

Investment Case for  
Tobacco Control in  
**BURKINA FASO**

The case for scaling-up  
WHO FCTC implementation



## Investment Case for Tobacco Control in Burkina Faso

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# **BURKINA FASO**

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# Investment Case for Tobacco Control in Burkina Faso

Nearly

**4,700**

Burkinabe die every year due to tobacco-related illness



Investing now in six proven tobacco control measures will prevent more than

**18,600 deaths**

and avert

**XOF 151 billion**

in economic losses by 2037



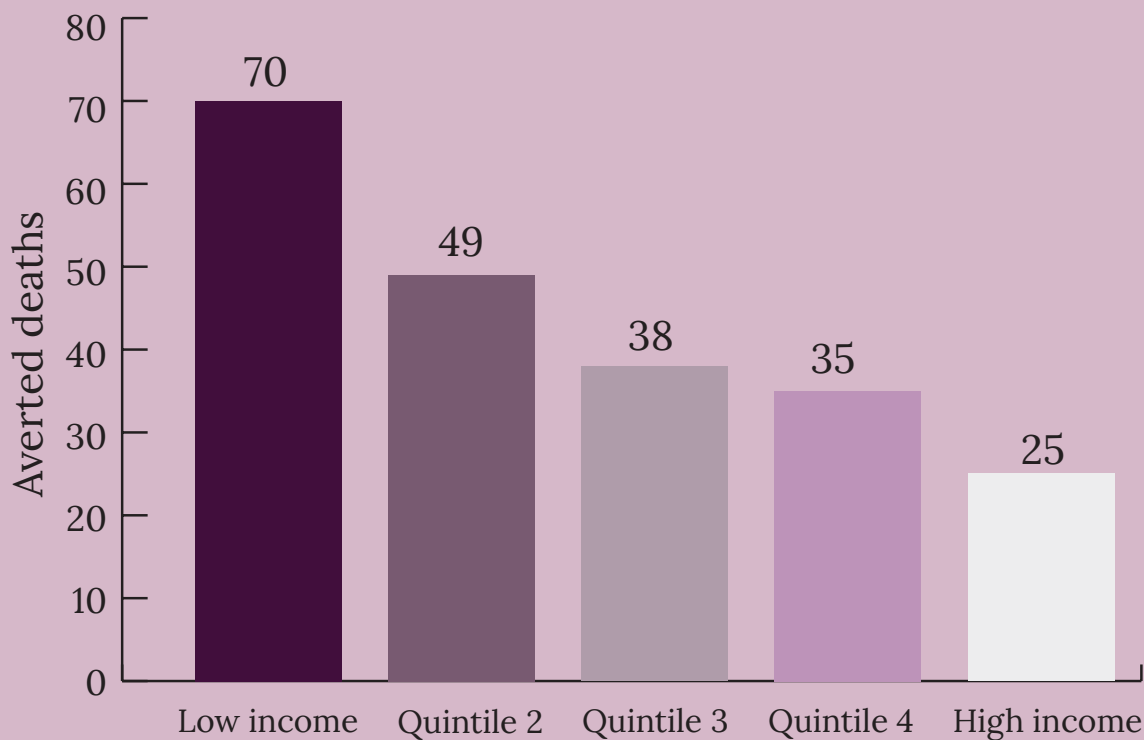
Tobacco-attributable economic losses are about

**1.6 times larger**

than the tobacco tax revenue collected



## Averted deaths attributable to tax increase by income quintile in first modeled year (2025)



## Tobacco costs Burkina Faso

**XOF 57 billion**

every year, equivalent to

**0.5%** of annual GDP

## Costs per adult smoker per year

**XOF 62,188**

Figures subject to rounding.

## Acknowledgements

This report was completed through collaborative efforts of the Burkina Faso Ministry of health and public hygiene, the United Nations Development Programme (UNDP), the Secretariat of the WHO Framework Convention on Tobacco Control (WHO FCTC), and the World Health Organization (WHO).

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Contributors include Francois Drabo, Eric Doye, Rene Guissou, Theodore Kangoye, Etienne Koanda, Ouattara Ma, Narcisse Nare, Salif Nikiema, Vincent Nebie, Boezemwendé Ouoba, Georges Ouedrago, Karim Yogo, Valentine Zoungrana and Emmanuele Zoure from the Burkina Faso Ministry of Health and Public Hygiene; Daisy Lanvers, Brice Millogo, Emily Roberts, Amitrajit Saha and Dudley Tarlton from UNDP; Adriana Blanco Marquizo, Andrew Black, Patrick Musavuli and Ryan Forrest from the Secretariat of the WHO FCTC; Ould Sidi Mohamed Mohamed, Sako Binta and Ouattara Ma from the WHO country office.

Zsuzsanna Schreck did the graphic design and laid out the report. Additional input was provided by Salif Nikiema from Afrique Contre le Tabac (ACONTA). Additional research and drafting was contributed by Esteban Robles Dávila Abdulwaheed Ismaila and Fatima Imelda Ky. Zsuzsanna Schreck did the graphic design and laid out the report.

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This tobacco control investment case highlights the enormous costs of tobacco in Burkina Faso and the set of recommended policy actions that will deliver substantial economic and public health benefits to the country. The implementation of effective tobacco control policies from the WHO Framework Convention on Tobacco Control can play an important role in strengthening sustainable development in Burkina Faso.









# Executive summary

## Overview

Tobacco is a significant threat to health and sustainable development. Tobacco causes premature death and preventable disease that results in high health costs and economic losses, widens socioeconomic inequalities, and impedes progress across towards the achievement of the Sustainable Development Goals (SDGs).

This report summarizes the costs and benefits – in health and economic terms – of implementing six key policy actions of the WHO Framework Convention on Tobacco Control (WHO FCTC) that focus on demand reduction. The six actions are:

- 1) **Reforming tobacco excise tax structures and increasing tobacco taxation to reduce the affordability of tobacco products** (WHO FCTC Article 6).
- 2) **Enforcing smoke-free public places and workplaces to protect people from the harms of tobacco smoke** (WHO FCTC Article 8).
- 3) **Implementing plain packaging of tobacco products** (WHO FCTC Guidelines for implementation of Article 11 and WHO FCTC Guidelines for implementation of Article 13).
- 4) **Promoting and strengthening public awareness of tobacco control issues, including the health risks of tobacco use and tobacco smoke, addiction, and the benefits of cessation** (WHO FCTC Article 12).
- 5) **Enacting and enforcing a comprehensive ban on all forms of tobacco advertising, promotion, and sponsorship (TAPS)** (WHO FCTC Article 13).
- 6) **Promoting cessation of tobacco use and treatment for tobacco dependence by training health professionals to provide brief advice to quit smoking tobacco use** (WHO FCTC Article 14).

## Main findings

**In 2019, tobacco use in Burkina Faso causes around 57 billion West African francs (XOF) in economic losses.** These losses are equivalent to 0.5 percent of Burkina Faso's gross domestic product (GDP). They include a) XOF 6.6 billion in direct health-care expenditures to treat tobacco-related illness, b) tobacco-attributable mortality valued at XOF 12 billion, and c) XOF 38 billion in reduced workplace productivity from absenteeism and presenteeism. Productivity losses from current tobacco use in Burkina Faso, representing 47 percent of all tobacco-related economic costs, shows how tobacco use impedes development in Burkina Faso beyond health. Multisectoral engagement is required for effective tobacco control, and other sectors benefit substantially from the implementation of tobacco control measures that create healthier communities and a more productive labour force.

**Every year, tobacco use kills nearly 4,700 Burkinabe, with 76 percent of these deaths being premature, among people under the age of 70.** About 35 percent of lives lost from tobacco use are due to exposure to secondhand smoke. Deaths from tobacco are entirely preventable.

**By acting now, the Government of Burkina Faso can reduce the national burden from tobacco use.** The investment case findings demonstrate that implementing five key evidence-based WHO FCTC policy actions would, over the next 15 years (2023-2037):

**Save more than 18,600 lives and reduce the incidence of disease. This would contribute to Burkina Faso's efforts to achieve SDG Target 3.4, which aims to reduce by one third premature mortality from non-communicable diseases (NCDs) by 2030.** Enacting the six key WHO FCTC policy actions would, by 2030, prevent premature deaths from the four main NCDs – cardiovascular diseases (CVD), diabetes, cancer, and chronic respiratory disease – in the equivalent of about 5 percent of the needed reduction in premature mortality to achieve SDG Target 3.4.

**Avert XOF 151 billion in economic losses, coming from:**

- **XOF 102 billion due to workplace productivity losses.** The tobacco control actions should stimulate economic growth because fewer people 1) miss days of work due to disability or sickness and 2) work at a reduced capacity due to tobacco-related health issues.
- **XOF 17.6 billion in savings through avoidance of tobacco-attributable health-care expenditures.** Of this, the government would save XOF 9.8 billion in health-care expenditures, citizens would save XOF 6.1 billion in out-of-pocket health-care costs, with remaining savings accruing to other payers.
- **XOF 32 billion in averted economic costs from tobacco-attributable mortality.**

**Provide a return on investment (ROI) of 10:1.<sup>1</sup>** This means that economic benefits (**XOF 151 billion**) significantly outweigh the costs of implementing the six WHO FCTC policy actions (**XOF 15.0 billion**). For each individual measure, increasing cigarette taxes will have the highest ROI (**56:1**), followed by enforcing bans on advertising, promotion, and sponsorship (**36:1**), promoting and strengthening public awareness of tobacco control issues (**36:1**), implementing plain packaging of tobacco products (**13:1**), enforcing smoke-free public places and workplaces (**4:1**), and cessation support by training health professionals to provide brief advice to quit tobacco use (**0.2:1**).

In addition to these main findings, the investment case separately examined the equity implications of increasing cigarette taxes and implementing reforms to improve tobacco excise structures. Increasing cigarette taxes in Burkina Faso will confer benefits to all, but particularly the poor. Those with lower incomes are more likely to quit smoking when cigarette prices rise, helping them to avoid illness and catastrophic health-care expenditures [1]. During the first year of the modeled tax increase, around 32 percent of the deaths averted from increasing cigarette taxes will be among the poorest 20 percent of the population. Cigarette tax increases would further benefit Burkinabe with lower incomes if the resulting government tax revenue were reinvested in further WHO FCTC implementation and national development priorities such as universal health coverage. There is potential for even greater revenue gains from increases in taxes for all tobacco products, not only cigarettes.

1 For every West African franc invested in the six key WHO FCTC policy actions today, Burkina Faso will avert XOF 4 in social and economic losses by 2027 and XOF 10 by 2037.



## Recommendations

This report provides comprehensive recommendations that the Government of Burkina Faso can take to protect public health and realize the benefits of the WHO FCTC as a sustainable development accelerator, and it is not only focused on the six WHO FCTC policy actions modeled in this investment case. The recommendations are to:

### Recommendations

- 1** Commit to fully implement the WHO FCTC in Burkina Faso
- 2** Reform tobacco excise tax structures and increase tax rates (WHO FCTC Article 6)
- 3** Implement and enforce the other five tobacco control policies studied in this investment case:
  - enforce comprehensive policies to make all public and work places smokefree (WHO FCTC Article 8);
  - plain packaging of tobacco products (WHO FCTC Guidelines for implementation of Article 11 and WHO FCTC Guidelines for implementation of Article 13);
  - strengthened tobacco advertising, promotion and sponsorship bans that close loopholes (WHO FCTC Article 13);
  - comprehensive ban on all forms of tobacco advertising, promotion, and sponsorship (TAPS) (WHO FCTC Article 13); and
  - promote cessation of tobacco use and treatment for tobacco dependence by training health professionals to provide brief advice to quit tobacco use (WHO FCTC Article 14).
- 4** Renew and update the national tobacco control strategy for Burkina Faso (WHO FCTC Articles 5.1)  
Implement measures to protect public health policies from the commercial and other vested interests of the tobacco industry
- 5** (WHO FCTC Article 5.3)
- 6** Fully implement the Protocol to Eliminate Illicit Trade in Tobacco Products, including by building capacity to combat illicit trade (Protocol and WHO FCTC Article 15)
- 7** Strengthen multisectoral coordination for tobacco control and encourage the participation of civil society in WHO FCTC implementation (WHO FCTC Articles 5.2(a) and 4.7)
- 8** Increase research, monitoring and surveillance on tobacco use (WHO Article 20)
- 9** Identify opportunities to link the implementation of the WHO FCTC with wider sustainable development strategies in Burkina Faso

Through the FCTC 2030 project, the Secretariat of the WHO FCTC, the United Nations Development Programme (UNDP) and the World Health Organization (WHO) stand ready to support the Government of Burkina Faso to reduce the tobacco-induced social, economic, and environmental burdens through the implementation of evidence-based tobacco control laws and policies.

**Table ES1. Summary of the main results of the Investment Case for Tobacco Control in Burkina Faso 2023-2037\***

**Every year, tobacco use causes:**

- More than 4,700 deaths.
- XOF 6.6 billion in healthcare expenditures.
- XOF 38 billion in workplace productivity losses.
- Tobacco-attributable mortality valued at XOF 12.0 billion.
- Total social and economic losses equivalent to 0.5% of GDP in 2020.

**Implementing the modeled WHO FCTC measures now would, over the next 15 years:**

- Prevent more than 18,600 deaths.
- Save XOF 17.6 billion in healthcare expenditures.
- Generate economic benefits (XOF 151 billion) that significantly outweigh costs (XOF 15 billion) of implementation and enforcement – a 10:1 return on investment.
- Prevent XOF 32 billion in losses due to tobacco-attributable mortality.
- Prevent XOF 32 billion in workplace productivity losses.

\* Figures subject to rounding.

# 1. Introduction

The tobacco epidemic is one of the greatest public health threats the world has faced, killing more than 8 million people a year, including some 1.2 million deaths from exposure to secondhand smoke [2]. Tobacco use is a main risk factor for non-communicable diseases (NCDs) including cardiovascular disease (CVD), diabetes, cancer and chronic respiratory disease, as well as a cause of many other diseases [3]. In Burkina Faso, around 15.2 percent of adults currently use some form of tobacco product, with a higher prevalence among males (23 percent) than females (7.2 percent) [4]. Tobacco use causes nearly 4,700 deaths every year [5]. About 76 percent of those deaths are premature, occurring among those under the age of 70 [5].

In addition to the cost to health and well-being, tobacco also imposes a heavy economic burden throughout the world. A 2018 study (based on 2012 data) found that the costs of smoking<sup>2</sup> were equivalent to 1.8 percent of annual gross domestic product (GDP). Almost 40 percent of the costs occurred in developing countries, highlighting the substantial burden these countries suffer [6].

Tobacco use reduces productivity by permanently or temporarily removing individuals from the labour market due to poor health [7]. When people die prematurely, the labour output that they would have produced in their remaining years is lost. In addition, people with poor health are more likely to miss days of work (absenteeism) or to work at a reduced capacity while at work (presenteeism) [8], [9]. The labour and health consequences affect not only smokers, but also the people in their households who often need to take time off from work to care for those with tobacco-related diseases.

Tobacco use also displaces household expenditure that would otherwise go to fulfilling basic needs, including food and education [10]–[12], and it contributes to hunger and impoverishment of families [13], [14]. The use of tobacco imposes health and socio-economic challenges on vulnerable populations including the poor, women, and young people [15].

