

Tobacco's global environment footprint

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Context



- The scale of the damage caused by tobacco to the natural world and natural resources has been largely unknown.
- Although some tobacco companies produce sustainability reports and life cycle assessments, the assumptions and the methodologies used in these studies are not always transparent and often partially reported.
- Most of these assessments are limited to manufacturing processes and producers' immediate supply chains, omitting integral preceding stages such as tobacco growing, curing, distribution, and product disposal and thus substantially underestimate the actual environmental costs of cigarette smoking.

Our work



**Tobacco
Cultivation**



**Tobacco
Curing**



**Primary
Processing**



**Cigarette
Manufacturing**



**Cigarette
Distribution**



**Use &
Final Disposal**

- From tobacco cultivation, curing, processing, cigarette manufacturing, distribution, to use and final disposal, the tobacco industry's supply chain is global and extensive.
- To understand all the environmental impacts of cigarette smoking, it is essential to consider tobacco's entire supply chain.

ENVIRONMENTAL
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Policy Analysis

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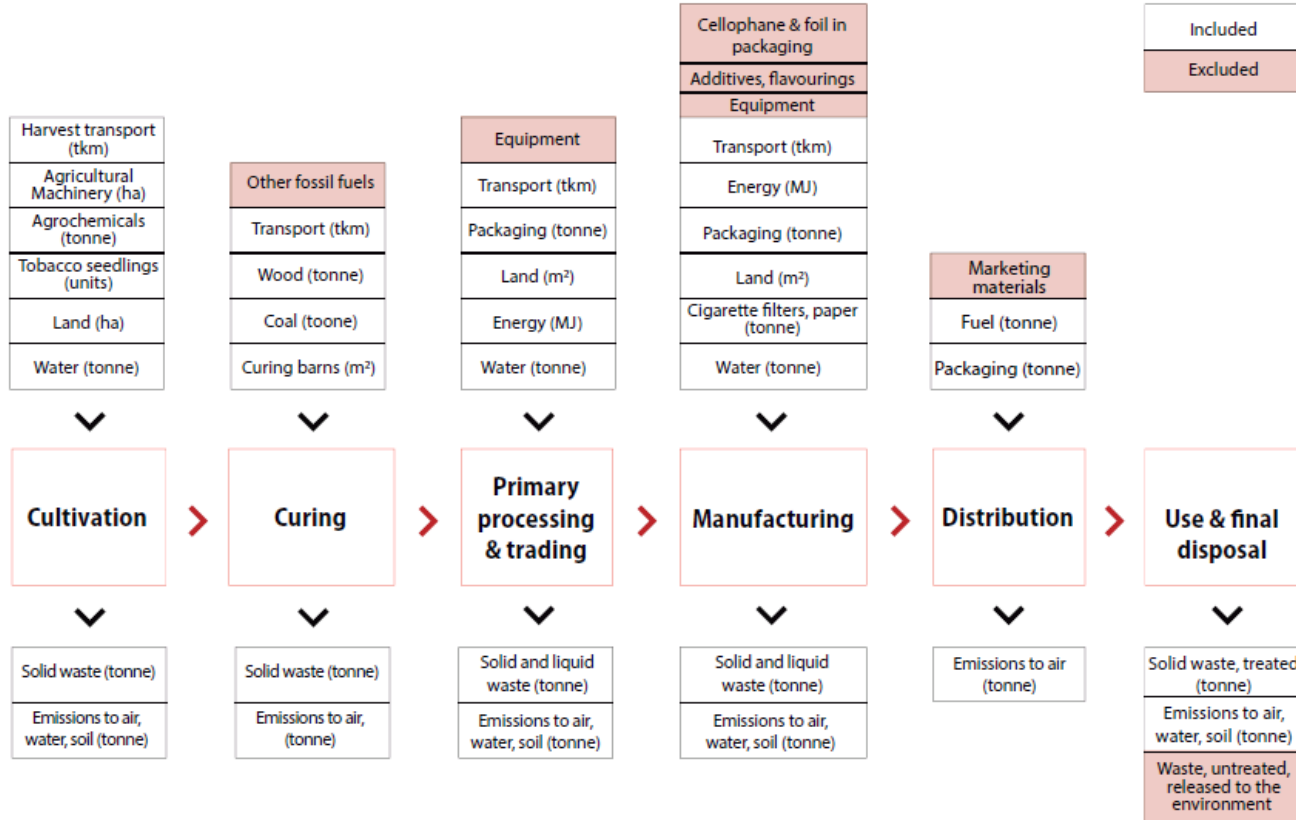
Cigarette Smoking: An Assessment of Tobacco's Global Environmental Footprint Across Its Entire Supply Chain

