

Kluwer Patent Blog

Patented Tobacco Harm Reduction: Is It Only for the Developed World?

Roya Ghafele (OxFirst) · Monday, November 29th, 2021

Although a silent technological revolution is currently taking place in the tobacco industry, there is no publicly available data on patents that read on tobacco harm-reduction technologies. We recently conducted a patent analysis and found that, in the developing world, there are only few patents filed relating to tobacco harm reduction. This stands in stark contrast to the rigorous intellectual property (IP) enforcement strategy pursued in developed nations. Technologies that reduce the adverse effects of smoking may be an important asset to public health and it may be reasonable—and just—to make these technologies available to consumers in developing and developed countries alike. There should be further discussion to explore how this could be achieved.

The State of Tobacco Harm-Reduction Patents Worldwide

Tobacco harm-reduction technologies have fewer adverse health effects than smoking, while still providing users with a means of consuming nicotine. Innovative tobacco harm-reduction devices from leading tobacco companies deliver nicotine in a less harmful way, freed from tar and other toxic chemicals. E-cigarettes, heated tobacco, and snus are some of the harm-reduction products on the market that offer smokers a less harmful means of consuming nicotine. Some of these products have obtained authorization from the United Kingdom and United States governments.

The key patent owners for the new harm-reduction technologies are large tobacco companies, including British American Tobacco Plc, Philip Morris International Inc, Imperial Brands Plc, and China National Tobacco Corporation. Quite a few of these patents are held through their subsidiaries, such as Nicoventures (British American Tobacco) and Nerudia (Imperial Brands).

Tobacco harm-reduction patents fall into three broad categories: nicotine vaping technologies, heated tobacco technologies, and smokeless tobacco technologies. A total of about 74,000 patents were filed in the last ten years for these technologies.

Technology Area	Patent Number	% of Total	Compound Annual Growth Rate (CAGR) %
Nicotine Vaping	26,540	36%	9.1
Heated Tobacco	30,432	41%	4.1
Smokeless Tobacco	16,786	23%	1.1

The patent analysis shows that hardly any of these harm-reduction technologies are patented in the developing world. In the area of heated tobacco, most patent publications are concentrated in high- or upper-middle-income countries, in particular China (22,956 publications) and the United States (14,344 publications).

South America has scarcely any patent activity. Brazil, with 2,191 registered patents, is the main focus of patent activity in this region. There is a smaller amount of patent activity in Argentina (998 patents) and Chile (556 patents). Other countries in South America with registered patent activity show only about 100-300 patents.

Africa and the Middle East, apart from Morocco, South Africa, and Israel, have no registered patent activity.

Nicotine vaping technology presents a similar picture. Most patent publications are concentrated in high- and middle-upper-income countries, with the exception of China. The countries with the greatest numbers of patents are China (15,929 publications) and the United States (15,610 publications). As with the overall trends for harm-reduction patents, South America shows minimal patent activity, mainly in Brazil. In Africa and the Middle East, a few countries reveal very limited patent activity: South Africa, Morocco, Egypt, and Saudi Arabia.

The overall trend for smokeless tobacco technologies is similar to those of the other two categories, although there is a reversal between the United States and China. The United States is the highest-ranked country in this category with 12,234 patents published; China drops to second with 7,964 patents. As with the other trends, there are almost no patents for tobacco harm-reduction technologies published in South America, Africa, and the Middle East. (It should be noted that smokeless products are not popular in some of these regions.)

Data Versus Patent Strategy?

Given the lack of patent activity in much of the developing world, it may seem surprising that the current patent strategy of tobacco companies seems primarily focused on patent enforcement. From an economic point of view, this approach can be characterized primarily as a fight over market share in the developed world. Affluent markets are naturally of importance to the large tobacco companies, and given the many health objections against combustible tobacco, next-generation technologies are likely the future for the industry.

From both a business and a public health perspective, however, one wonders if it would not be equally important to focus on the dissemination of potentially lifesaving technologies in the developing world. Over 80% of smokers live in low- and middle-income countries. Smoking in many developing countries has actually increased over the years. [In Lesotho, for example, 54% of the population smoked in 2015.](#) In the developed world, on the other hand, smoking prevalence has decreased over the years. [In the United States, the percent of adult smokers of combustible cigarettes decreased to 14% in 2019.](#) Against this background, it is difficult to understand why the focus is almost exclusively on the developed world. True, consumers in developing countries have less disposable income, but their sheer numbers would very likely make up for that.

More important, however, is the bigger goal of assuring the health of nations around the globe. Provided these technologies break the equation for preserving public health, while at the same time assuring the future of business, they should not be reserved for a small circle of consumers in wealthy nations. With tobacco costing the global economy USD500 million yearly, the stakes are

high. Against the burgeoning public health costs associated with combustible tobacco, there seems no other logical choice but to integrate developing countries in IP strategies.

Declaration of Interest

OxFirst has been compensated by the Foundation for a Smoke-Free World, the views are the author's own. The preliminary patent landscape report is available [here](#) or [here](#).

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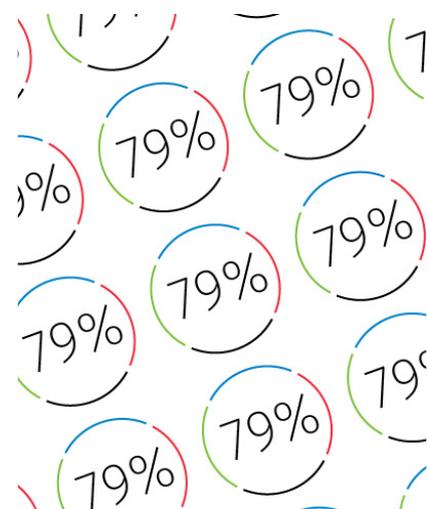
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