Tobacco production causes environmental damage including soil degradation, water pollution, and deforestation. Tobacco's annual climate change impact is comparable to entire countries' emissions and represents 0.2 percent of the global total. As a result of the shift of tobacco production from richer countries to lower income countries its environmental impacts are now mostly borne by developing regions. By depleting these countries' valuable resources, polluting, and damaging their ecosystems, tobacco puts their livelihoods and development at risk [16]–[18].

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2 Defined as either 'direct costs' such as hospital fees or 'indirect costs' representing the productivity loss from morbidity and mortality. The figure here represents these combined costs.

Given the far-reaching health and development impacts of tobacco, and the multisectoral nature of the interventions required, effective tobacco control needs the engagement of non-health sectors to be operating in support of a whole-of-government and whole-of-society approach to policy making and implementation of the WHO Framework Convention on Tobacco Control (WHO FCTC).

The WHO FCTC was developed in response to the globalization of the tobacco epidemic and is an evidence-based treaty that reaffirms the right of all people to the highest standard of health. The Convention represents a milestone for the promotion of public health and provides new legal dimensions for international health cooperation. Burkina Faso became a Party to the WHO FCTC in 2006 [19].

Burkina Faso has been a Party to the Protocol to Eliminate Illicit Trade since it entered into force in 2018, having ratified the Protocol in 2016. The Protocol is an international treaty that builds upon Article 15 of the WHO FCTC, with the objective of eliminating all forms of illicit trade in tobacco products through a package of measures to be taken by countries acting in cooperation.

Tackling tobacco use across the world is a priority within the 2030 Agenda for Sustainable Development. Tobacco control is relevant to the achievement of many Sustainable Development Goals (SDGs), particularly SDG Target 3.4 that calls on action to achieve a one-third reduction in premature mortality from NCDs by 2030. Target 3.a is a means of implementation of SDG 3.4 and calls for strengthened implementation of the WHO FCTC. But beyond health, tobacco control is also a proven approach to reduce poverty and inequalities, strengthen and expand the economy and advance sustainable development more broadly. Tobacco control is an SDG accelerator as it can contribute to many goals simultaneously across the economic, social, and environmental spheres [20]. In addition, reducing tobacco use is one of the nine targets of the *WHO Global Action Plan for the Prevention and Control of Non-communicable Diseases 2013–2030* [21].

#### **Box 1. 2030 Agenda for Sustainable Development**

In 2015, all UN Member States adopted the 2030 Agenda for Sustainable Development, outlining peace and prosperity. The core components of the Agenda are the 17 Sustainable Development Goals (SDGs) which are an urgent call for all countries to act together, recognizing that efforts to address poverty, inequalities, health, education, economy and climate change must be done in unison [22].



Since joining the WHO FCTC as a Party in 2006, Burkina Faso passed the Law Concerning Tobacco Control in Burkina Faso in 2010, its primary legislation governing tobacco control [23]. Seven decrees have been made from 2011 to 2020 strengthening specific aspects of tobacco control [24]. Burkina Faso has demonstrated additional leadership in tobacco control, recognized as a high achieving country, and a pioneer in Africa for their indoor smoke-free places, although compliance issues remain [4].

However, Burkina Faso's relatively young population and growing incomes make the country a prime target of tobacco industry expansion and more vulnerable to increases in tobacco use amongst its population [25], [26]. Several key demand reduction measures within the WHO FCTC remain to be implemented and some existing measures require strengthening. Opportunities for Burkina Faso to improve implementation of the WHO FCTC include: strengthening tobacco tax structures and increasing tax rates; enforcing comprehensive policies to make all public places and workplaces smoke-free; implementing plain packaging for tobacco products; enforcing TAPS legislation; promoting and strengthening public awareness of tobacco control issues, and promoting cessation of tobacco use and treatment for tobacco dependence by training health professionals to provide brief advice to quit tobacco use.

In 2013, Burkina Faso undertook a WHO FCTC Needs Assessment that made recommendations for the country to accelerate implementation of the Convention by: implementing the national tobacco control strategy; fully enforcing tobacco control legislation, especially provisions for smoke-free places and TAPS; reforming and increasing tobacco taxation; developing and implementing mass media campaigns; including tobacco education in school curriculums; integrating cessation services into health services; establishing a national quit line; including the WHO FCTC in the UN Development Assistance Framework; and developing regulatory provisions to test tobacco products [27]. Realizing the full benefits of all of the above measures depends on concerted and coordinated efforts from multiple sectors of government with support from civil society.

In 2021, the Secretariat of the WHO FCTC, UNDP, and WHO undertook a virtual joint mission with partners in Burkina Faso to initiate this investment case. The investment case is part of support made available to Burkina Faso as an [FCTC 2030](#) project country.<sup>3</sup>

Investment cases for tobacco control analyse the health and economic costs of tobacco use as well as the opportunities for potential gains from scaled-up implementation of key WHO FCTC measures. It identifies which WHO FCTC demand reduction measures are likely to produce the largest health and economic returns for Burkina Faso, based on the return on investment (ROI). Taking into account the current implementation of WHO FCTC measures in Burkina Faso, the investment case models the impact of the following six key WHO FCTC provisions:

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3 The FCTC 2030 project is a global initiative funded by the Governments of the Australia, Norway and the United Kingdom to support countries to strengthen WHO FCTC implementation to achieve the SDGs. As of 2022, Burkina Faso is one of 33 countries worldwide that have participated in the FCTC 2030 project [28].

- 1 Increase tobacco taxation to reduce the affordability of tobacco products.**  
(WHO FCTC Article 6)
- 2 Create smokefree public and work places to protect people from the harms of tobacco smoke.**  
(WHO FCTC Article 8)
- 3 Implement plain packaging<sup>4</sup> of tobacco products.**  
(WHO FCTC Guidelines for Implementation of Article 11 and WHO FCTC Guidelines for Implementation of Article 13)
- 4 Enact and enforce a comprehensive ban on all forms of tobacco advertising, promotion, and sponsorship.**  
(WHO FCTC Article 13)
- 5 Promote cessation of tobacco use and treatment for tobacco dependence by training health professionals to provide brief advice to quit tobacco use.**  
(WHO FCTC Article 14)

**Chapter 3** of this report provides an overview of tobacco control in Burkina Faso, including tobacco use prevalence as well as challenges and opportunities. **Chapter 4** summarizes the methodology of the investment case (see methodology annex and the separate *Technical Appendix*, available upon request, for more detail). **Chapter 5** reports the main findings of the economic analysis. **Chapter 6** details the results of complementary analyses examining equity considerations of increasing tobacco taxes, as well as the projected impact on government revenue. Further, it also details the contribution of the WHO FCTC demand reduction measures to meeting SDG Goal 3.4 to reduce premature mortality due to NCDs by one-third by 2030. **Chapter 7** summarizes the results and provides recommendations to the government to further tobacco control. The annex provides information on the methods underlying the various analyses described in the report.

4 Plain (or standardized) packaging is defined as “measures to restrict or prohibit the use of logos, colours, brand images or promotional information on packaging other than brand names and product names displayed in a standard colour and font style”. Further information is available at: Guidelines for implementation of Article 11 of the WHO Framework Convention on Tobacco Control (decision FCTC/COP3(10)) November 2008, available at: <https://fctc.who.int/publications/m/item/packaging-and-labelling-of-tobacco-products>.

## 2. Tobacco control in Burkina Faso: status and context

### 2.1 Tobacco use prevalence, social norms, and awareness-raising

Around 4 percent of adults use tobacco products in Burkina Faso [4]. Overall, tobacco prevalence is significantly higher among males than among females (7 percent of adult males use tobacco, compared to 0.4 percent of adult females) [4].

Tobacco use is more prevalent in the north of Burkina Faso (Northern, Upper East and Upper West regions), where it is rural, remote and socioeconomic status is lower with the majority of the population living in the lowest wealth income quintile [27]. More women in the Northern region of Burkina Faso use tobacco compared to other regions (3.1 percent compared to 0.5 percent or less). Likewise, more men in the Northern region (11.1 percent) and Upper East region (11.2 percent) use tobacco [27].

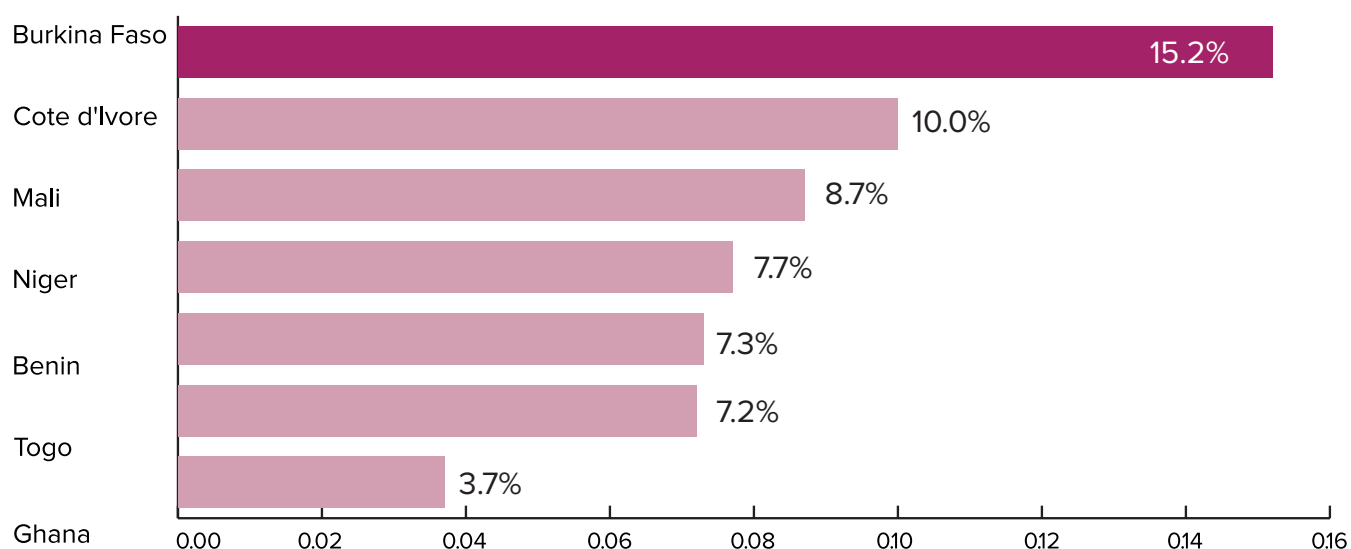
Only 2.2 percent of the adult population aged 15 years and older smoke cigarettes in Burkina Faso (4.3 percent of men and 0.1 percent of women), the lowest rate of cigarette smoking out of all other countries not only in Sub-Saharan Africa<sup>5</sup> but across the world according to the WHO report on the global tobacco epidemic, 2021 [4].

In Burkina Faso, males, those with a very low income and those who live in a rural area are positively associated with tobacco consumption [28]. Smoking is more common among people who are less educated and among those with lower socioeconomic status [29]. Of adult men who smoke, around 39 percent are in the lowest income quintile while only about 4 percent are in the highest income quintile [27]. Of adult women who smoke, 64 percent are in the lowest income quintile (**Figure 1**) [27].

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<sup>5</sup> Neighbouring countries have a much higher adult tobacco use prevalence, some double, or even triple the prevalence in Burkina Faso – 7.2 percent in Togo, 10 percent in Côte d'Ivoire and 15.2 percent in Burkina Faso. Tobacco use prevalence is even higher in other Sub-Saharan African countries – 20 percent in Botswana and 29 percent in Madagascar [4].

**Fig. 1: Current tobacco use prevalence among adults in west African countries, % of adults ages 15 and older, 2019.**



Source: WHO Report on the Global Tobacco Epidemic, 2021 [4].

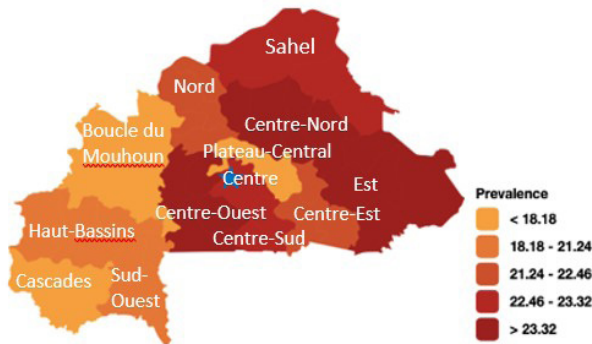
According to the most recent Demographic Household Survey (DHS) in 2010, more women use other forms of tobacco compared to cigarettes (3.9 percent vs. 0.1 percent of women respectively). Consumption also varies with age, with consumption of other forms of tobacco most prevalent among women 45-49 years old (13.7 percent). In contrast, among men, cigarettes are the most popular form of tobacco consumed (21 percent), with the highest prevalence among men 30-34 years old (32 percent) [29].

The majority of the Burkina Faso's population resides in rural areas [30] where, according to research using the 2013 STEPwise approach to NCD risk factor surveillance (STEPS) survey, tobacco use is more common (22 percent) compared to urban areas (14.1 percent) [31]. Among men, cigarette use is most prevalent in the Centre-Nord region (41 percent) and lowest in Centre-Est region (7.1 percent) [31] (Figure 2.A). For women, cigarette consumption is most prevalent in the Centre and Boucle du Mouhoun region (Figure 2.B).



**Fig. 2: Cigarette consumption among men and women 15-49 years old, by region (%) in Burkina Faso, 2010**

2. A) Men



2. B) Women



Source: Cigarette prevalence used in the maps is drawn from Burkina Faso Demographic Health Survey 2010 [29]. Smoking prevalence used in models is drawn from WHO Report on the Global Tobacco Epidemic, 2021 [4].