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Methodology



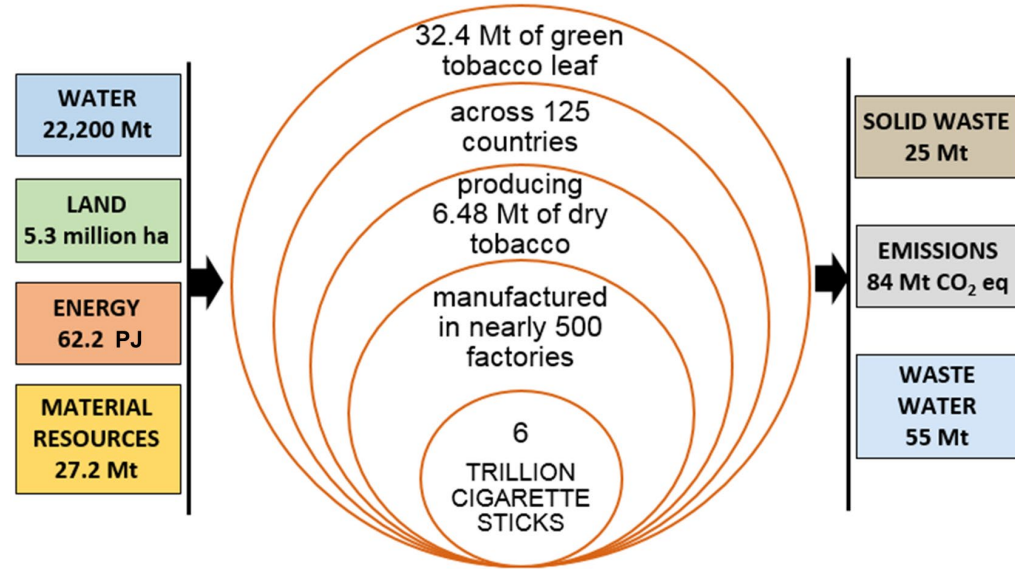
- The environmental impacts associated with global tobacco production and consumption were quantified using **Life Cycle Assessment** and **Material Flow Analysis** - internationally recognised tools for evaluation of environmental impacts of complex products and processes.
- Using **available published** data plus **transparent assumptions** based on international best practice where data gaps exist.

