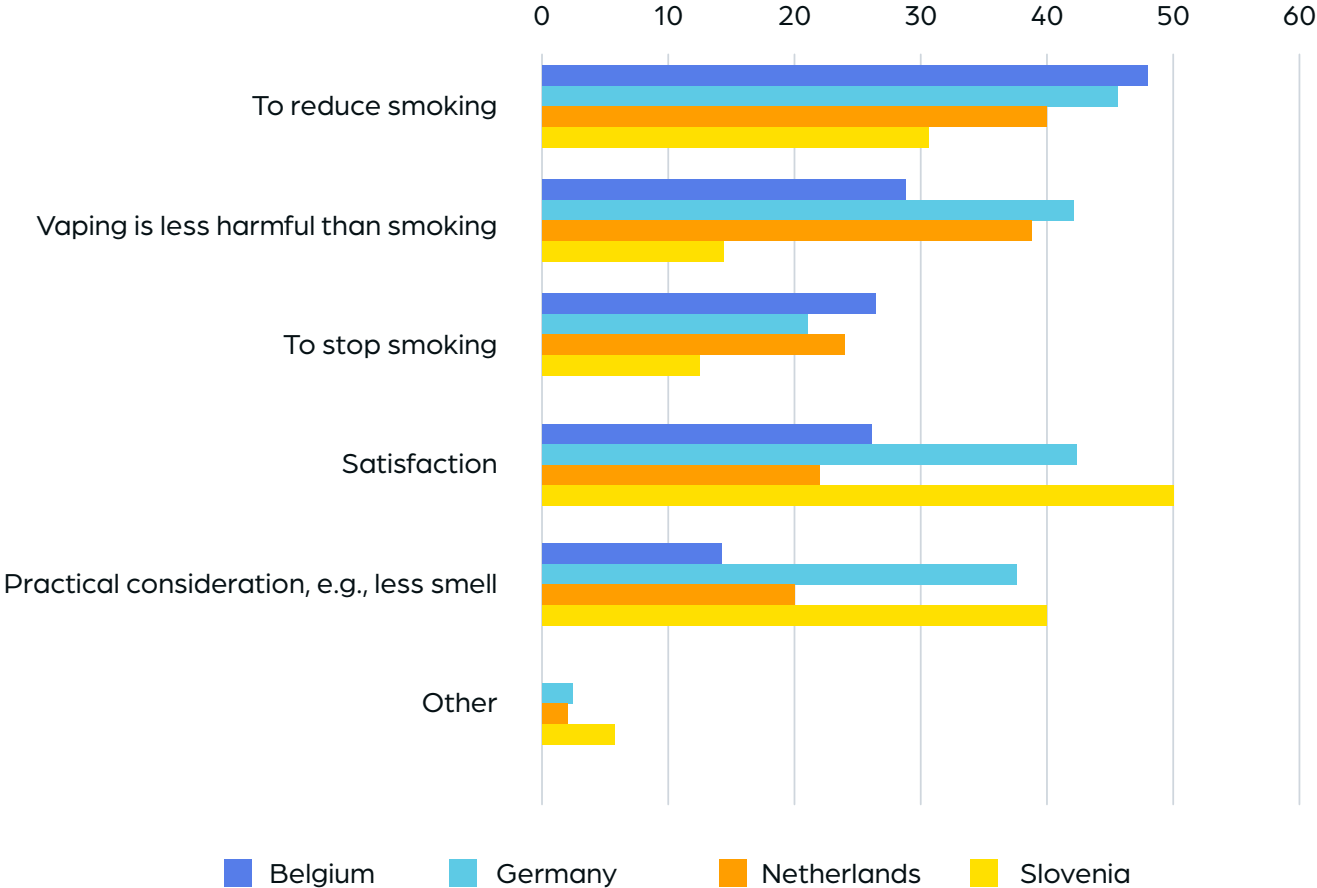
Commissioned by the Tholos Foundation, internationally renowned polling firm IPSOS conducted surveys between 2022 and 2024 in Belgium, Germany, the Netherlands, Sweden, and Slovenia, where policymakers were considering introducing restrictions to flavors in vaping products; as well as in jurisdictions where flavors in vaping products had already been banned, namely Estonia, Denmark, and California. Further surveys were conducted in Spain in 2022, France in 2023 and Ireland in 2024, where policymakers are considering restricting flavors in vaping products.