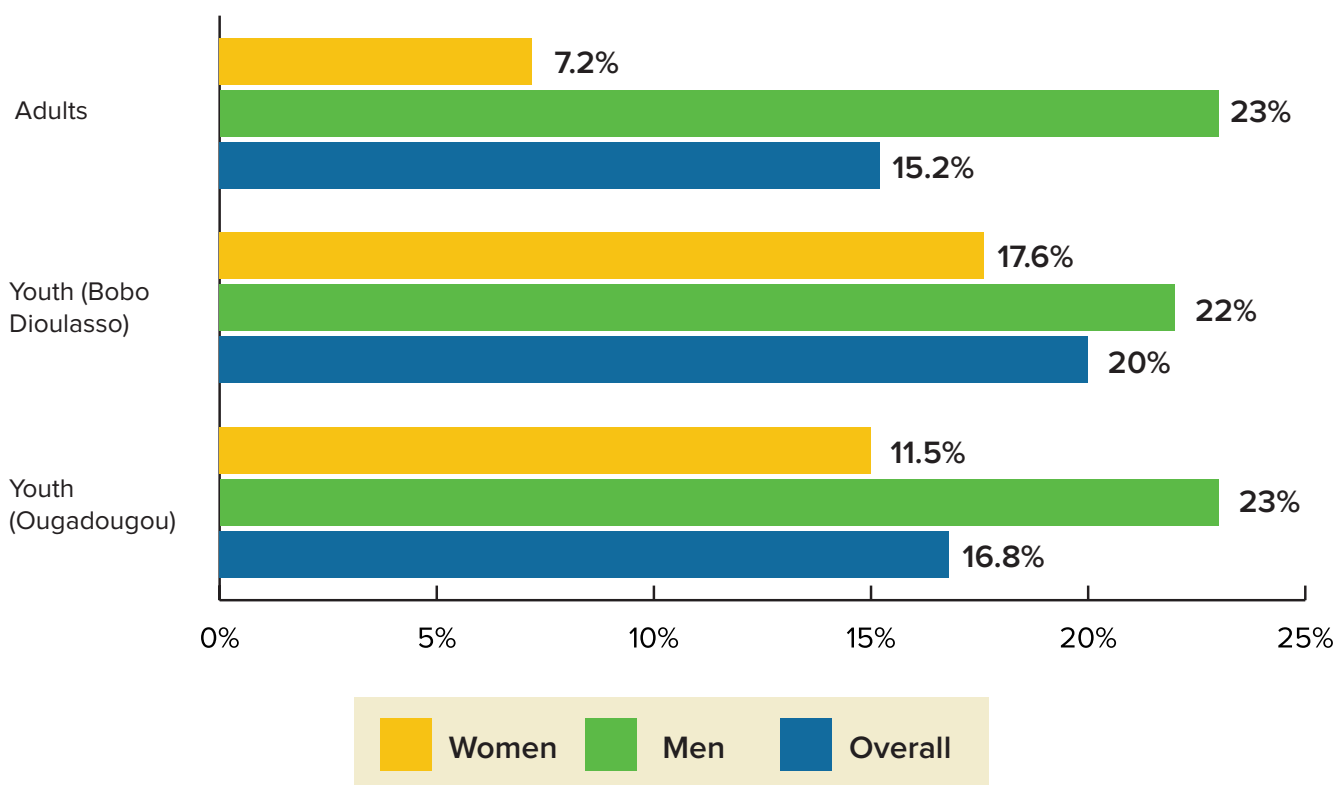
Research from L'Institut de Formation et de Recherche Interdisciplinaires en Sciences de la Santé et de l'Education (the Institute for Interdisciplinary Training and Research in Health Sciences and Education) published in 2017 indicated that more men and women with no education use tobacco (26 percent and 5.2 percent respectively) compared to men and women with primary (23 and 0.6 percent) and with secondary education (16.7 and 0.01 percent) [32].

Literacy rates are particularly low in Burkina Faso, as only 39 percent of adults (15 years and older) were literate in 2018 [33]. Literacy rates are related to income level. According to the most recent DHS, only 14.3 percent of men and 6 percent of women from the poorest quintile are literate compared to 72 percent and 55 percent respectively among the wealthiest quintile [29]. Notably, while French is the official language of Burkina Faso, only 15 percent of the population speaks it. There are an estimated 70 languages spoken in Burkina Faso with the majority being indigenous and often spoken by the rural population. The most spoken language is Mossi, with 40 percent of the population speaking it [34].

The latest Global Youth Tobacco Survey (GYTS) is from 2009, there has not been a GYTS after the enactment of the Tobacco Control Law and following decrees. According to the 2009 GYTS in Ouagadougou, 16.8 percent of students 13-15 years old use tobacco (23 percent of boys and 11.5 percent of girls) [35]. In Bobo Dioulasso (the second largest city), slightly more students use tobacco (20 percent of students with 22 percent of boys and 17.6 percent of girls) [36]. In both cities more students use other tobacco products compared to cigarettes – 12.6 percent in Ouagadougou and 17.7 percent in Bobo Dioulasso use other tobacco products,

compared to 6.5 and 3.8 percent respectively who use cigarettes. Around a third of students in both cities are exposed to smoke at home and 48 percent in Ouagadougou and 53 percent in Bobo Dioulasso are exposed to smoke outside their home [35], [36]. In contrast, according to the 2013 STEPS Survey, 23 percent of adults are exposed to secondhand smoke at their workplace and 36 percent exposed to it at home [30].

**Fig. 3: Current tobacco use prevalence among youth and adults in Burkina Faso**



Source: 2009 GYTS in Ouagadougou [35], 2009 GYTS in Bobo Dioulasso [36] and *WHO Report on the Global Tobacco Epidemic, 2021* [4].

Certain factors have been associated with smoking among Burkinabe students, such as repeating a year at school and living away from their parents [37]. Social norms are also a factor for tobacco consumption among young people in Burkina Faso, as 46 percent of students reported taking up smoking to imitate their classmates [37].

As in other countries across the continent, the tobacco industry also targets youth to encourage initiation and tobacco use. A 2016 study conducted by the Africa Tobacco Control Alliance (ATCA) surveying 16 schools and 148 tobacco sale outlets in Burkina Faso found that all schools surveyed had stores within 100 metres selling single stick cigarettes, despite a ban on the sale of these products in the country [38]. Sales of single sticks can increase youth access, as these products are more affordable to children and youth [39]. Furthermore, though Burkina Faso has a ban on tobacco advertising and promotional campaigns within

the vicinity of educational domains [40], the study found significant advertising around the schools. Of the schools surveyed, 75 percent had advertisements on the windows or doors of stores, 69 percent had umbrellas depicting advertisements and 62 percent had structures or buildings with cigarette advertisements (within 100 metres of the schools) [38].

Making tobacco products less affordable is one of the best ways to control tobacco use, and young people are particularly sensitive to the price of tobacco [41]. Higher tobacco prices from tax increases can make smoking too costly for young people and reducing the incentive to start or continue to smoke. A 2021 study demonstrated that higher tobacco prices, such as through tax increases, are associated with a decreased risk of smoking initiation among youth and young adults [42].

### Box 2. Tobacco and gender

While worldwide women and girls tend to use tobacco at lower rates than men, they can still be subjected to the harms of tobacco use—including exposure to secondhand smoke [43] and the effects of household income diverted to tobacco use. Since tobacco use prevalence is often lower for women than men, the tobacco industry see this as an opportunity to scale up marketing targeted at women and girls [44]. While cigarettes are the most common type of tobacco consumed for men, women instead use other forms of tobacco [29]. Already in 2009, girls in Burkina Faso were consuming tobacco at concerning rates: nearly 1 in 5 girls in Bobo Dioulasso and more than 1 in 10 in Ouagadougou use tobacco [35], [36]. Alarming, 14.5 percent of students in Bobo Dioulasso and 16.3 percent in Ouagadougou think girls who smoke have more friends [35], [36]. The literacy rate in Burkina Faso is extremely low on a global scale at 39 percent overall, and even lower for women at 31 percent. Illiteracy persists in younger generations as well, as 55 percent of girls (15-24 years old) are literate compared to 64 percent of boys. However, since 2017 girls net enrolment rate in secondary education has outpaced that of boys [33]. With lower literacy rates, women and girls in Burkina Faso may have greater difficulty understanding anti-tobacco messaging and may be more susceptible to misleading tobacco industry advertising.

**Box 3. Tobacco and pregnancy**

Tobacco use during pregnancy imposes significant health risks on the fetus, infant and mother. It increases the likelihood of miscarriages, stillbirths, preterm births, low birth weight, birth defects, and sudden infant death syndrome, among others [45], [46]. Exposure to secondhand smoke during pregnancy also increases the risks of having low birthweight babies, in turn increasing the risk of a mother and child developing health issues [46]. Mothers face additional health risks as pregnant smokers are more likely to experience heart and lung complications than pregnant nonsmokers [47]. Despite the strong evidence, the tobacco industry continues to aggressively target women and girls [46]. It is estimated that the global prevalence of smoking during pregnancy is 1.7 percent [48]. In 2010, the results of a population-based cross sectional survey found little evidence of smoking during pregnancy among Burkinabe women. The prevalence of smokeless tobacco use, however, was estimated at 2.8 percent. More recent data are unavailable, but concerns that young women are using tobacco at greater rates presents concerns about tobacco and pregnancy in the future.

## **2.2 National tobacco control legislation, strategy and coordination**

Burkina Faso has a long history of tobacco control dating back to the Regulation Concerning Tobacco Advertising and Places for Tobacco Consumption in 1988. Almost two decades later, the Law Concerning the Code of Advertising was established in 2001, although eventually replaced by the Law Concerning the Regulation of Advertising in Burkina Faso in 2015 [24], [19].

In 2010 the current primary law governing tobacco control in Burkina Faso was enacted, the Law Concerning Tobacco Control in Burkina Faso. Following this law, seven decrees were enacted from 2011 to 2020 regulating specific aspects of tobacco control in Burkina Faso. These decrees included those pertaining to: the ban on smoking in public places and public transport; establishing a national committee for tobacco control; packaging and labelling of tobacco products (one in 2011 and updated in 2019 to include health warning regulations); regulation of advertising in Burkina Faso; protection of the educational domain; and protection of schools. Two joint administrative orders were also passed, one in 2016 and one in 2021. The former establishing the first set of health warnings, as well as the ban on misleading packaging and labelling, and the latter establishing a second set of health warnings [24].

The National Committee for Tobacco Control was established by decree in 2011. The decree established clear responsibilities for Ministry of Health and Public Hygiene (MoHPH), with Ministry of Economy, Finance and Prospective also tasked with key tobacco control



responsibilities [49]. The committee is multisectoral in nature, with 32 members representing various ministries and civil societies [27]. The responsibilities of the committee include proposing tobacco control measures with a focus on young people; drafting projects, programmes and texts; engaging in advocacy; evaluating legislation; supporting national strategies; offering their expert opinions when relevant; and report on annual activities [49]. Work is currently underway to reinvigorate this committee.

In 2009, MoHPH and the National Committee for Tobacco Control, in collaboration with the Secretariat of the WHO FCTC, enacted the first tobacco control strategic plan from 2009-2013 [27]. The strategy was later updated for 2015-2019 [50], but it has yet to be updated again. The strategy includes six objectives: 1) strengthen the legal capacity for tobacco control; 2) ensure 80 percent of the population is aware of tobacco-related harms; 3) decrease tobacco use prevalence; 4) build capacity of tobacco control stakeholders; 5) ensure the delivery of tobacco cessation services; and 6) increase financing for tobacco control by 10 percent.

Tobacco control is also part of Burkina Faso's National Health Development Plan 2011-2020 (Plan National De Développement Sanitaire 2011-2020), where tobacco is identified as a major risk factor for NCDs [27], [51]. In 2012, Burkina Faso developed its first plan of action to combat NCDs. It has since then released several strategic plans tackling NCDs that include tobacco, including the NCD Strategic Plan 2016-2020 (Plan Stratégique Integre de Lutte Contre Les Maladies Non Transmissibles 2016-2020), the Cancer Strategic Plan 2013-2017 (Plan Stratégique de Lutte Contre le Cancer 2013-2017), and the Mental Health Strategic Plan 2014-2018 (Plan Stratégique Santé Mentale 2014-2018) [50]. Burkina Faso also instituted a National Economic and Social Development Plan for 2016-2020, but NCDs and tobacco are overlooked in this strategy [52].

## 2.3 The status of WHO FCTC demand reduction measures

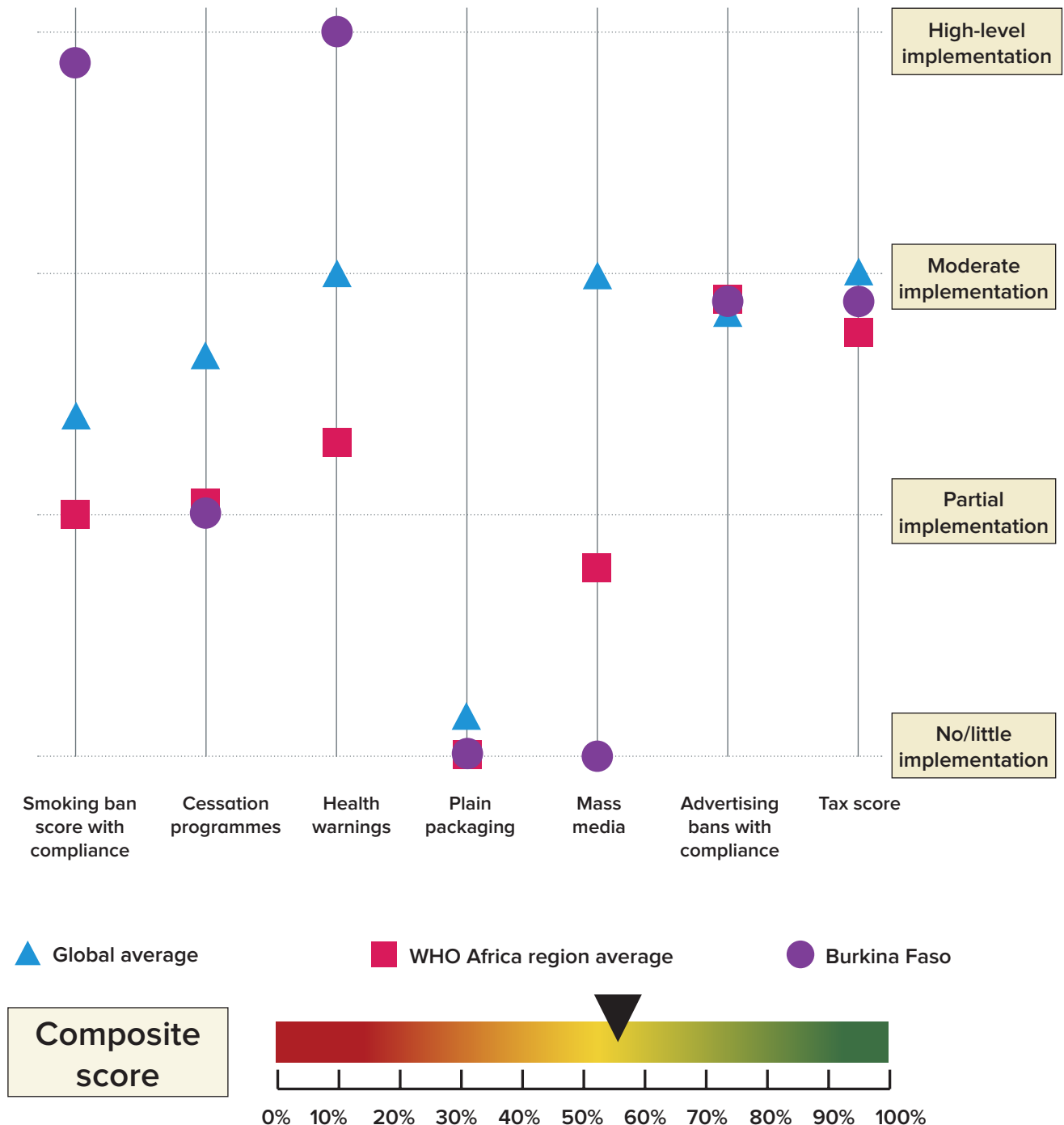
Strong fiscal and regulatory measures influence societal norms by signalling that tobacco use is harmful, not only for users but for the people around them including family, colleagues, and co-workers.

While Burkina Faso has demonstrated progress in implementing the key demand reduction measures, nearly one million Burkinabe continue to smoke [4], [53]. Implementing additional demand reduction measures or strengthening existing ones can draw Burkina Faso into closer alignment with the WHO FCTC and reduce the substantial costs imposed by tobacco use. Below, the status of each of the demand reduction measures in relation to WHO FCTC recommendations is discussed.

