

Cigarettes have a significant impact on the environment, not just health

2 October 2018, by Hayley Dunning, Joanna Wilson



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A new report shows that the six trillion cigarettes produced yearly impact the environment through climate change, water and land use, and toxicity.

The devastating [impact](#) of the [tobacco industry](#) on human health is well known. However, a new [report](#) systematically outlines for the first time the substantial impact of the tobacco industry on the environment.

The report, authored by scientists from Imperial College London, is launched today at a meeting of the World Health Organisation Framework Convention on Tobacco Control.

Finite resources

These impacts include climate change from energy and fuel consumption, [water](#) and soil depletion, and acidification. The global cultivation of tobacco requires substantial land use, water consumption, pesticides and labour – all finite resources that might be put to better use.

Globally, the cultivation of 32.4 Million tonnes (Mt)

of green tobacco, used for the production of 6.48 Mt of dry tobacco in the six trillion cigarettes manufactured worldwide in 2014, contributes almost 84 Mt CO₂ emissions to [climate change](#) – approximately 0.2% of the global total.

Professor Nick Voulvoulis, from the Centre for Environmental Policy at Imperial, said: "The environmental impacts of cigarette smoking, from cradle to grave, add significant pressures to the planet's increasingly scarce resources and fragile ecosystems. Tobacco reduces our quality of life as it competes for resources with commodities valuable to livelihoods and development across the world."

Energy intensive production

'Processing' – the curing of tobacco leaves to produce dry tobacco – is highly energy intensive, using coal or wood burning that contributes to greenhouse gas emissions and deforestation. Tobacco production also uses more than 22 billion tonnes of water.

The transport and manufacture of cigarettes, as well as their final use and disposal, also use more resources and leave further waste.

The world's top cigarette consuming country – China – harvests over 3 Mt of tobacco leaves using over 1.5 million hectares of arable land and significant fresh water resources – while habitats suffer from water scarcity and nearly 134 million of its people are undernourished.

Crop yields

The report compares the impact of tobacco against other crops that typically require fewer inputs. Moreover, the yield of these crops is in many cases considerably higher than that of tobacco. For example, in Zimbabwe a hectare of land could produce 19 times more potatoes than the 1–1.2

tonnes of tobacco currently cultivated.

Provided by Imperial College London

The evidence also suggests that growing alternative crops is better for farmers and their families, as child labour remains a major issue in tobacco production.

Almost 90% of all tobacco production is concentrated in the developing world – of the top ten tobacco producing countries, nine are developing and four are low-income food-deficit countries (LIFDCs), including India, Zimbabwe, Pakistan, and Malawi. However, the majority of cigarette consumption takes place in the developed world.

Dr. Nicholas Hopkinson, from the National Heart and Lung Institute at Imperial, said: "Smokers in the developed world are literally and metaphorically burning the resources of poorer countries."

A lifelong impact

The report also calculates the environmental impact of a single smoker over their lifetime: a person smoking a pack of 20 cigarettes per day for 50 years is responsible for 1.4 million litres of water depletion.

The report calls for a range of actions to address these issues. These include strengthening the global evidence base so that gaps in the current environmental data can be filled, encouraging sustainable investment as well as making sure that the environmental cost of [tobacco](#) is included in the price, and encouraging the industry to take responsibility for the whole life cycle of its products.

The report is based on a scientific analysis published in the journal *Environmental Science and Technology*.

More information: Maria Zafeiridou et al. Cigarette Smoking: An Assessment of Tobacco's Global Environmental Footprint Across Its Entire Supply Chain, *Environmental Science & Technology* (2018). [DOI: 10.1021/acs.est.8b01533](https://doi.org/10.1021/acs.est.8b01533)

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