Despite cultural and political differences, the findings were consistent across all surveyed jurisdictions.

15. Li, Lin, Ron Borland, et al. 2021. “How Does the Use of Flavored Nicotine Vaping Products Relate to Progression toward Quitting Smoking? Findings from the 2016 and 2018 ITC 4CV Surveys.” *Nicotine & Tobacco Research: Official Journal of the Society for Research on Nicotine and Tobacco* 23 (9): 1490–97. <https://doi.org/10.1093/ntr/ntab033>.
16. Lindson, Nicola, Ailsa R. Butler, Alex Liber, David T. Levy, Phoebe Barnett, Annika Theodoulou, Caitlin Notley, Nancy A. Rigotti, and Jamie Hartmann Boyce. 2022. “An Exploration of Flavours in Studies of E Cigarettes for Smoking Cessation: Secondary Analyses of a Systematic Review with Meta Analyses.” *Addiction*, November. <https://doi.org/10.1111/add.16091>.
17. Kimber, Catherine, Vassilis Sideropoulos, Sharon Cox, Daniel Frings, Felix Naughton, Jamie Brown, Hayden McRobbie, and Lynne Dawkins. 2023. “E Cigarette Support for Smoking Cessation: Identifying the Effectiveness of Intervention Components in an On Line Randomized Optimization Experiment.” *Addiction* 118 (11): 2105–17. <https://doi.org/10.1111/add.16294>.

POLLING RESULTS FROM EUROPEAN UNION JURISDICTIONS WHERE PROHIBITION IS UNDER CONSIDERATION

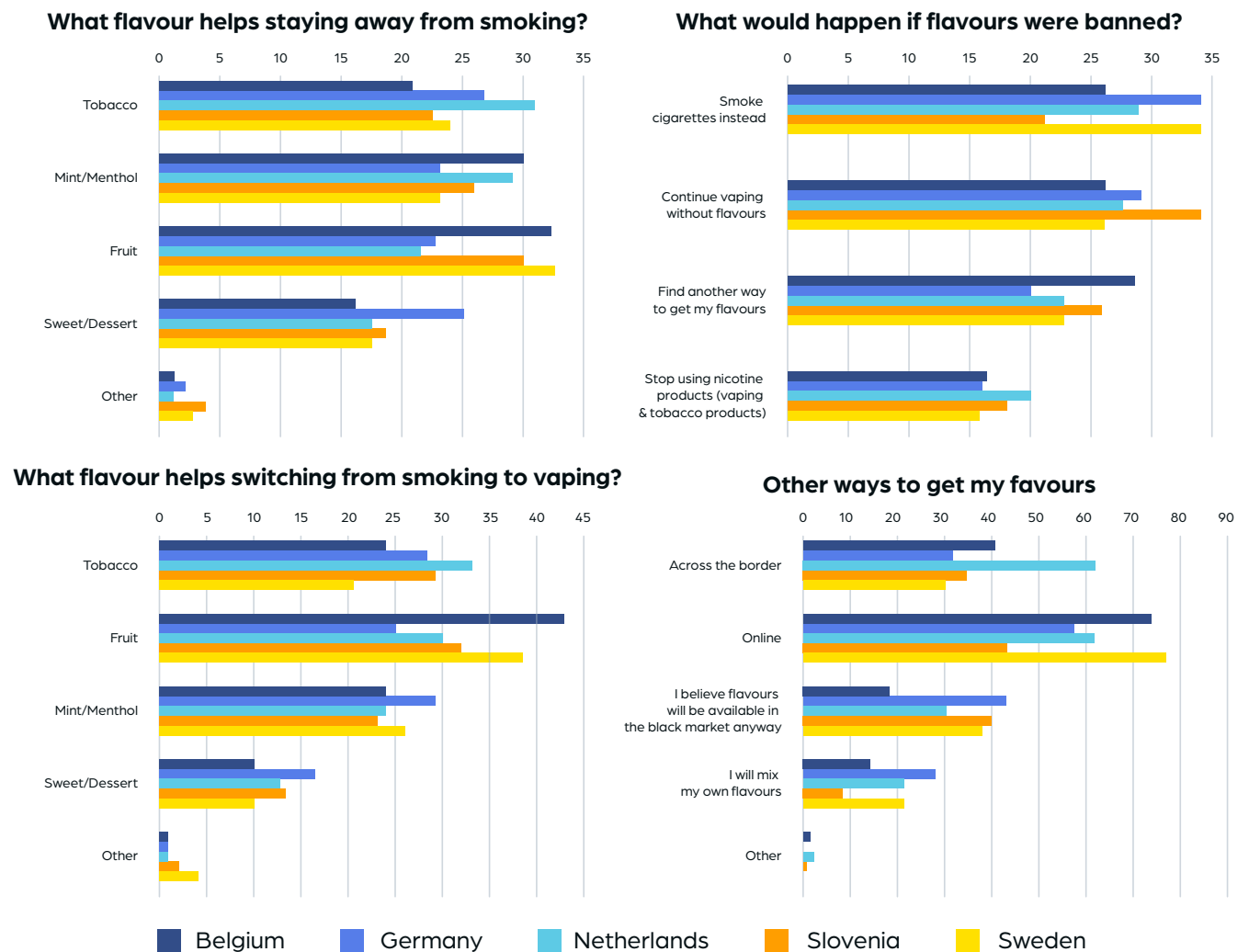
Figure 2: Most vapers vape to reduce and quit smoking