**Figure 4** summarizes the status of tobacco control demand reduction measures in Burkina Faso from the WHO Report on the Global Tobacco Epidemic, 2021 [4] and, for each, progress

toward meeting the WHO FCTC target obligations. Overall, Burkina Faso is assessed to be 55 percent of the way toward fulfilling the key WHO FCTC demand reduction measures, slightly above the global average of 53 percent.<sup>6</sup>

**Fig. 4: Implementation of tobacco control demand reduction measures in Burkina Faso**



Source: WHO Report on the Global Tobacco Epidemic, 2021 [4]

<sup>6</sup> This composite score represents a status quo implementation level of tobacco control demand reduction measures developed intentionally for tobacco control investment cases.

## 1. Increase tobacco taxation to reduce the affordability of tobacco products (WHO FCTC Article 6)

In Burkina Faso, total tobacco taxes comprise 43.5 percent of the retail price of the most sold brand of cigarettes. As a member of the Economic Community of West African State (ECOWAS), Burkina Faso is subject to the 2017 ECOWAS tax directive for tobacco products, including a minimum specific excise tax of (US\$0.02 per stick/ US\$0.40 per pack) [54]. However, Burkina Faso does not employ a specific excise tax. Taxes on cigarettes consist of an ad valorem excise tax and a value added tax (VAT) [4]. The ad valorem excise tax, which is based on the import value/producer price, equals 28 percent of the retail price<sup>7</sup> [4].

In 2017, the West African Economic and Monetary Union (WAEMU), of which Burkina Faso is a member, set minimum and maximum ad valorem rates on tobacco products at 50 and 150 percent respectively. This is in addition to the ECOWAS tax directives for tobacco products [54].

There is substantial scope for action to reach what is considered in the WHO Report on the Global Tobacco Epidemic as a high-level of achievement, which is for total taxes to represent at least 75 percent of the retail price<sup>8</sup> [4]. On tax design for tobacco products, WHO makes several recommendations including that governments should rely more on specific tobacco excises to drive price increases (rather than rely only on ad valorem excises), increase tobacco taxes significantly to reduce the affordability of tobacco products and automatically adjust specific tobacco taxes for inflation and income growth. Additionally, WHO recommends that governments have an excise tax that represents at least 70 percent of the retail price of tobacco products [55].

The Global Cigarette Tax Scorecard that assesses countries' cigarette tax policy performance gave Burkina Faso a score of 1.63 out of maximum score of 5 in 2020. This is comparable to the Africa regional average of 1.64, but lower than the global average of 2.28. Burkina Faso's score has increased significantly since 2014, reflecting a reduction in affordability of cigarettes over this time period, as well as the increase in the tax share of price and improvements to the tax structure [56].

7 Ad valorem taxes are taxes levied on the value of tobacco products (i.e. as a percentage of price) and are less effective at achieving health objectives and generating revenue than specific excises. Ad valorem taxes are more difficult to administer and create more opportunities for tax avoidance and evasion [54]. For example, the tobacco industry can easily manipulate import values and declare a lower value as the government cannot ascertain the actual value of the imported product which only the producer or importer know. On the other hand, the declared retail price is easy to check by monitoring the market.

8 The WHO Report on the Global Tobacco Epidemic classifies total tax share of 75 percent or more of the retail price as a high-level of achievement [4].

The investment case examines the impact of raising cigarette taxes to levels considered in the WHO Report on the Global Tobacco Epidemic, 2021 as a high-level of achievement [4]. The investment case models increasing the ad valorem tax and introducing a specific excise tax that grows year over year, triggering real price increases of an average of 7.4 percent annually from 2028 to 2037 (see the annex on methodology for detailed information). Further economic gains will be made in Burkina Faso with substantial tax increase on all tobacco products.

## **2. Create smokefree public and work places to protect people from the harms of tobacco smoke (WHO FCTC Article 8)**

There are strong indoor public smoke-free policies in Burkina Faso. The 2011 Decree Concerning the Ban on Smoking in Public Places and Public Transportation directly states: “it is forbidden to smoke in enclosed public places and on public transportation” and lists enclosed public places to include government offices, health establishments, educational institutions, workplaces and other places, while also defining public transportation [57]. However, compliance with the policy is reportedly low, receiving a 4 out of 10 for compliance in the WHO Report on the Global Tobacco Epidemic, 2021 [4].

The investment case examines the impact of ensuring that indoor public and workplaces are fully smoke-free by enhancing compliance building and enforcement activities to increase levels of compliance with existing smoke-free policies in public places.

## **3. Require tobacco packaging to carry graphic health warnings describing the harmful effects of tobacco use (WHO FCTC Article 11)**

Graphic health warnings are required by law in Burkina Faso, meaning that the country satisfies the obligations of the WHO FCTC Article 11. Tobacco products must have health warnings covering at least 60 percent of both the front and rear of the package. There are two rotating health warnings mandated by law that describe the harmful effects of tobacco and include graphics [4]. Misleading descriptors for tobacco products such as “low tar” are prohibited [24].

Given the WHO FCTC Article 11 requirements are being met and there is a good level of implementation, this intervention has not been modeled in the investment case.

#### **4. Implement plain packaging of tobacco products (WHO FCTC Guidelines for Implementation of Article 11 and WHO FCTC Guidelines for Implementation of Article 13)**

Burkina Faso currently does not require plain packaging of tobacco products [4]. The investment case models the impact of implementing and enforcing plain packaging requirements.

#### **5. Promote and strengthen public awareness of tobacco control issues, including the health risks of tobacco use and tobacco smoke, addiction, and the benefits of cessation (WHO FCTC Article 12)**

Burkina Faso has not recently conducted a national mass media campaign to educate the public on the harms of tobacco use and the benefits of cessation [4]. However, while no national campaign has been conducted, Burkina Faso has made commendable efforts to increase the dissemination of anti-tobacco messaging. In 2019, MoHPH organized a five-day training in Koudougou in partnership with WHO to teach journalists from around the country about tobacco as a risk factor for NCDs, the multifaceted impacts of tobacco, and the role of the WHO FCTC and national tobacco control legislation in Burkina Faso [58]. In 2018, the Network of Journalists for Tobacco Control in Burkina Faso (Réseau des journalistes pour la lutte anti-tabac au Burkina Faso), Africa Against Tobacco (Afrique Contre le Tabac) and the Tobacco Observatory in Francophone Africa (Observatoire du Tabac en Afrique Francophone) organized a press conference to raise awareness of the lack of compliance with the tobacco packaging and labelling requirements [59]. In 2011 MoHPH organized a workshop on smoking cessation [60]. In 2011 Burkinabe journalists set up the Network of Journalists for Tobacco Control in Burkina Faso to raise awareness on the consequences of tobacco use [61]. The investment case examines implementing a best-practice mass media campaign in Burkina Faso, which would involve implementing and sustaining a nation-wide campaign that is researched and tested with a target audience and evaluated for impact.

#### **6. Enact and enforce a comprehensive ban on all forms of tobacco advertising, promotion, and sponsorship (WHO FCTC Article 13)**

Not all forms of direct and indirect advertising are banned in Burkina Faso. Most forms of direct tobacco advertising are banned, but the current legislation allows advertising and promotion, such as posters, at point-of-sale only [24]. All forms of



tobacco sponsorship are also banned [4]. Only a few forms of indirect advertisements are banned [4], with the current legislation allowing for promotion through free distribution in mail or other means, promotional discounts, and the appearance of tobacco products in television and/or films. Additionally, anti-tobacco messages are not required in media where there is tobacco use [4]. Compliance assessments by national experts<sup>9</sup> indicate that enforcement of existing aspects of the TAPS ban is only moderate [4]. The investment case models the impact of closing the remaining gaps that permits TAPS and ensuring full compliance with TAPS bans.

## **7. Promote cessation of tobacco use and treatment for tobacco dependence by training health professionals to provide brief advice to quit tobacco use (WHO FCTC Article 14)**

There is a national quit line in Burkina Faso and while some cessation services are available in health-care offices, community settings and other places they are not cost-covered [4]. Burkina Faso established a smoking cessation centre in Ouagadougou in 2017, being the first ever in West Africa to do so [62]. While nicotine replacement therapy (NRT) may be available [63], it is not consistently accessible and the cost is not covered by the government, nor is it in the essential medicines list [4].

The provision of brief advice to tobacco users from health-care professionals whenever they access health-care services – especially in the primary care setting – is also shown to be effective in supporting successful tobacco cessation [64] and represents a useful early step in rolling out support for tobacco users to quit. The investment case models the impact of training primary care health providers to identify tobacco users and to provide tobacco cessation advice (see the annex on methodology for detailed information). Further gains would be possible with the provision of further support to tobacco users, such as offering specialized tobacco dependence treatment services, and/or internet based quit support and making pharmacotherapies more widely available (free of cost, if possible).

**Table 1** summarizes the existing state of WHO FCTC demand reduction measures and compares them against a target that would represent a high level of implementation for each measure. The impact of each policy measure—individually and in combination—is described in **Annex Table A4**.

<sup>9</sup> Five national experts provided assessments of compliance with existing laws for the WHO report on the Global Tobacco Epidemic 2021: addressing new and emerging products [4], including one senior government official in charge of tobacco control, one head of a nongovernmental organization that works on tobacco control, one health professional, one academic, and one tobacco control focal point at the WHO country office.

**Table 1: Summary of the current state of WHO FCTC demand reduction measures in Burkina Faso and modeled implementation targets based on the WHO Report on the Global Tobacco Epidemic, 2021 [4]**

<b>Tobacco Control Policy</b>	<b>Burkina Faso Baseline*</b>	<b>Modeled Implementation Target</b>
<b>Increase tobacco taxation to reduce the affordability of tobacco products</b> ( <i>WHO FCTC Article 6</i> )	Total tax share equivalent to 43.5% of the retail price of the most sold cigarette brand.	Increase the ad valorem tax on cigarettes and introduce a specific excise tax to ensure that total taxes comprise at least 75% of the retail price and excise taxes 70% of the retail price. Implement regular tax increases to outpace inflation and income growth.
<b>Create smokefree public and work places to protect people from the harms of tobacco smoke</b> ( <i>WHO FCTC Article 8</i> )	The Public Health Act 2012 bans smoking in enclosed indoor public and work places but designated smoking areas are allowed. Smoking in public transport is effectively prohibited in most cases. The existing smokefree requirements are not fully enforced.	Remove provision for designated smoking areas to make all indoor work and public places 100% smoke free.
<b>Implement plain packaging of tobacco products</b> ( <i>WHO FCTC Guidelines for Implementation of Article 11 and WHO FCTC Guidelines for Implementation of Article 13</i> )	Plain packaging requirements are not currently in place.	Implement and enforce plain packaging of tobacco products.
<b>Promote cessation of tobacco use and treatment for tobacco dependence by training health professionals to provide brief advice to quit tobacco use</b> ( <i>WHO FCTC Article 14</i> )	Smoking cessation is currently only offered in some hospitals and health offices and is not available in primary care facilities or community centres. Clinical guidelines were developed in 2017 to guide health workers in the provision of tobacco cessation services, but they have not yet been fully implemented. There is no national quit line (or web-based equivalent) to support quitting. Pharmacotherapy is not readily available.	Expand training of primary health care providers to identify tobacco users and to provide tobacco cessation advice; implement the provision of tobacco cessation services at the primary care level.

Tobacco Control Policy	Burkina Faso Baseline*	Modeled Implementation Target
<b>Enact and enforce a comprehensive ban on all forms of tobacco advertising, promotion, and sponsorship (TAPS) (WHO FCTC Article 13)</b>	Most forms of TAPS are banned, except point-of-sale product displays and product placement in television and films. Bans are moderately enforced.	Ban all forms of direct and indirect TAPS, with strengthened enforcement to ensure compliance.
<b>Promote cessation of tobacco use and treatment for tobacco dependence by training health professionals to provide brief advice to quit tobacco use (WHO FCTC Article 14)</b>	There is a national quit line. NRT and some cessation services exist but neither are cost-covered.	Expand training of primary health-care providers to identify tobacco users and to provide tobacco cessation advice; implement the provision of tobacco cessation services at the primary care level.
Source: Information in this table is based on the WHO Report on the Global Tobacco Epidemic, 2021 [4]		

## 2.4 Tobacco use and the COVID-19 pandemic

The global coronavirus disease (COVID-19) pandemic has strained health systems worldwide, and the economic impact of the outbreak has been immense. According to WHO, evidence indicates that smokers are more likely to suffer more severe outcomes of COVID-19, such as admission into intensive care units and death, than never smokers. Furthermore, severe forms of COVID-19 or deaths due to COVID-19 are more frequent in people with comorbidities that are related to tobacco use, including chronic obstructive pulmonary disease, lung cancer and cardiovascular diseases [65]. Moreover, tobacco use is also proven to worsen the outcomes of other communicable diseases such as tuberculosis and HIV [66].

## 2.5 Financing

Burkina Faso conducted four separate GYTS's, two in 2001 and two in 2009, in the two largest cities of the country, Ouagadougou and Bobo Dioulasso. A Global Adult Tobacco Survey in Burkina Faso has not yet been conducted. A Demographic Health Survey and Multiple Indicator Survey [29] was carried out in 2010. A WHO STEPwise Approach to NCD Risk Factor Surveillance (STEPS) survey was also undertaken in 2013 which provides information and guidance on ways to monitor and combat NCDs in Burkina Faso [30]. As of 2023, discussions with country colleagues in preparation of the investment case indicate that an updated STEPS survey is foreseen. There is minimal data available on recent tobacco use trends among different demographic groups, especially in rural areas where the majority of Burkinabe reside and among young people. As of 2021, another demographic health survey is being conducted, which will provide up to date data on tobacco use, among other characteristics, helping to address the gap in tobacco use data [67].

## 2.6 Tobacco industry presence and interference in policymaking

Per Article 32 of the 2010 Law Concerning Tobacco Control in Burkina Faso, the Government of Burkina Faso is responsible for financing tobacco control. The means of financing and the operation of the funds are set by regulatory provisions [23]. The designated focal point for tobacco control within the MoHPH has its own budget. Additionally, over the years, Burkina Faso has received financial support from national, international and inter-governmental organizations. WHO has partially financed some cessation activities, such as the five-day training for journalists in 2019 [58]. The French government, via its public agency Expertise France, contributed EUR 400,000 to the Voussongo project, a one-year project to reduce the impact of tobacco on health and promote cleaner air in Burkina Faso [68]. The Bloomberg Philanthropies initiative has also funded projects in Burkina Faso, including by funding to the Union of Associations Against Tobacco (Union des Associations de Lutte Contre le Tabac) (UACT), which worked to create of smoke-free spaces in Burkina Faso. The Initiative also provided funding to the Department of Family Health for the creation of a national tobacco control plan and to enact a comprehensive law of tobacco control [69]. The Centre for Tobacco Control in Africa has also financed several projects for tobacco control in Burkina Faso [70].