Annual environmental impacts of the global tobacco supply chain

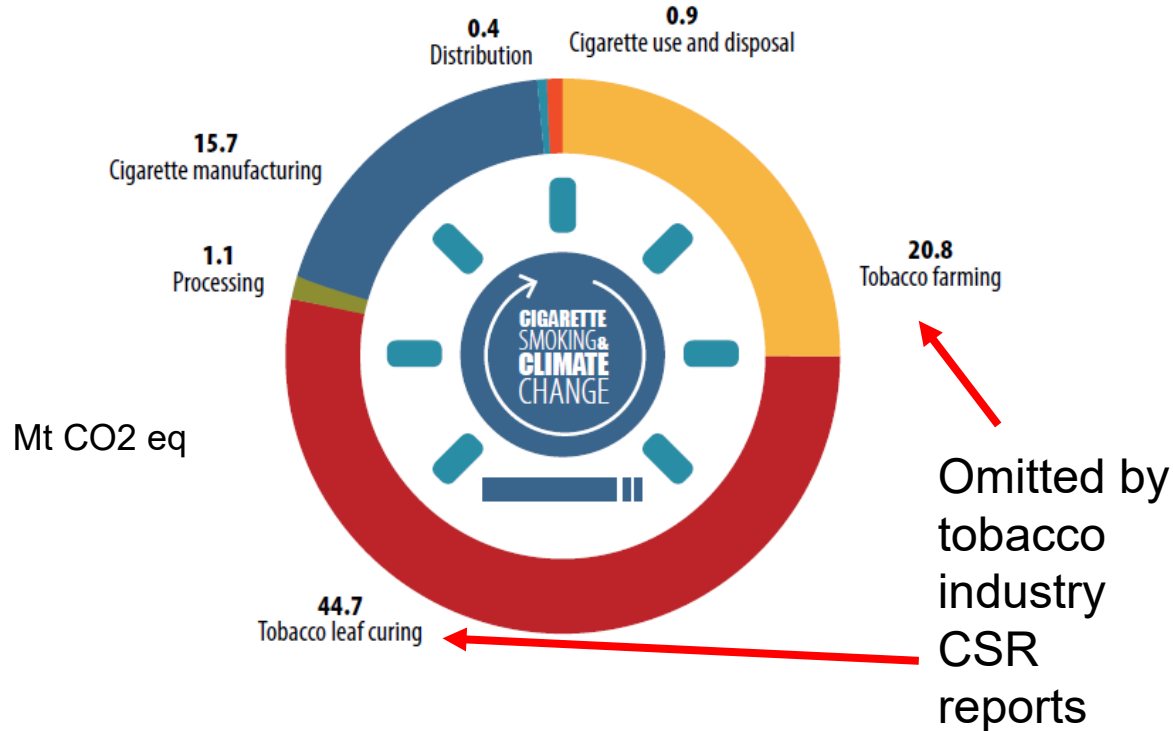
IMPACT CATEGORY	Unit							TOTAL
		Tobacco Cultivation	Tobacco Curing	Primary Processing	Cigarette Manufacturing	Cigarette Distribution	Use & Final Disposal	
(Millions)								
Climate Change	kg CO ₂ eq	20849	44674	1073	15720	386	870	83572
Terrestrial acidification	kg SO ₂ eq	119	240	11	78	2.4	2.9	453
Freshwater eutrophication	kg P eq	6.8	0.6	0.3	8.3	0.03	0.3	16
Marine eutrophication	kg N eq	11	3.7	0.4	4.3	0.2	1.0	21
Human toxicity	kg 1,4-DB eq	7107	4865	590	6286	52	534	19435
Terrestrial ecotoxicity	kg 1,4-DB eq	24	1.5	0.2	4.5	0.1	6	36
Freshwater ecotoxicity	kg 1,4-DB eq	185	43	14	216	1.7	29	489
Marine ecotoxicity	kg 1,4-DB eq	181	53	16	199	2.1	24	474
Agricultural land occupation	m ² a	40791	8182	282	3196	346	-2009	50788
Urban land occupation	m ² a	1291	476	96	142	12	-14	2004
Natural land transformation	m ²	56	4.4	0.8	2.7	0.2	-0.1	64
Water depletion	m ³	21715	129	15	342	5.8	-3.5	22203
Metal depletion	kg Fe eq	1840	465	334	614	14	16	3282
Fossil fuel depletion	kg oil eq	4163	12049	304	4032	127	139	20813

Scale of global tobacco impact

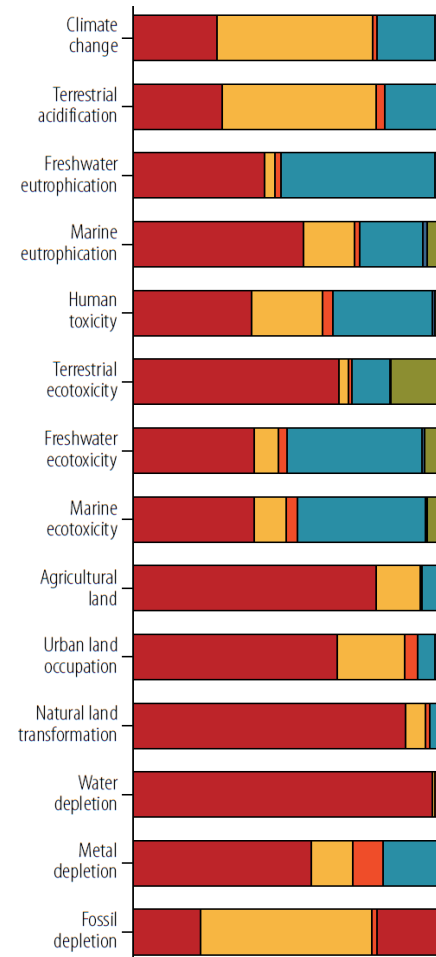
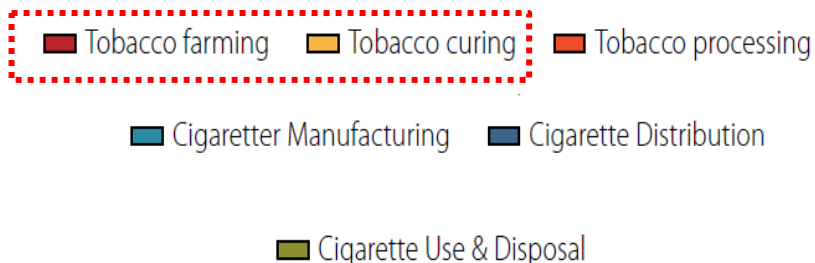
- Tobacco's total annual carbon footprint: **84 million tonnes Mt CO₂ eq.** comparable emission levels of entire countries such as Peru and Israel
- Water depletion of **22,200 Mt**, which is more than 2.5 times the annual water supply to the entire population of the UK.
- **21 (Million tonnes oil equivalent) of fossil fuel depleted**, equivalent to the total primary energy consumption of New Zealand and Hungary.
- **5.3 million hectares of fertile land** is used to grow tobacco, that otherwise could produce enough food to feed up to 20 million people.