- In Belgium, Germany, the Netherlands, Slovenia and Sweden, the majority of vapers agreed that they vape to reduce and quit smoking.
- In these countries, users viewed vaping products as a harm reduction tool to reduce and quit smoking, with the majority of vapers emphasizing the importance of flavors in their decision to use the products. For instance, in Germany, 83% of German vapers said flavors are important or very important in their decision to vape. The proportion of respondents who said the same was 90% in Belgium and Sweden and 80% in the Netherlands.

- In all five countries, a majority of respondents preferred flavors other than tobacco, such as fruit, mint, and menthol. In the Netherlands fruit, mint, and menthol flavors were identified as key factors in Dutch vapers switching and staying away from smoking. In Belgium and Sweden, fruit flavors were most strongly associated with switching and staying away from smoking, while in Germany, mint, menthol, tobacco, and fruit flavors were identified as the most important for enabling the switch to vaping. In Slovenia, more than 70% of vapers used flavors other than tobacco and 76% indicated that flavors are important when it comes to their decision to vape. Fruit and tobacco flavors were viewed as the most important for encouraging switching from smoking, while for stopping vapers from returning to smoking, fruit and menthol were seen as more significant.
- Notably, 66% of Slovenian vapers, 60% of those in Belgium and Sweden, and over 50% of vapers in Germany and the Netherlands said that a flavor ban could push them back to smoking, to use the black market or to mix their own liquids.

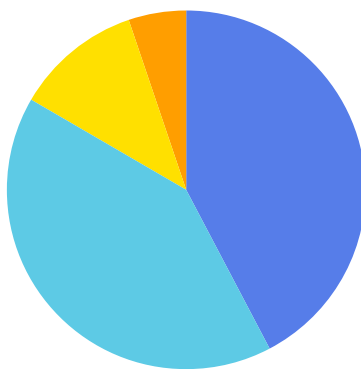
Figure 3: Views on restricting flavors in vaping products are consistent across countries



- Similar results were also found in Spain, France and Ireland in surveys conducted by separate polling agencies.
- In Ireland, where fruit flavors were found to be slightly more popular than tobacco and menthol, nearly two-thirds of users moving away from cigarettes said they would smoke more often in the event of a flavor ban in vaping products, while over one-fifth of ex-smokers said that they would go back to smoking. Around half said that they would look to source flavors online, suggesting a ban would not necessarily deter them from using flavored vaping products. 90% of vapers also believed that a flavor ban would lead to an increase in the black market, while 71% said that smokers would be discouraged from moving to vaping.
- In Spain, 86% of vapers who have quit cigarettes agree that flavored vaping products helped them to do so. Furthermore, 66% of those who use flavored vaping products indicated that a prohibition on selling the products would lead them to switch back to smoking (12%), use tobacco-flavored vaping products (18.9%) or find alternative ways to obtain them despite the prohibition (35%), either by purchasing online from other countries (72%) or turning to the black market (27%).
- In France, 59% of vapers were concerned about a possible flavor ban, as they believe flavors contribute to their experience of vaping products (75%) and have facilitated their transition to them (83%).