## 2.7 Illicit trade in tobacco products

There are five major tobacco companies in Burkina Faso: Imperial Tobacco Group; British American Tobacco (BAT); Phillip Morris International; Kaane American International Tobacco; and Siri production [71], with Imperial Brands controlling 80 percent of the local cigarette market [72]. The tobacco industry has shown heavy resistance to tobacco control legislation in Burkina Faso, particularly regarding tax increases and graphic warning labels. The tobacco industry claims that tobacco tax increases will reduce the demand for licit tobacco products, which would in turn considerably decrease government revenue [73], [74]. In reality, evidence consistently shows these claims to be false, and that raising tobacco taxes is the most effective way to reduce tobacco use and increase government revenues [72]. The tobacco industry also promotes the narrative that tobacco plays an important role in improving the economy of countries in the region [74]. Again, research shows these claims to be exaggerated [74] and, as will be demonstrated in this investment case, implementing tobacco control measures can make important contributions to a strengthened economy, including by creating a healthier, more productive workforce.

In the Global Tobacco Industry Interference Index,<sup>10</sup> Burkina Faso scored 57, ranking 40th out of 80 countries, roughly in the middle of all countries analysed (in a system where a lower the score indicates less interference) [72]. Industry interference has resulted in the

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<sup>10</sup> The Global Tobacco Industry Interference Index measures efforts by governments to address tobacco industry interference: It is accessible at <https://globaltobaccoindex.org/>

delay and weakening of tobacco control legislation in Burkina Faso. The Decree Amending Decree No. 2011-1051 Concerning the Packaging and Labelling of Tobacco Products, which stipulated requirements for health warnings, came into force in 2019 after it was delayed four years because Imperial Brands raised several arguments with the government [72]. In 2010, during the process of passing an anti-smoking law, two tobacco companies, BAT and Imperial Tobacco Group, proposed an anti-smoking bill to parliament. While their draft was not adopted, the tobacco industry managed to influence the government in weakening the law. For example, language such as “except where permitted by regulation” was adopted to weaken the strength of laws’ provisions [75].

The tobacco industry has also been implicated in illicit trade in Burkina Faso. A representative for Philip Morris International in Burkina Faso is listed as a tobacco smuggler by the UN and is at the head of an annual traffic of billions of cigarettes to North Africa [76]. The industry also provided financial support to the Ministry of Economy, Finance and Prospective and the Minister of Industrial Development, Trade, Handicrafts and Small and Medium Enterprises to establish a track and trace and verification system for tobacco products based on Codentify standards<sup>11</sup> [78].

The government has addressed some requirements under WHO FCTC Article 5.3 in the 2010 Law Concerning Tobacco Control in Burkina Faso which requires the government to make any relations with the tobacco industry public and provide the public with information concerning the activities of the industry, prohibits the industry from receiving any privileges, prohibits sponsorship of the tobacco industry, and mandates the industry to provide the relevant administrative body with all relevant information concerning its activities [27]. Burkina Faso has an opportunity to go further with action to address the tobacco industry’s negative influence on health and sustainable development through full implementation of the WHO FCTC.

## **2.8 Civil society organizations (CSOs)**

Illicit trade in tobacco products poses a serious threat to public health. Illicit trade increases the accessibility and affordability of tobacco products, thus fuelling the tobacco epidemic and undermining tobacco control policies. It also causes substantial losses in government revenues, and at the same time contributes to the funding of transnational criminal activities [79]. Despite tobacco industry’s claims, changes in illicit tobacco trade levels are very loosely connected with changes in tobacco taxes. Increasing tobacco taxes does not necessarily lead to more tobacco smuggling, as demonstrated by multiple studies [80]. There is conflicting information on the amount of tobacco products imported to Burkina Faso and the amount

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11 Establishing a global track and trace system for tobacco products is at the heart of the FCTC’s Protocol to Eliminate Illicit Trade in Tobacco Products. Codentify is a non-secure authentication system that was developed by the tobacco industry. The industry has advocated for Codentify to be used as the international standard for tracking and tracing of tobacco products. The Protocol explicitly states that the tobacco industry should play no part in such a system [77].



exported from Burkina Faso indicating that there are imports entering the country illegally [27]. The Ministry of Economy, Finance and Prospective is responsible for regulations regarding illicit trade of tobacco in Burkina Faso and managed the same as other contraband [27].

In 2016 Burkina Faso ratified the Protocol to Eliminate Illicit Trade in Tobacco Products [81], representing a milestone in the country's efforts to eliminate the problem of illicit tobacco. The Protocol supplements the WHO FCTC with a comprehensive tool to counter and eventually eliminate illicit trade in tobacco products and to strengthen legal dimensions for international health cooperation.

## **2.9 Tobacco and the environment**

Tobacco farming in Burkina Faso still exists on a small scale after large-scale commercial farming was phased out in 2008. Industrial and organized cultivation of tobacco is banned under the 2010 Law Concerning Tobacco Control in Burkina Faso [27]. Tobacco use and cultivation poses a serious danger to the land and environment of Burkina Faso, threatening the strongest pillar of the economy. Agriculture represents 82 percent of the workforce and 35 percent of GDP [82].

An estimated 1,953 tonnes of cigarette butts and packs end up as toxic waste each year in Burkina Faso [83], polluting the environment and releasing microplastics, heavy metals and other chemicals improperly disposed cigarette butts [84]. Tobacco production and smoke also contribute to widespread outdoor air pollution [16]. Air pollution is a serious problem in Burkina Faso, where the air quality index is regularly in the moderate range with a worrisome concentration of fine particulate matter (PM<sub>2.5</sub>). It averages 45ug/m<sup>3</sup> in 2019 (which is more than four times higher than the guideline value designated by the WHO as safe) [85]. Exposure to air pollution poses a serious threat to the health of Burkinabe, as it can result in strokes, heart disease, lung cancers, and acute and chronic respiratory diseases [16].

## **2.10 Civil society organizations**

There is a strong civil society presence in Burkina Faso, with many civil society organizations (CSOs) supporting tobacco control efforts. Notably, this includes Union of Associations Against Tobacco (UACT), a network of about 15 organizations that works closely with the focal points of MoHPH and WHO. UACT was founded by the Burkinabe Public Health Association (Association Burkinabe de Santé Publique) and includes organizations such as Africa Against Tobacco, the Youth Solidarity Club, the Association for Tobacco Control in the Educational Environment, the Chain of Solidarity of Health and Education and the Full Life Association (Pleine Vie) [86].

Tobacco control civil society organizations in Burkina Faso have been involved in a number of important initiatives to push for tobacco control progress in the country. For example, in 2020, the Center for Tobacco Control in Africa developed a draft for a national tobacco control programme that defined an appropriate intervention package for the country, ensure adequate financing, and help generate tobacco control data to monitor progress. Further steps are needed to validate the document and send to the appropriate government ministries [70]. Afrique Contre le Tabac (ACONTA) has also advocated for a raising taxes on tobacco products in line with WHO recommendations, including advocacy efforts focused on reaching members of Parliament, the Ministry of Economy, Finance and Prospective and other government stakeholders in Burkina Faso [87].



Photo: © UNDP

### 3. Methodology

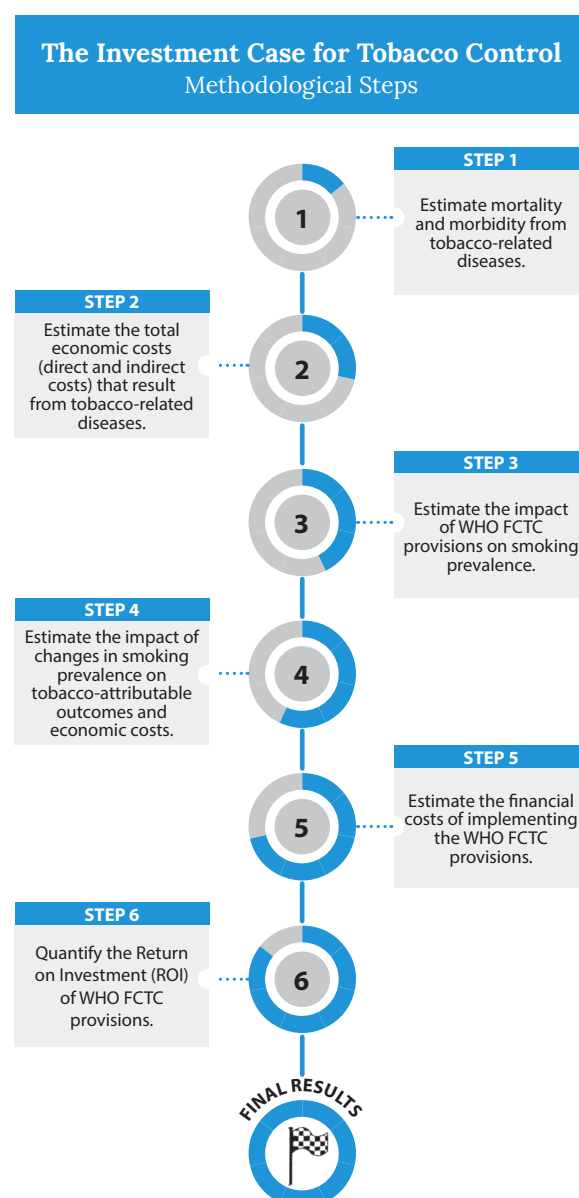
The purpose of the investment case is to quantify the current health and economic burden of tobacco use in Burkina Faso (in the context of WHO FCTC measures that are currently in place), and to estimate the impact that implementing new WHO FCTC measures—or strengthening existing ones—would have on reducing this burden.

A static model was developed to conduct the investment case and to perform the methodological steps in **Figure 5**. This methodology has been used for previous national WHO FCTC investment cases under the FCTC 2030 project.

The tools and methods used to perform these steps are described in this report's annex on methodology. Interested readers are also referred to this report's separate *Technical Appendix*<sup>12</sup> for a more thorough account of the methodology.

The investment case team worked with the MoHPH and other stakeholders in Burkina Faso to collect national data inputs for the model. Where data was unavailable from government or other in-country sources, the team utilized publicly available national, regional, and global data from sources such as the WHO, the World Bank database, the Global Burden of Disease study by the Institute for Health Metrics and Evaluation (IHME), and academic literature. Within the investment case, costs and monetized benefits are reported in constant 2020 West African francs (XOF) and discounted at an annual rate of 5 percent.

**Fig. 5: Building the Investment Case**



<sup>12</sup> Available upon request.



## 4. Results

### 4.1 The current burden of tobacco use: health and economic costs<sup>13</sup>

In 2019, tobacco use caused an estimated 4,686 deaths in Burkina Faso, 76 percent of which were premature, i.e. occurred among those under 70 years [88]. These deaths amount to 113,196 years of life lost (YLLs), which are lost productive years in which many of those individuals would have contributed to the workforce [88]. Monetizing YLLs due to tobacco use, the investment case identifies XOF 12 billion in losses due to tobacco-attributable mortality. While costs of tobacco-attributable mortality are high, the consequences of tobacco use begin long before death. As individuals suffer from tobacco-attributable diseases (e.g., cardiovascular disease, respiratory conditions, cancers), expensive medical care is required to treat them. Spending on medical treatment for illnesses caused by smoking cost the government XOF 3.7 billion in 2020 and caused Burkinabe to spend XOF 2.3 billion in out-of-pocket (OOP) health-care expenditures. Private insurance and non-profit institutions serving households spent XOF 0.6 billion on treating tobacco-attributable diseases in 2020. In total, health-care expenditures attributable to smoking amounted to XOF 6.6 billion.

In addition to health-care costs, as people become sick, they are more likely to miss days of work (absenteeism) or to be less productive at work (presenteeism). In 2020, the cost of excess absenteeism due to tobacco-related illness was XOF 10.5 billion and the cost of presenteeism due to cigarette smoking was XOF 28 billion.

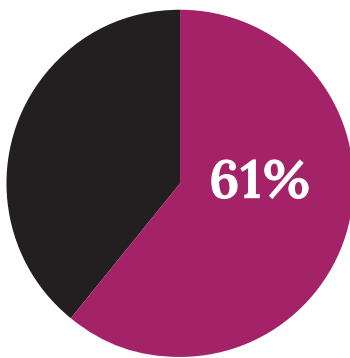
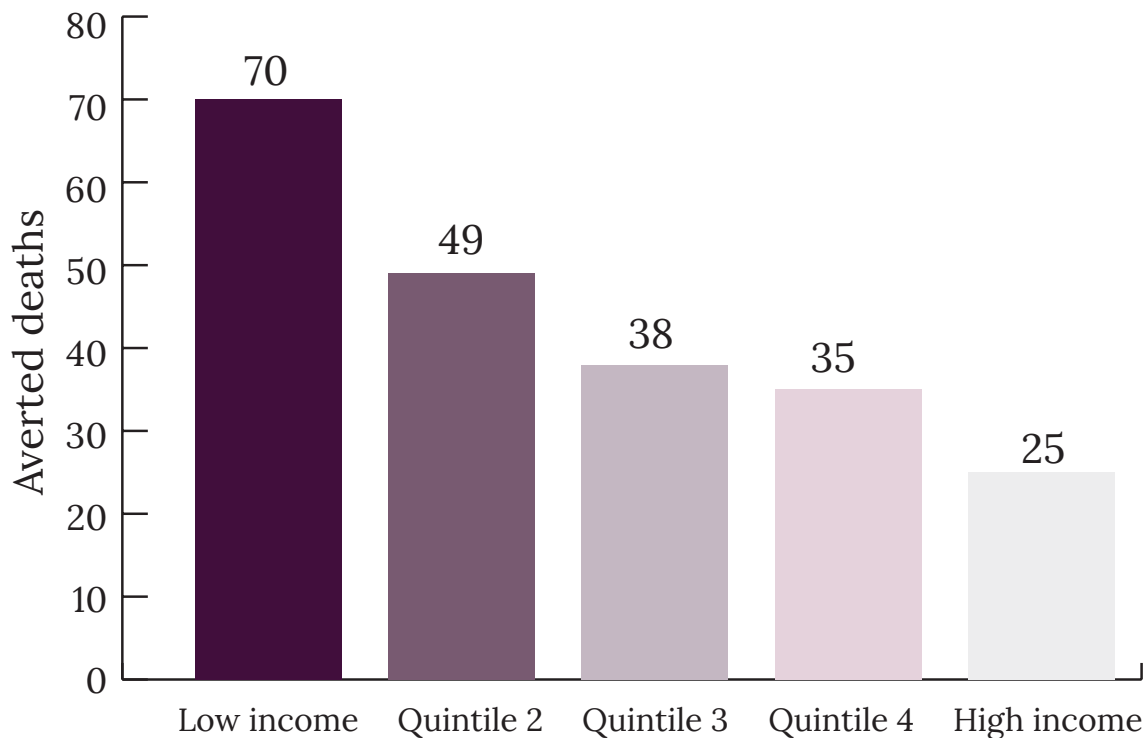
In total, tobacco use caused XOF 57 billion in economic losses in 2020, equivalent to about 0.5 percent of Burkina Faso's 2020 GDP. **Figure 6** summarizes the current burden of tobacco use and contextualizes the losses. The burden of tobacco use significantly exceeds the revenue the government currently collects from taxing tobacco products. Tobacco-attributable economic losses are about 1.6 times larger than the collected government revenue. Each adult smoker costs XOF 62,188.

