Filtrona offers sustainable filter solutions that bridge the needs of regulators and consumers.

Sustainable Filter Solutions

by Hugo Azinheira, global innovation director, Filtrona

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Cigarette butts are one of the most-littered items in the world. The World Health Organization estimates that 4.5 trillion cigarette butts end up as litter every year, where they can contaminate land and sea alike. Even those that are properly disposed of are often sent to landfill or incinerated due to a lack of recycling infrastructure, causing further pollution.

Lawmakers expect action to be taken to reduce the number of butts littered every year, while consumers expect filters to produce a quality smoking experience. The tobacco industry has the means to meet both expectations. By adopting an innovative approach to filters and working in partnership with specialty filter manufacturers to develop fit-for-purpose solutions, it can meet the needs of modern consumers and lawmakers while dramatically reducing its environmental footprint.

Coming clean about filters

Littered cigarette butts are much more than an eyesore. The whole point of a filter is to absorb the more hazardous chemicals that occur in tobacco smoke. These chemicals – which can include ammonia, formaldehyde, and arsenic – do not disappear once the filter is discarded and can leak into the ground and water over time.

Most filters have historically been made of cellulose acetate (CA). This polymer has long been regarded as the market leader in terms of smoke chemistry, but is now under the microscope for its environmental impact. Its environmental persistence means cigarette filters can remain in the environment for decades after being discarded.

These discarded butts can technically be recycled, however, in practice, this is easier said than done. The process sees the CA material separated from the paper waste and leftover tobacco residue before it is cleaned. If this is successful, the cleaned CA is extruded into pellets which can be mixed in with other forms of plastic and repurposed for a range of applications.

This process is time- and cost-intensive, and the infrastructure required to carry it out is not widespread. Cigarette waste requires its own recycling stream due to the intensive cleaning process it must go through – it cannot go through the same recycling stream as polyethylene, polypropylene, or other commonly-recycled plastics. This specialist branch of the recycling industry is well-intentioned and will absolutely be a vital pillar in global sustainability strategies one day, but it has some way to go before it is ready to deal with the

trillions of cigarettes that are smoked across the world every year. These issues are important, and worth discussing. Often lost in the rush to resolve them, however, is the experience of the consumer. While altering the material of a cigarette is easy, developing one that still offers an exceptional smoking experience is much harder. A cigarette that offers a sub-optimal smoking experience for the consumer will just end up creating more waste in the form of the carbon costs of unsold sticks travelling through the supply chain.

Unsurprisingly, given that cigarettes still make up 83% of the global tobacco market value (according to Euromonitor International), and the rapidly growing HNB sticks sector also still uses CA filters, this problem has attracted the attention of lawmakers, which means the need for a proper solution is even more pressing.

Europe's present is likely to be Asia's future

As one of the key markets for the tobacco industry, Asia has a particularly loud voice in discussions about the future of smoking.

Yet increasingly, Asian governments are following the lead of Europe in enacting new laws around both plastic waste and smoking. In recent years, Thailand introduced plain-pack legislation that mirrors EU statutes, and India introduced a total ban on single-use plastics, which actually goes further in many ways than

Filtrona ECO Flute Filter.

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the EU Directive on Single-Use Plastics that came into force in 2021. The European trend of 'extended producer responsibility' (EPR) – a broad policy approach that seeks to place the responsibility of product and packaging waste management onto producers, rather than local authorities and governments – is likely to be a bellwether for the rest of the world. In the context of the tobacco sector, it means the burden of cigarette butt disposal and recycling (as well as other associated waste disposal, like packaging waste) will fall on cigarette manufacturers.

This means it will soon become essential for tobacco companies to make cigarette waste as easy to deal with as possible. If the preferences of the vast majority of smokers were not enough of a motivation, the cost of EPR reforms and other governmental policies certainly should be.

In practice, this means a shift towards new specialty filter materials is inevitable. The only questions for cigarette manufacturers are how to balance that with the consumer experience and how they can get ahead of the curve with innovative specialty filters that meet both consumer and legislator demands.

Serving the present and future of the industry

Specialty filters offer unique possibilities for brands to push smoking chemistry and develop new sensations and flavors for their customers. Filtrona specializes in pushing the science of specialty filters forward since 1950, and today manufacture a wide portfolio of paper-based, plastic-free, and CA-based filter solutions that balance sustainability with a superb smoking experience for consumers.

This broad range of innovative filter solutions coupled with a global manufacturing capability and presence means stick manufacturers can serve the many varied needs of smokers through the differentiation of product lines, with filters that contain activated carbon, vortex cores, menthol release capsules, and more. The future demands closer collaboration between specialty filter providers and cigarette manufacturers, to develop new innovations and provide consumers with a diverse range of experiences to choose from on-shelf.

A point worth remembering is that acetate-based filter tips remain a popular option for heated tobacco products (HTP). An increasingly popular format across Asia, HTPs are best paired with thin-wall acetate tips that allow the correct mix of air and vapor through to the user for a more comfortable smoking experience.

Even if the world's cigarette butt recycling infrastructure catches up to the roughly three-to-four-trillion-sticks-a-year capacity required, filters will still likely end up as litter in many cases. To minimize their impact on the environment, manufacturers may wish to pivot towards material replacement. The materials to achieve this sustainable future are actually available now. Paper is one material that degrades significantly faster than CA, making it the most viable sustainable alternative.

The materials in Filtrona's ECO Range are designed to offer flexibility to manufacturers, enabling the creation of smoother sensations and fuller flavors in different lines of sticks. An example of this is the ECO Bridge Filter, which is made from biodegradable paper and can be used on both HTP and combustible cigarettes.

These innovative designs can also be used to help serve smokers seeking to manage their nicotine intake. The ECO Active Filter contains paper impregnated with activated carbon, for example. The amount of carbon loaded onto the paper can be adjusted on demand for product differentiation. It also enables users to start to taper off their nicotine intake, as more densely loaded carbon paper absorbs more nicotine from the stick.

Through the alternative filter solutions in Filtrona's ECO Range, manufacturers can operate more sustainably, offering modern consumers a sustainable alternative to CA cigarette butts, staying ahead of rapidly-evolving legislation, and enhancing brand differentiation.

Globally, Filtrona's laboratory is fully accredited to conduct scientific tests on tobacco products and filters to meet regulatory requirements and support product development. The company's scientific services cover a range of commercial testing capabilities to help customers meet their regulatory requirements and offer bespoke product development and validation for specific products and needs.

There is no single solution to the many issues facing the tobacco industry. That's why Filtrona combines its drive for innovation with the latest technology to work in close collaboration with their customers to develop a range of solutions for a variety of nicotine-based applications. For more information on Filtrona, please visit www.filtrona.com.