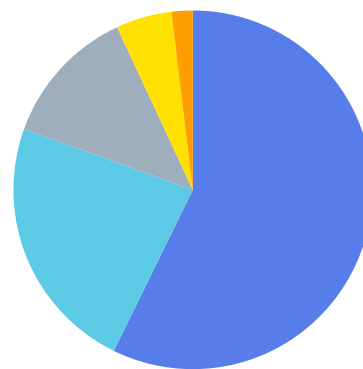
Figure 4: Both French and Spanish vapers believe flavors played a role in quitting smoking

France: Do you think the flavors of e-liquid have made your transition to e-cigarettes easier?



■ Yes, absolutely ■ Yes, somewhat
■ No, not really ■ No, not at all

Spain: Did flavoured vaporizers help you quit smoking or reduce your consumption compared to tobacco-flavoured ones?

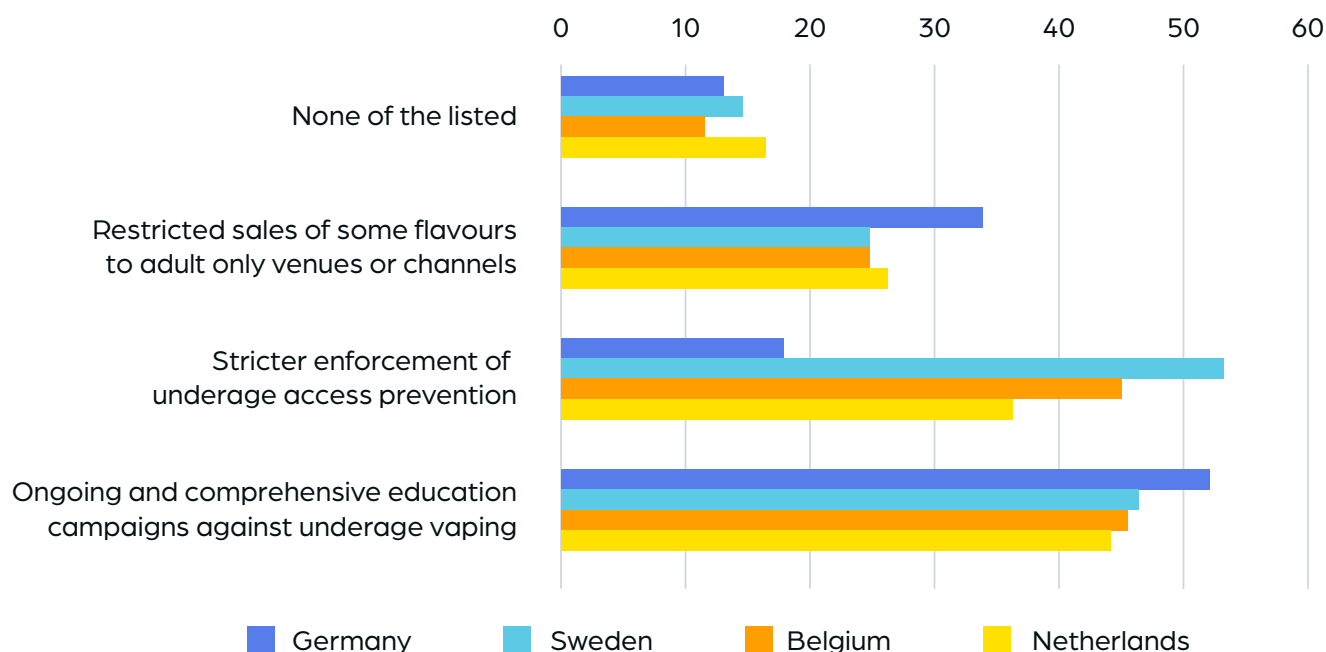


■ Completely agree ■ Agree
■ Neither agree nor disagree ■ Disagree ■ Completely Disagree