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13 In assessing the 'current burden' of tobacco use, the economic costs of tobacco-attributable mortality include the cost of deaths due to any form of exposure to tobacco (including smoking, secondhand smoke, and the use of other types of tobacco products). Only smoking-attributable (not tobacco-attributable) costs are calculated for healthcare expenditures, absenteeism, and presenteeism. While other forms of tobacco may also cause losses in these categories, no data is available to precisely ascertain those losses.

**Fig. 6: Contextualizing the burden of tobacco use in Burkina Faso, 2019\***

## Averted deaths attributable to tax increase by income quintile in first modeled year (2025)



**Government tobacco tax revenue as a % of the tobacco burden**

**Tobacco costs Burkina Faso **XOF 57 billion** every year, equivalent to **0.5%** of annual GDP**

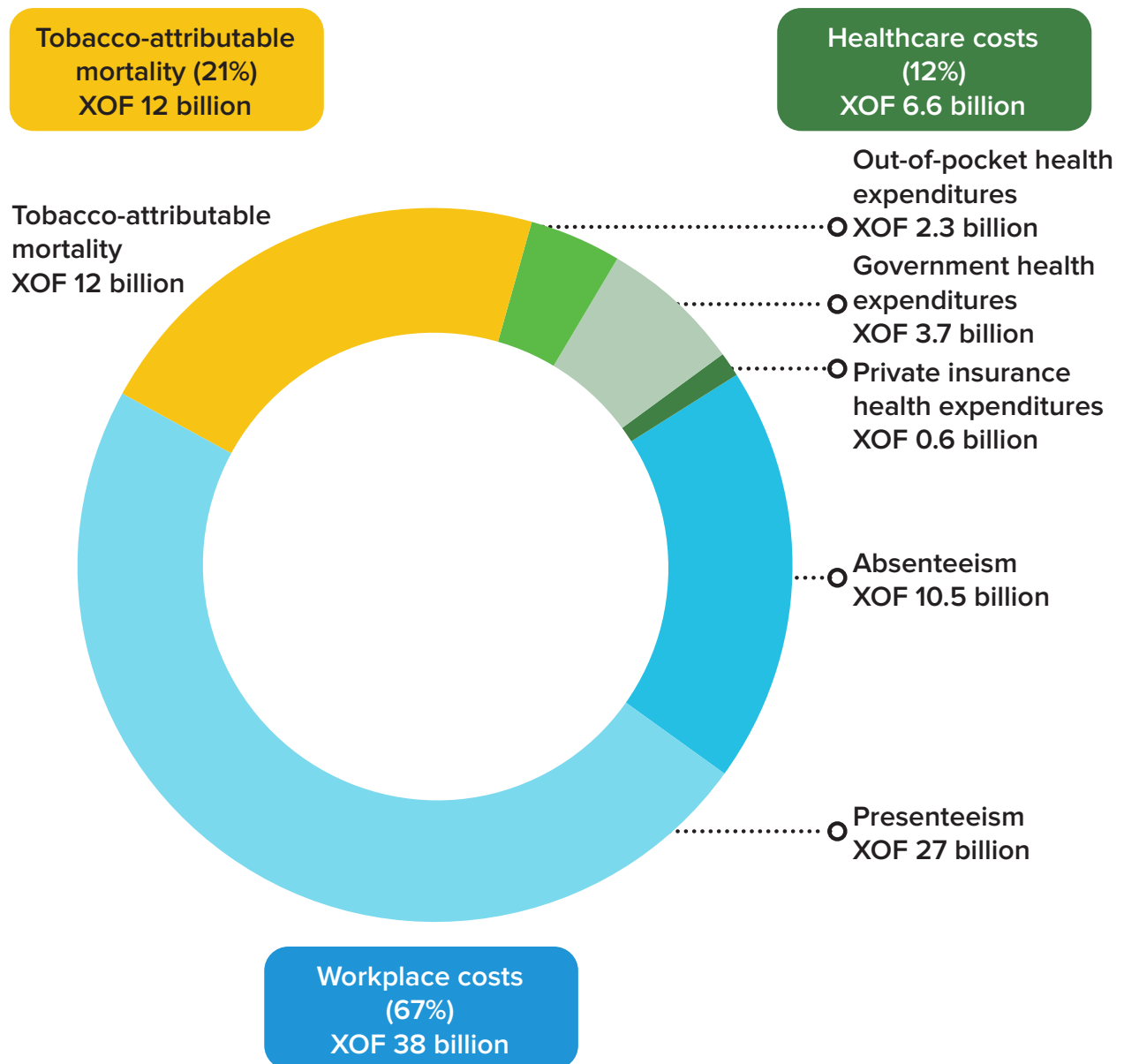
**Costs per adult smoker per year**  
**XOF 62,188**

Figures subject to rounding. Tax revenue comparisons are provided for context and are not meant to suggest that taxes should be increased to levels that equalize revenue with the tobacco burden. Government tobacco tax revenue (XOF 26.8 billion in 2017) is from WHO Global Tobacco Control Report 2021.

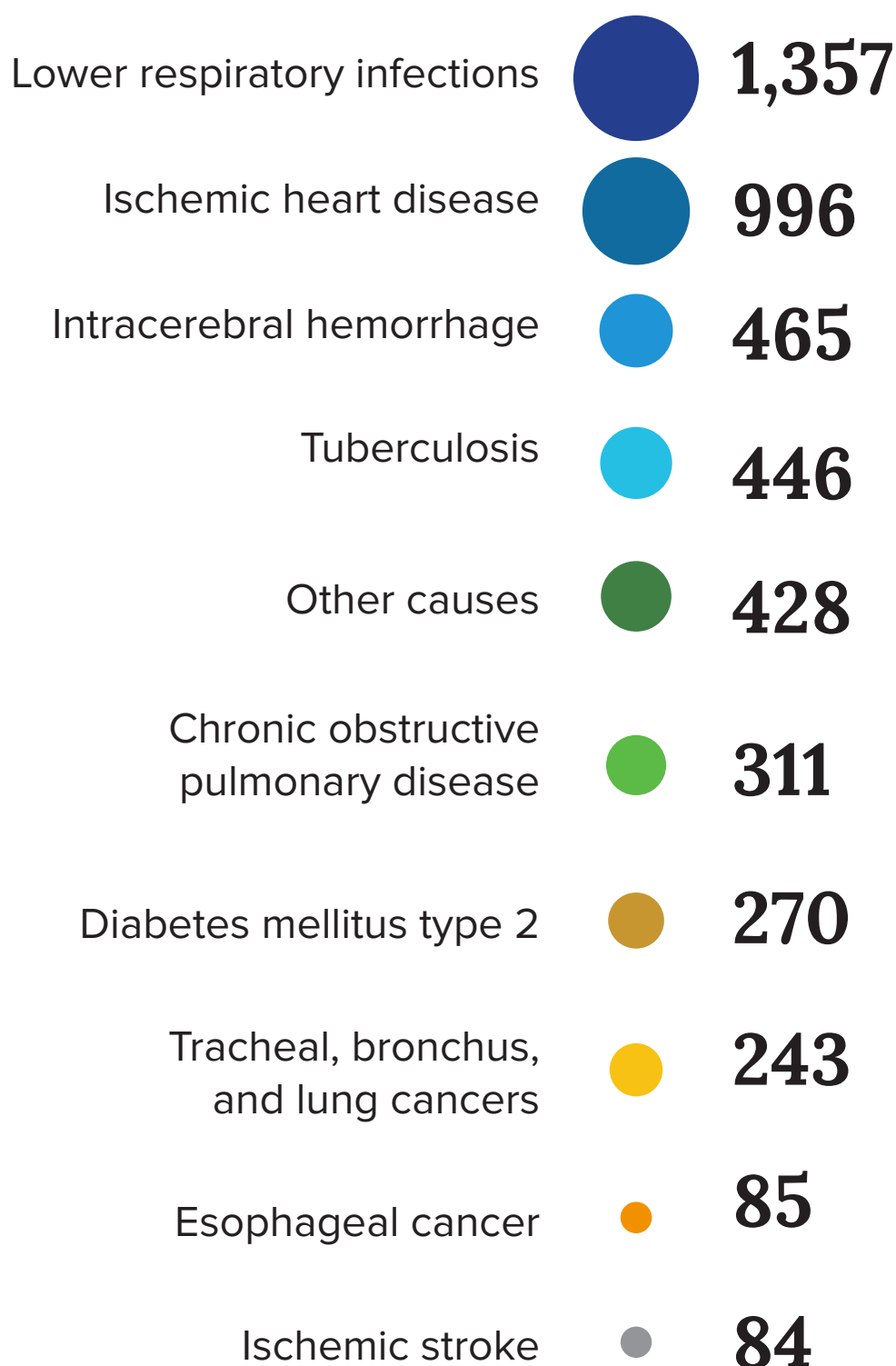


**Figure 7** illustrates the share of the burden attributable to tobacco-attributable mortality, workplace costs, and health-care costs. **Figure 8** and **Figure 9** illustrate the annual health losses that occur due to tobacco use.

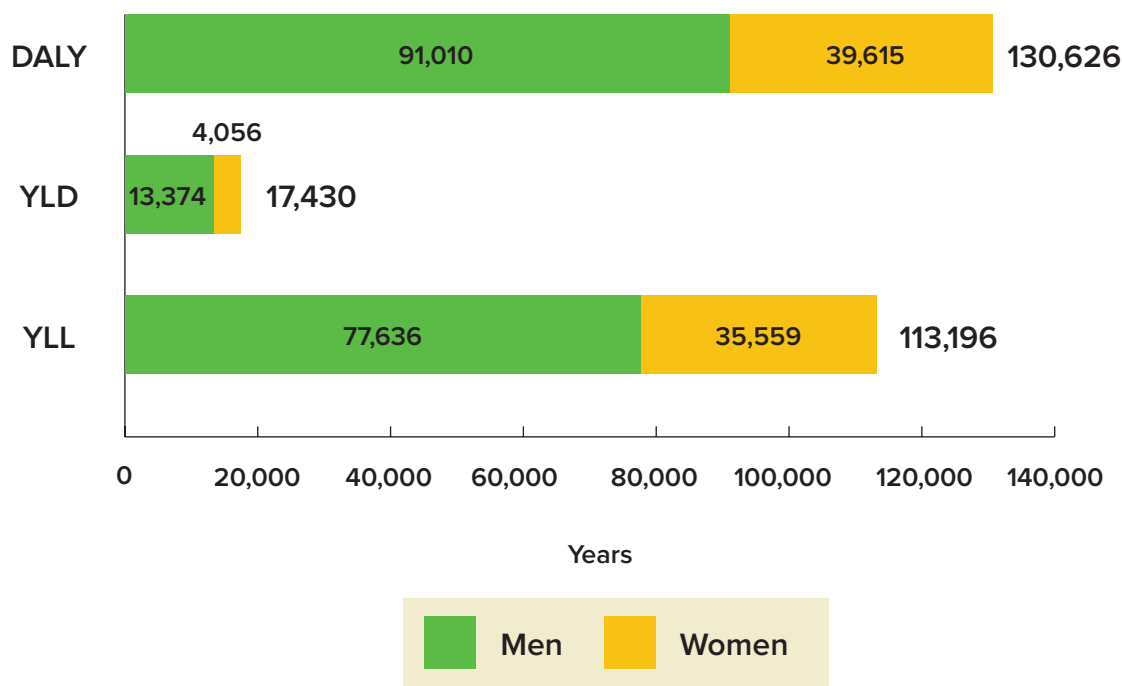
**Fig. 7: Breakdown of the share of the economic cost of tobacco-attributable mortality, workplace costs, and healthcare costs in Burkina Faso (XOF billions) in 2020\***



\*Figures subject to rounding.

**Fig. 8: Tobacco-attributable deaths by disease in Burkina Faso, 2019**

Source: Results are from the IHME Global Burden of Disease Results Tool. Other causes include stomach cancer, asthma, peptic ulcer disease, lip and oral cavity cancer, larynx cancer, Alzheimer's disease and other dementias, breast cancer, aortic aneurysm, prostate cancer, leukaemia, colon and rectum cancer, bladder cancer, subarachnoid haemorrhage, cervical cancer, pancreatic cancer, liver cancer, other pharynx cancer, gallbladder and biliary diseases, nasopharynx cancer, atrial fibrillation and flutter, kidney cancer, peripheral artery disease, and multiple sclerosis.

**Fig. 9: Tobacco-attributable DALYs, YLDs, and YLLs in Burkina Faso, by gender, 2019\***

Figures are subject to rounding.

\* A Disability-adjusted life year (DALY) is a universal metric that allows comparison between different populations and health conditions across time. DALYs equal the sum of years of life lost (YLLs) and years lived with disability (YLDs). One DALY equals one lost year of healthy life. Years of life lost (YLL) are years lost due to premature mortality. Years lived with disability (YLD) can also be described as years lived in less-than-ideal health. A YLD is calculated by taking the prevalence of the condition multiplied by the disability weight for that condition [89].

## 4.2 Implementing policy measures that reduce the burden of tobacco use

The WHO FCTC provides a framework for tobacco control measures to be implemented by Parties at national and international levels to reduce continually and substantially the prevalence of tobacco use and exposure to tobacco smoke. Through the full implementation of the tobacco control measures in the WHO FCTC, Burkina Faso can secure significant health and economic returns, and begin to reduce the XOF 57 billion in annual economic losses from tobacco use.

The next two subsections present the health and economic benefits that result from six key WHO FCTC policy actions: 1) to increase tobacco taxation to reduce the affordability of tobacco products; 2) to enforce smoke-free public places and workplaces to protect people from the harms of tobacco smoke; 3) to implement plain packaging of tobacco products; 4) to promote and strengthen public awareness of tobacco control issues; 5) to enact and enforce a comprehensive ban on tobacco advertising, promotion, and sponsorship (TAPS); and 6) to promote cessation of tobacco use and treatment for tobacco dependence by training health professionals to provide brief advice to quit tobacco use.

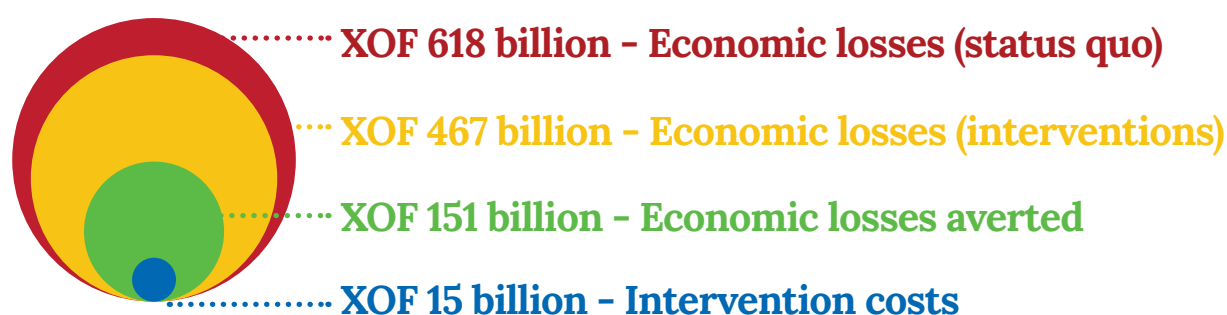
### 4.2.1 Health benefits – lives saved

The full implementation of the WHO FCTC in Burkina Faso (inclusive of all six of the measures listed above) would lower the prevalence of tobacco use, leading to substantial health gains for the country. Implementing the package of six key policy actions that are the focus of this investment case would reduce the prevalence of cigarette smoking by 44 percent (in relative terms) over 15 years, saving 18,684 lives over 2023-2037, or about 1,246 lives annually.