Annual contribution to climate change of the global cigarette smoking supply chain stages

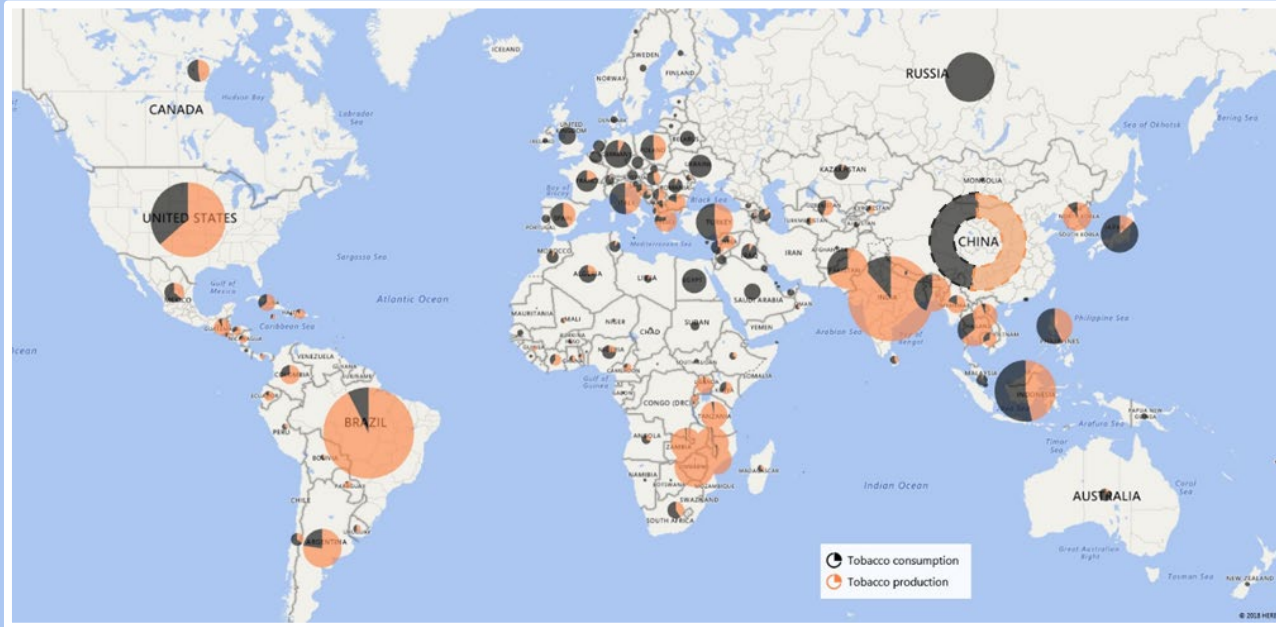


Environmental impacts across the full life cycle of cigarette production and consumption – the bulk of these fall in poorer tobacco cultivating countries



Global imbalance

“By smoking, the developed world is literally burning poorer countries’ resources.”



- Almost 90% of all tobacco **production is concentrated in the developing world** – of the top 10 tobacco producing countries, 9 are developing and 4 low-income food-deficit countries (LIFDCs), including India, Zimbabwe, Pakistan, and Malawi.
- However, the majority of cigarette **consumption takes place in the developed world**.
- Environmental burden falls on countries least able to cope with it, but the profits are made by transnational tobacco companies based in higher-income countries.