ALTERNATIVE POLICY SOLUTIONS AND SUPPORT

Vapers in the five jurisdictions assessed by the Tholos Foundation expressed overwhelming support for policy solutions, with 90% of Slovenia vapers, 87% of those in Belgium, 82% of Dutch vapers, 85% of Swedish vapers, and 85% of German vapers supporting alternatives to flavor bans.

Figure 5: Vapers support a wide range of alternatives solutions



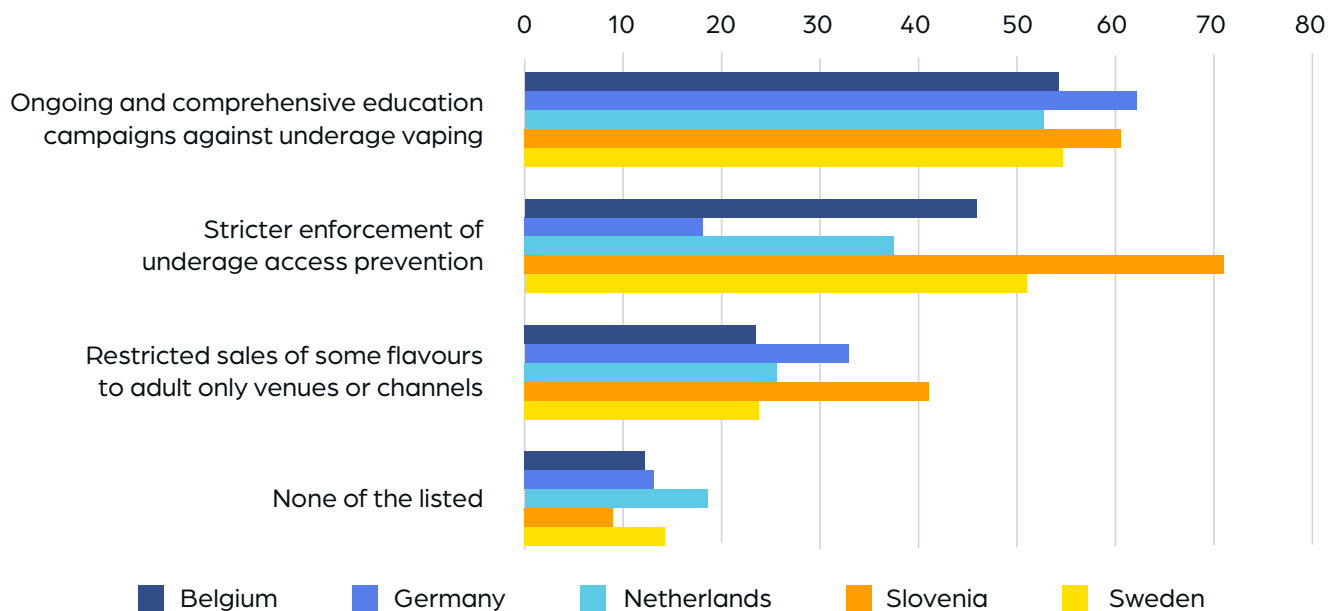
Popular alternative options included:

- Stricter enforcement against underage access, which was favored by 71% of Slovenian vapers, 45% of Belgian vapers, 37% of Dutch vapers, 51% of Swedish vapers, and 17.7% of German vapers;
- Ongoing and comprehensive education campaigns against underage vaping, favored by 51% of respondents in Slovenia, 46% in Belgium, 45% in the Netherlands, 47% in Sweden, and 52.5% in Germany; and
- Restricting the sale of some flavors to adult-only stores was supported by 42% of Slovenian vapers, 24% of Belgian vapers, 26% of Dutch vapers, 26.8% of Danish vapers, 24% of Swedish vapers, and 33.1% of German vapers.