### 4.2.2 Economic benefits – costs averted

Implementing the package of six key WHO FCTC policy actions would result in Burkina Faso avoiding 24 percent of the economic loss that it is expected to occur from tobacco use over the next 15 years. **Figure 10** illustrates the extent to which Burkina Faso can mitigate the economic losses it would incur under the status quo.

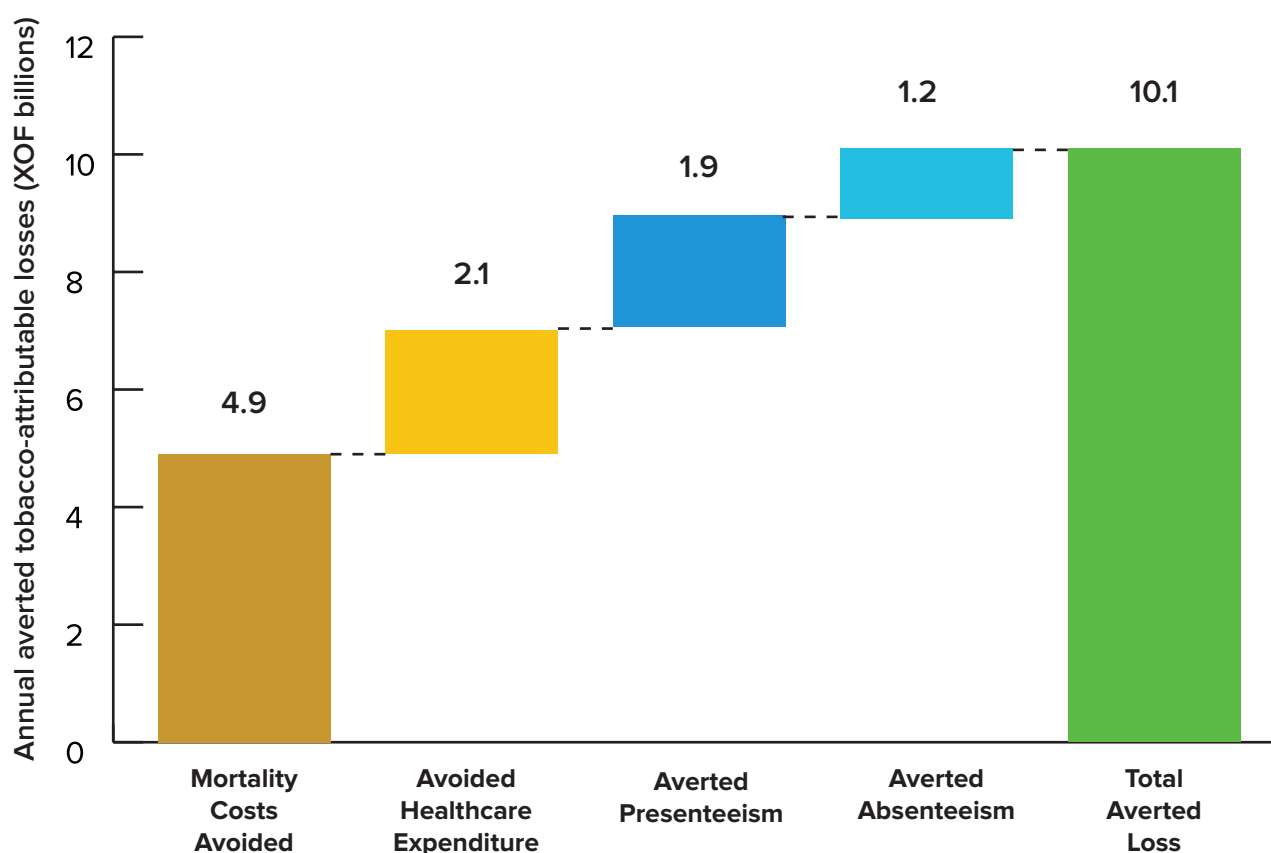
**Fig. 10: Tobacco-related economic losses over 15 years, 2023-2037**



**In total, over 15 years Burkina Faso would save around XOF 151 billion** that would otherwise be lost if the package of six key WHO FCTC policy actions are not implemented. This is equivalent to around XOF 10.1 billion in annual avoided losses.

With better health that would arise from the implementation of the WHO FCTC, fewer individuals would need health-care services due to tobacco-related diseases, resulting in direct cost savings to the government and citizens. Better health also leads to increased productivity. Fewer working-age individuals leave the workforce prematurely due to death. Workers miss fewer days of work (absenteeism) and are less hindered by health complications while at work (presenteeism).

**Figure 11** breaks down the sources from which annual avoided costs accrue from implementation of the package of six key WHO FCTC policy actions. The largest annual avoided costs result from averted presenteeism (XOF 4.9 billion). The next highest source is loss of human life (XOF 2.1 billion), reduced absenteeism (XOF 1.9 billion), and avoided health-care expenditures (XOF 1.2 billion).

**Fig. 11: Sources of annual avoided economic costs as a result of implementing the tobacco control policy package in Burkina Faso\***

\*Figures subject to rounding.

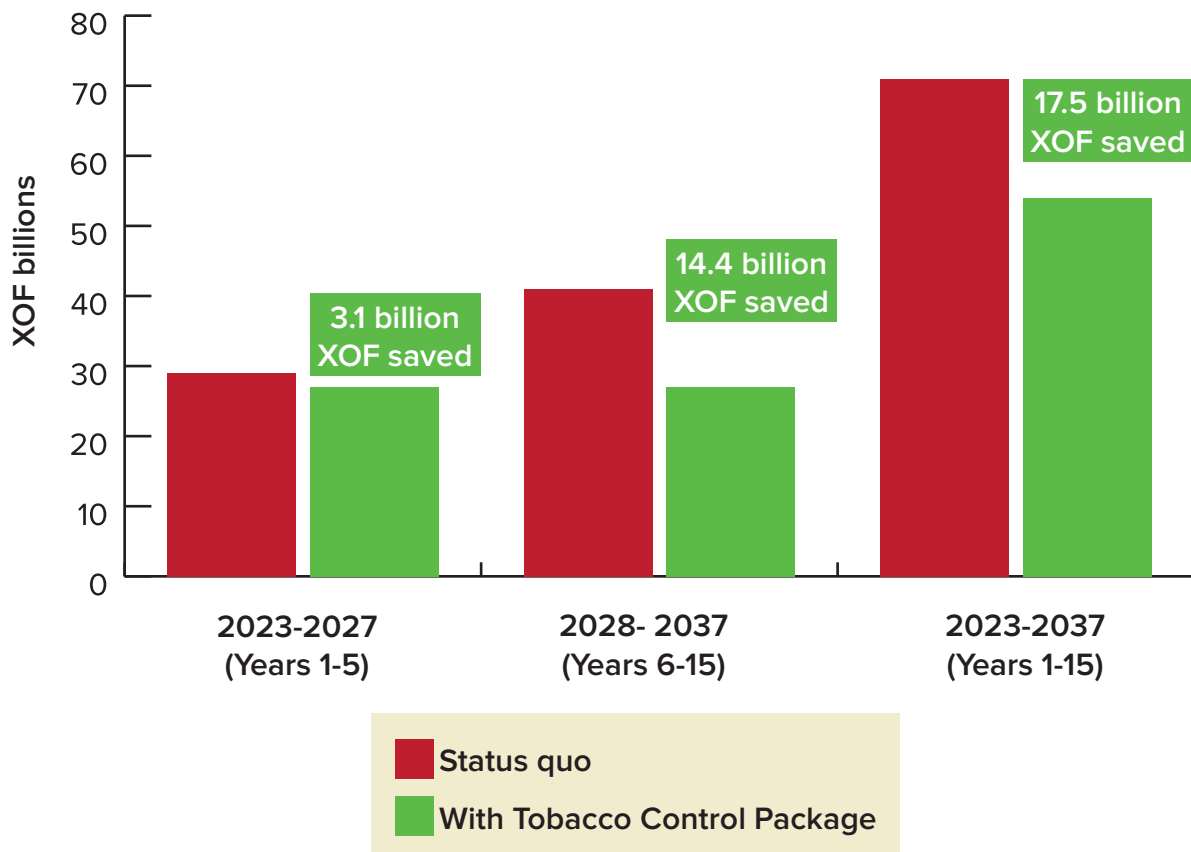
Implementing the package of six key WHO FCTC policy actions examined in the investment case will reduce medical expenditure both for citizens and the government. Presently, total private and public health-care expenditures in Burkina Faso are about XOF 550 billion annually [90], and 1.2 percent of this amount is directly related to treating disease and illness due to tobacco use [91] ( $\approx$  XOF 6.6 billion).

Year-on-year, the package of interventions would lower tobacco use prevalence, leading to less illness, and consequently less health-care expenditure (see Figure 12). Over the 15-year time horizon of the analysis, the package of interventions averts XOF 17.5 billion in health-care expenditures, or XOF 1.2 billion annually. Of these savings, 56 percent of savings would go to the government and 35 percent would go to individual citizens who would have had to make OOP payments for health care. The remainder of savings would go to private insurance and other sources of health-care expenditures. From reduced health-care costs alone, the government would expect to save about XOF 9.8 billion over 15 years.



Simultaneously, the government would successfully reduce the health expenditure burden that tobacco imposes on Burkinabe through OOP payments, supporting efforts to reduce economic hardship on families. For families with tobacco users that quit, spending that would have been on tobacco products or health care, could instead be invested in nutrition, education, and other productive inputs to secure a better future.

**Fig. 12: Private and public healthcare costs (and savings) in Burkina Faso, over the 15-year time horizon, 2023-2037**



\*Figures subject to rounding.

### 4.2.3 *The return on investment*

While the health gains from strengthening tobacco control in Burkina Faso are by themselves enough to justify the cost of the interventions, the economic gains that will also accrue make the case for WHO FCTC implementation even stronger.

An investment is considered worthwhile from an economic perspective if the gains from making it outweigh the costs. A return on investment (ROI) analysis measures the efficiency of the tobacco investments by dividing the economic benefits that are gained from implementing the WHO FCTC tobacco control investments by the costs of the investments.

For this investment case, the ROI for each intervention was evaluated in the short-term (period of five years), to align with planning and political cycles, and in the medium-term (period of 15 years) to align with the original timeframe allotted for the SDGs. The ROI was also evaluated for the full package of five WHO FCTC policy actions. Total benefits (avoided economic losses due to tobacco-attributable mortality, healthcare expenditures, and diminished workplace productivity) are a measure of which interventions are expected to have the largest impact.

**Table 2** displays costs, benefits, and ROIs by intervention, as well as for all interventions combined. With the exception of training health professionals to provide brief advice to quit tobacco use (an individual-level intervention with higher initial personnel costs), all interventions deliver an ROI greater than one within the first five years, meaning that even in the short-term the benefits of implementing the interventions outweigh the costs. Depending on the intervention, over the first five years, the government will gain economic benefits ranging from 0.1 to 11.9 times its investment. Given the long-wave nature of many tobacco-related illnesses, with disease often only developing after years of tobacco use, the ROIs for each intervention would continue to grow over time, reflecting the compounding gains from planning and development stages to full implementation.

**Table 2: Return on investment, by tobacco control policy/intervention, in Burkina Faso (XOF billions), 2023-2027 and 2023-2037**

Return on investment, by tobacco control measure	First 5 years (2023-2027)			All 15 years (2023-2037)		
	Total costs (billions)	Total benefits (billions)	ROI	Total costs (billions)	Total benefits (billions)	ROI
<b>Tobacco control package*</b> (all policies/interventions implemented simultaneously)	<b>6.4</b>	<b>27</b>	<b>4</b>	<b>15.0</b>	<b>151</b>	<b>10</b>
<b>Increase tobacco taxation (cigarette taxation modeled)<sup>14</sup></b> (WHO FCTC Art. 6)	0.5	11.1	21	1.1	63	56
<b>Create smokefree public and work places</b> (WHO FCTC Art. 8)	1.3	1.4	1	2.6	9.7	4
<b>Implement plain packaging</b> (WHO FCTC Guidelines for Implementation of Article 11 and WHO FCTC Guidelines for Implementation of Article 13)	0.6	2.3	4	1.2	16.1	13
<b>Promote and strengthen public awareness of tobacco control issues</b> (WHO FCTC Article 12)	0.7	8.6	13	1.6	59	36
<b>Enact and enforce a comprehensive TAPS bans</b> (WHO FCTC Art. 13)	0.6	6.8	11	1.3	47	36
<b>Promote tobacco cessation and treatment for dependence by training health professionals to provide brief advice to quit</b> (WHO FCTC Art. 14)	1.9	0.1	0.03	5.2	1.0	0.2

\* The combined impact of all interventions is not the sum of individual interventions. To assess the combined impact of interventions, following Levy and colleagues' (2018), "effect sizes [are applied] as constant relative reductions; that is, for policy i and j with effect sizes PR<sub>i</sub> and PR<sub>j</sub>, (1-PR<sub>i</sub>) x (1-PR<sub>j</sub>) [is] applied to the current smoking prevalence [92]. The costs of the tobacco package include the costs of the examined policies, as well as programmatic costs to implement and oversee a comprehensive tobacco-control programme.

14 Raise taxes to what is considered in the WHO Report on the Global Tobacco Epidemic, 2021 as a high-level of achievement, which is for total taxes to represent at least 75 percent of the retail price. In the scenario modeled, cigarette taxes would meet the 75 percent threshold in 2031.

Over the 15-year period, increasing tobacco taxes on cigarettes is expected to have the highest return on investment (56:1).<sup>15</sup> The return will be even higher with increasing tax on all tobacco products. Enacting and enforcing a ban on tobacco advertising, promotion, and sponsorship (TAPS) and promoting and strengthening public awareness of tobacco control issues are expected to have the next highest return on investment (36:1), followed by implementing plain packaging of tobacco products (13:1), enforcing smoke-free public places and workplaces to protect people from the harms of tobacco smoke (4:1), and finally to promote cessation of tobacco use and treatment for tobacco dependence by training health professionals to provide brief advice to quit tobacco use (0.3:1).



Photo: © UNDP

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15 Rounded to the nearest whole number.



## 5. Examining additional impacts: equity, and the SDGs

The investment case examines how increasing taxes would impact equity, and the contributions that stronger WHO FCTC implementation would make towards Burkina Faso's fulfilment of SDG Target 3.4.

### 5.1 Equity analysis: benefits for lower-income populations of increasing cigarette taxes

A common misconception is that taxes on tobacco products may disproportionately harm poor tobacco users, since the tax burden represents a higher proportion of their income than that of wealthier tobacco users. However, evidence shows that the poor actually stand to benefit most from raised cigarette taxes [93]. Relative to richer smokers, lower-income smokers are more likely to quit smoking when taxes are increased [41], meaning they benefit from subsequent decreases in tobacco-related health problems, and resulting medical costs which can be financially catastrophic. In Lebanon [94], for example, a 50 percent increase in cigarette prices was projected to prevent 23,000 households from falling into poverty over 50 years, and that same level of increase was found to avert catastrophic health expenditures for 1.83 million individuals in India, 440,000 in Bangladesh, and 350,000 in Viet Nam [95].