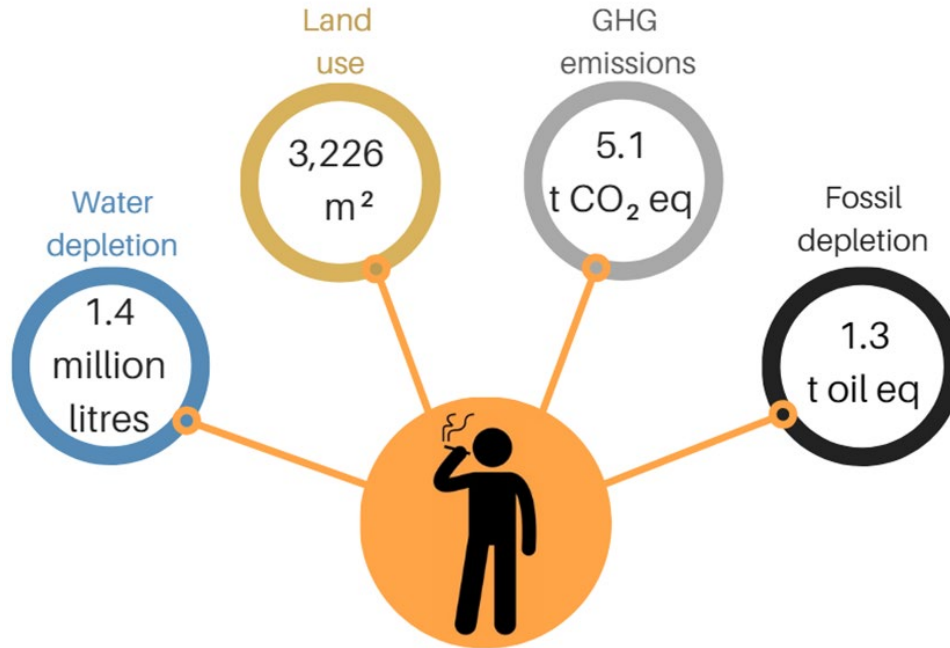
Smoking and sustainable development

- The world is facing global challenges and constraints due to resource depletion, wasteful and harmful production and consumption, and the emerging impacts of climate change.
- The toll on the environment was reflected in the joint climate and environment emergency declared by the UK parliament in May 2019 (UK Parliament, 2019), as well as the European Parliament in November the same year (European Parliament, 2019), recognising the urgent need to reduce carbon emissions and address over-consumption of the planet's limited resources.
- While people are asked to change their diets, travel less and even have fewer children, sacrificing some of their benefits and experiences in response to climate change, with smoking the only benefit is related to multinational profits.

The myth of economic benefits

- Tobacco competes with essential commodities for resources and places significant pressures on the health of our planet and its most vulnerable inhabitants.
- Tobacco cultivation requires substantial inputs of labour (often by children), land, fertiliser, and water while producing substantial toxicity to land and water ecosystems. Other crops typically require fewer inputs, while their yield 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.
- Nine of the ten largest tobacco cultivators are low-income or middle-income countries, and four are defined as low-income food-deficit countries. In Sri Lanka alone tobacco has replaced edible food farming almost completely as it's viewed as a more lucrative crop.
- An average tobacco farmer in Kenya will take home \$120 per year after covering all the expenses. That amount of money is barely enough to put food on the table – especially when you realize that labour costs are not something that the farmer has calculated into his bottom line.
- Food cultivation has less environmental effect, fulfils an essential human need, and all costs and benefits considered is more profitable for farmers.

Environmental impacts of a lifetime of smoking - a person smoking 20 cigarettes/day for 50 years



In one year a smoker contributes almost 5 times more to water depletion and nearly 2 and 10 times more to fossil fuel depletion than an average consumer of red meat and sugar respectively, and 4 times more to climate change than a sugar consumer.

A typical cigarette was shown to have a water footprint of 3.7 litres, a climate change contribution of 14 g CO₂ eq, and a fossil fuel depletion contribution of 3.5 g oil eq.

Systemic transformation required

- “Tobacco, alcohol misuse and obesity have remained such intractable problems only because our economic system allows free ranging corporations to use evocative promotion, ubiquitous distribution, perpetual new product development, and seductive pricing strategies to encourage unhealthy consumption, the main cause of the inevitable escalation of lifestyle illnesses such as cancer, heart disease, and diabetes” (Hastings, 2012).
- These are maladies that governments try to prevent by targeting consumers instead, whereas consumption, although often considered an individual choice, is deeply ingrained in behaviours, cultures, and institutions, and is driven and supported by corporate and government practices (O'Rourke & Lollo, 2015).

Key messages

- Reducing tobacco consumption needs to be identified as a key lever for achieving all of the Sustainable Development Goals, particularly SDG12 (responsible production and consumption), SDG13 (climate action), SDG14 (life under water), and SDG15 (life on land).
- Despite its enormous profitability, the industry bears few of the health and environmental costs caused by producing tobacco.
- At present tobacco companies are not accountable for their environmental damage, nor the full costs of the environmental impact encompassing tobacco cultivation, product manufacturing or cleaning up post-consumer waste.
- It is unacceptable that the industry can continue to make billions in profits while washing its hands of the destructive environmental impacts of smoking.



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Thank you for listening

With thanks to:

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