POLLING RESULTS FROM JURISDICTIONS WHERE PROHIBITION HAS BEEN IMPLEMENTED

- Similar to the countries considered above, in Denmark, Lithuania, and California, the majority of vapers agreed that they vape to reduce and quit smoking, with almost 70% of Californian vapers and 80% of Danish vapers saying they vaped for health-related reasons, including to reduce or stop smoking.
- Furthermore, in California and Denmark 85% and 81% of vapers respectively said flavors are important or very important in their decision to vape.

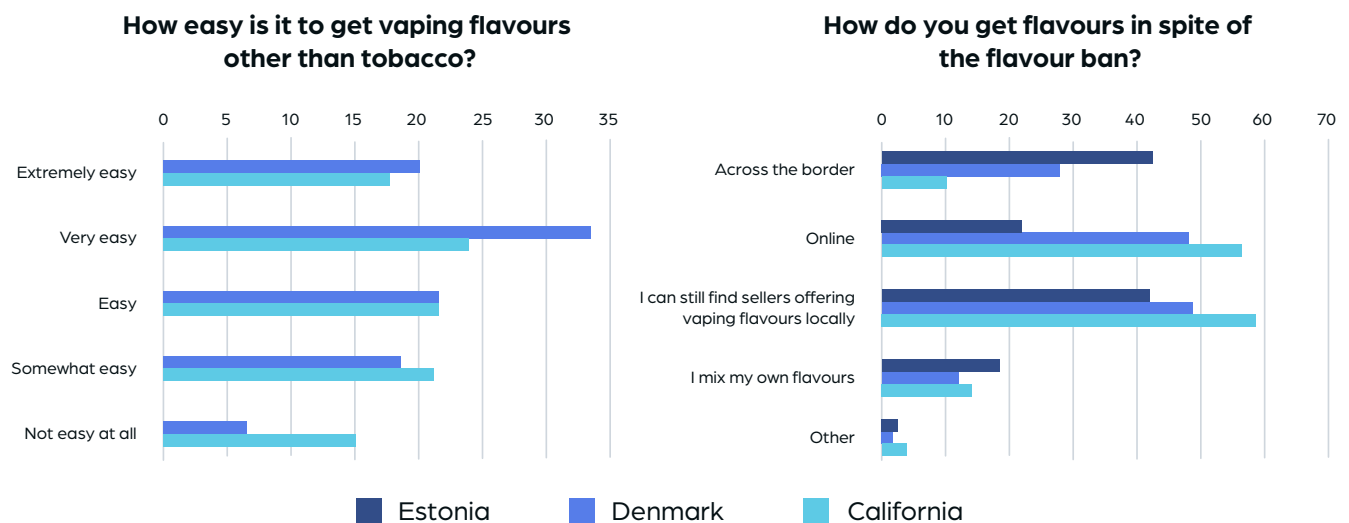
Figure 6: Similar to the countries where flavors are at risks, vapers where flavors are banned vape to reduce or stop smoking



- Despite a flavor ban, 85% of vapers in California, 60% in Estonia, and 80% in Denmark still found ways to access banned flavors, showing that flavor bans do not eliminate access to flavors.
- In Estonia, the banned flavors are mostly mixed at home by consumers using products from the black market. Given the lack of quality control and product standards involved in the process, there is a risk that a contaminated batch could cause an outbreak of illness comparable to the EVALI crisis in the US.

- In Denmark, 93% of Danish vapers said it was easy to find banned flavors. Of the 80% of Danish vapers still accessing banned flavors, almost half still found the banned flavors in shops, while 47% of respondents sourced them online.
- Similar findings were seen in California, where 85% of respondents said it was easy to find banned flavors. Of the 90% of Californian vapers that still used one of the banned flavors, almost 60% found them in local shops, while 56% purchased them online. Additionally, 90% of respondents in California also said they believe the flavor ban will increase smuggling, with two-third considering it very likely.

Figure 7: The ban on flavors is forcing some people to mix their own products risking a potential EVALI crisis

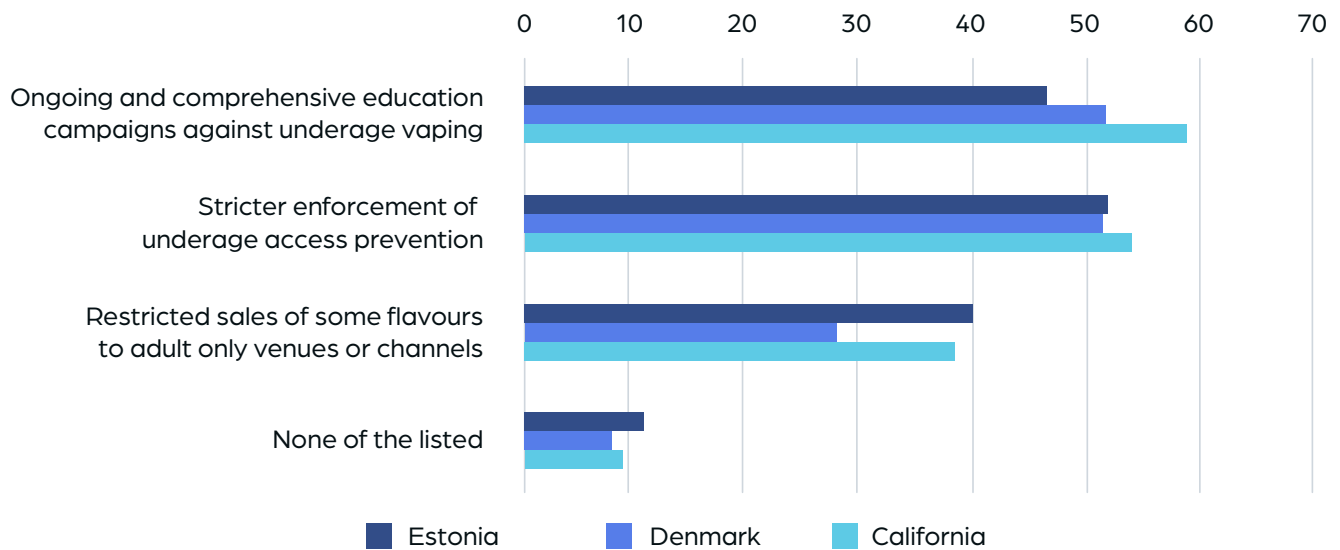


ALTERNATIVE POLICY SOLUTIONS AND SUPPORT

Vapers in all three jurisdictions expressed overwhelming support for policy solutions, with over 90% of Danish vapers, 86% of Estonian vapers, and 90% of Californian vapers supporting alternatives to flavor bans, including:

- Stricter enforcement against underage access, favored by 54% of Estonian vapers, 52.9% of Danish vapers, and 56.5% of Californian vapers;
- Ongoing and comprehensive education campaigns against underage vaping, supported by 46% of respondents in Estonia, 52.6% in Denmark, and 57.3 in California; and
- Restricting the sale of some flavors to adult-only stores, with 40% of Estonian vapers, 26.8% of Danish vapers, and 38.4% of Californian vapers favoring such a policy.

Figure 8: Vapers support a wide range of alternatives solutions



CONCLUSION

The findings above conclusively demonstrate that bans on flavors in vaping products result in an immediate shift among vapers back to smoking combustible cigarettes, and an increase in black market sales. This may paradoxically increase youth usage as criminals do not check ID's to ensure no underage usage, and can increase health risks due to a lack of quality and safety standards. In addition, many black market operations are run by multi-million dollar organized crime syndicates who also engage in human trafficking & money laundering, have also been used to fund terrorist and the US State Department has explicitly called tobacco smuggling a "threat to national security".

Rather than prohibition, the data demonstrates vapers express overwhelming support for alternative policy solutions to achieve public health goals rather than indiscriminate blanket bans. Ensuring access to flavored vaping products is crucial for individual harm reduction and for reducing population smoking rates. It is therefore crucial that policymakers carefully consider both consumer preferences and a range of potential negative impacts in formulating policies that prioritize the public health benefits while proportionately addressing legitimate concerns.