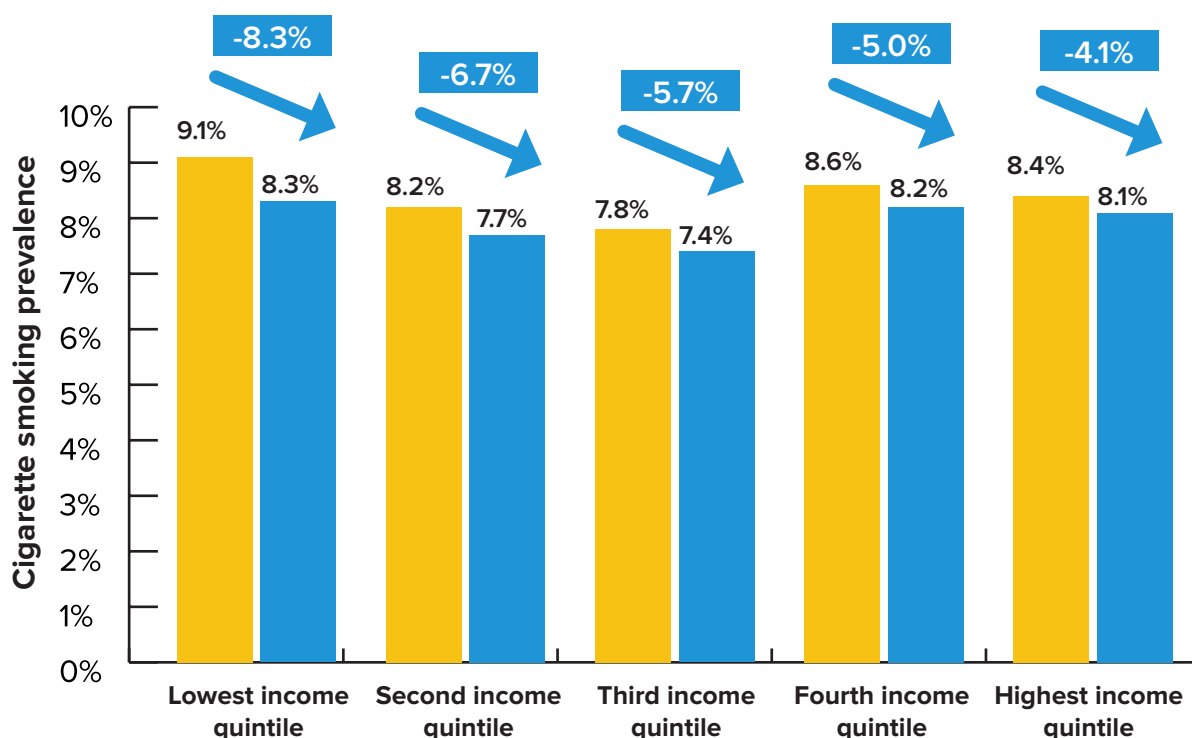
To examine the extent to which a cigarette tax increase could be considered pro-poor in Burkina Faso, an equity analysis has been undertaken as part of the investment case. The analysis divides Burkina Faso's population into five equal groups, by income, where quintile 1 is composed of the poorest 20 percent of people, and quintile 5 is composed of the wealthiest 20 percent. Within each income group, the analysis examines the impact of a hypothetical tax increase that raises the price of the average pack of cigarettes by about 27 percent (XOF 210, or about US\$0.36). This represents only the first year of tax increases that are modeled in the investment case. People at different income levels tend to respond differently to price changes. Average tobacco-income prevalence elasticities of demand from a set of low- and middle-income countries are employed to assess how different economic groups react to changes in price.

In Burkina Faso, there are not large differences in smoking prevalence among income groups, though the poorest income quintile has the highest smoking prevalence (9.1 percent), meaning they experience the largest share of health and economic impacts resulting from tobacco use [29].



The results from the analysis show that all income quintiles reduce smoking in response to the tax measures, but because people with lower incomes are more responsive to changes in price, the cigarette tax increase causes the largest drop in prevalence among the poorest income quintiles. Figure 13 shows the smoking prevalence in each income quintile before and after the tax increase, as well as the relative change in smoking prevalence.

**Fig. 13: Relative reduction in cigarette smoking prevalence before and after the cigarette tax increase, in Burkina Faso, by income quintile, during the first year of tax increases that are modeled (2025)\***

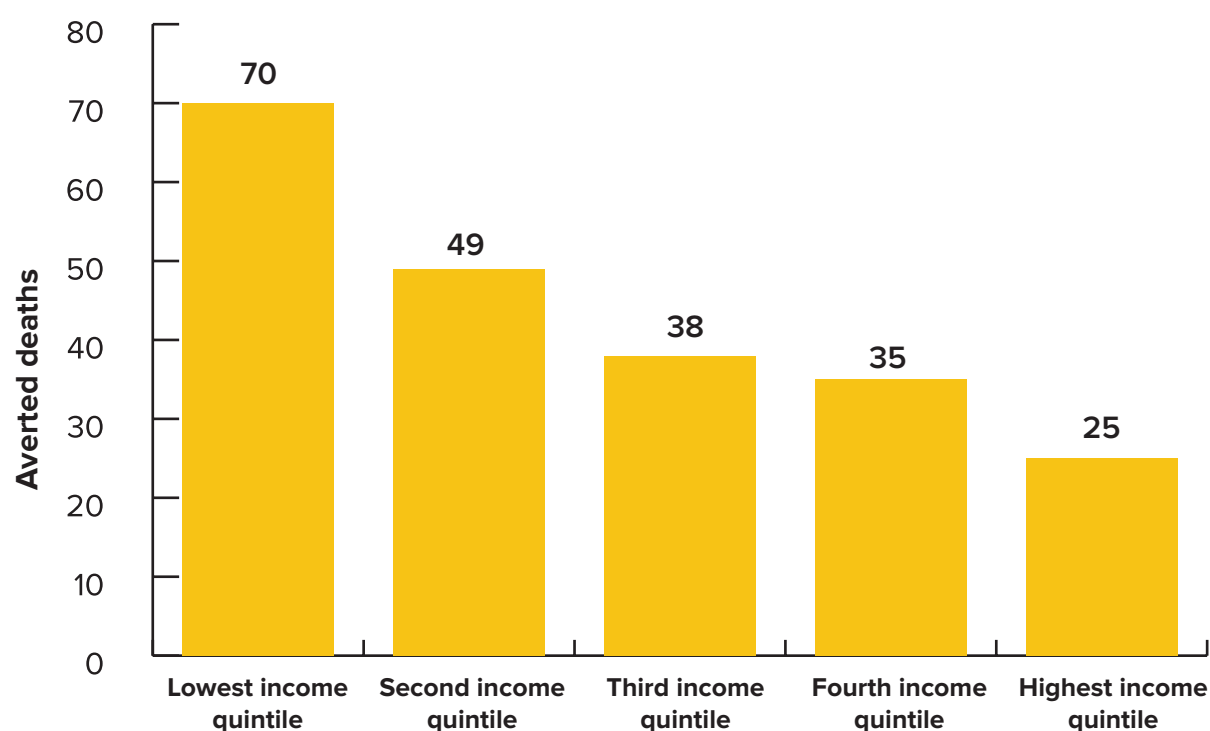


■ Cigarette prevalence before price increase
 ■ Cigarette prevalence after price increase
 ➔ Relative reduction in cigarette prevalence

\*Percentages are rounded to the second decimal place.

Lower rates of smoking translate to health gains. Prior to the cigarette tax increase, of the nearly 4,700 smoking-attributable deaths observed in 2019, 22 percent occurred among the poorest 20 percent of the population (quintile 1). As cigarette tax increases cause cigarette smoking prevalence to fall the most in the poorest quintile, health benefits disproportionately accrue to lower-income Burkinabe. The equity analysis finds that 32 percent of the deaths that would be averted during the first year of tax increases modeled in the investment case would be among the poorest 20 percent of the population, as shown in **Figure 14**.

**Fig. 14. Deaths averted in Burkina Faso by tax increase, by income quintile during the first year of tax increases that are modeled (2025)**



## 5.2 The Sustainable Development Goals and the WHO FCTC

Implementing the package of six key WHO FCTC policy actions will support Burkina Faso to meet SDG Target 3.a to strengthen implementation of the WHO FCTC. Moreover, acting now will contribute to Burkina Faso's efforts to meet SDG Target 3.4 to reduce by one third premature mortality from NCDs by 2030: these measures would contribute the equivalent of around 5.5 percent of the needed reduction in mortality for Burkina Faso to achieve SDG Target 3.4.

The WHO FCTC is an accelerator for sustainable development, and its implementation will benefit the achievement of many SDGs, including those outside of the health and well-being domain [20]. For example, stronger tobacco control will contribute to the reduction of poverty and inequalities (SDGs 1 and 10, respectively) and economic growth (SDG 8).



**SDG Target 3.4**

**By 2030 the WHO FCTC measures would contribute the equivalent of around 5.5 percent of the needed reduction in mortality for Burkina Faso to achieve SDG Target 3.4.**

## Recommendations

- 1** Commit to fully implement the WHO FCTC in Burkina Faso
- 2** Reform tobacco excise tax structures and increase tax rates (WHO FCTC Article 6)
- 3** Implement and enforce the other five tobacco control policies studied in this investment case:
  - enforce comprehensive policies to make all public and work places smokefree (WHO FCTC Article 8);
  - plain packaging of tobacco products (WHO FCTC Guidelines for implementation of Article 11 and WHO FCTC Guidelines for implementation of Article 13);
  - strengthened tobacco advertising, promotion and sponsorship bans that close loopholes (WHO FCTC Article 13);
  - comprehensive ban on all forms of tobacco advertising, promotion, and sponsorship (TAPS) (WHO FCTC Article 13); and
  - promote cessation of tobacco use and treatment for tobacco dependence by training health professionals to provide brief advice to quit tobacco use (WHO FCTC Article 14).
- 4** Renew and update the national tobacco control strategy for Burkina Faso (WHO FCTC Articles 5.1)  
Implement measures to protect public health policies from the commercial and other vested interests of the tobacco industry
- 5** (WHO FCTC Article 5.3)
- 6** Fully implement the Protocol to Eliminate Illicit Trade in Tobacco Products, including by building capacity to combat illicit trade (Protocol and WHO FCTC Article 15)
- 7** Strengthen multisectoral coordination for tobacco control and encourage the participation of civil society in WHO FCTC implementation (WHO FCTC Articles 5.2(a) and 4.7)
- 8** Increase research, monitoring and surveillance on tobacco use (WHO Article 20)
- 9** Identify opportunities to link the implementation of the WHO FCTC with wider sustainable development strategies in Burkina Faso

## 6. Conclusion and recommendations

Each year, tobacco use costs Burkina Faso XOF 57 billion in economic losses and causes substantial human development losses. Fortunately, as the investment case shows, there is an opportunity to reduce the health, social and economic burden of tobacco in Burkina Faso. Enacting the six key WHO FCTC policy actions would save 1,246 lives each year and reduce the incidence of disease, leading to savings from averted medical costs and averting productivity losses.

In economic terms, these benefits are substantial, adding up to XOF 151 billion over the next 15 years. Importantly, the economic benefits of strengthening tobacco control in Burkina Faso greatly outweigh costs of implementation (XOF 151 billion in benefits versus just XOF 15.0 billion in costs).

By investing now in the package of six WHO FCTC policy actions modeled in this investment case, Burkina Faso would not only reduce tobacco consumption, improve health, reduce government health expenditures, and grow the economy, it would also reduce hardships faced by many Burkinabe. The country can also reinvest savings from government health-care expenditures and revenue from increased tobacco taxes into national development priorities such as universal health coverage and other social protection measures, as well as COVID-19 response and recovery efforts.

Based on the findings of this investment case, these key actions for Burkina Faso are recommended to be pursued simultaneously:



### **Commit to fully implement the WHO FCTC in Burkina Faso**

As a Party to the WHO FCTC, Burkina Faso has undertaken to fully implement the Convention. The WHO FCTC is an evidence-based treaty that sets out a clear blueprint for action to protect present and future generations from the devastating health, social, environmental and economic consequences of tobacco consumption and exposure to tobacco smoke. Burkina Faso is encouraged to commit to fully implementing the treaty, with a focus on the recommendations made for Parties in the Global Strategy to Accelerate Tobacco Control: Advancing Sustainable Development through the Implementation of the WHO FCTC 2019–

2025, in relevant WHO FCTC implementation guidelines, in WHO FCTC Needs Assessment reports [27] and in this investment case.

Through the FCTC 2030 project, the WHO FCTC Secretariat's flagship development assistance project, Burkina Faso is receiving support to take policy actions towards the full implementation of the treaty. As a FCTC 2030 project country, Burkina Faso is accessing technical and financial resources, including intensive support from the WHO FCTC Secretariat, WHO and UNDP.



**Given the effectiveness of tobacco taxation, strengthen tobacco tax structures and increase tax rates (WHO FCTC Article 6)**

Burkina Faso is encouraged to introduce a specific excise tax on tobacco products and to raise the tax share of the retail price of tobacco in accordance with recommendations made in the WHO FCTC implementation guidelines for Article 6 [96] and by WHO in the WHO Technical Manual on Tobacco Tax Policy and Administration [55]. It is also encouraged to substantially raise the tax share of the retail price of tobacco to meet or exceed 75 percent of the retail price (considered in the WHO Report on the Global Tobacco Epidemic, 2021 as high-level of achievement) [4].

The introduction of a specific tobacco excise tax is recommended because it is more difficult for the tobacco industry to manipulate and easier for authorities to implement [55], [97]. Tobacco taxes should aim to reduce affordability, including by increasing at a rate that outpaces inflation and income growth [97].

Burkina Faso must navigate the tax directives set by WAEMU and ECOWAS, including the WAEMU minimum and maximum ad valorem rates on tobacco products (50 and 150 percent respectively) and the ECOWAS US\$0.02 per stick minimum specific excise tax. Research has shown that if the 15 countries adopt the ECOWAS directive it would improve the tax structure (with the specific excise tax compensating for a weak ad valorem tax), in addition to considerably increasing cigarette retail price and tax revenue and decreasing sales volumes [54].

It is also recommended to ensure robust tobacco taxation policies are in place for all types of tobacco (including for shisha, smokeless tobacco and novel tobacco products), and that consideration is given to removing duty-free allowances for tobacco.

There is clear evidence that raising cigarette prices through increased taxes is a highly



effective measure for reducing smoking among youth, young adults, and people from lower socioeconomic communities. Increasing the price of tobacco will have benefit for these vulnerable populations.

**3**

### **Take action to strengthen, implement and enforce the other four key WHO FCTC policy actions modeled in this investment case**

- enforcing smoke-free public places and workplaces to protect people from tobacco smoke (WHO FCTC Article 8);
- considering implementation of plain packaging to reduce the appeal of tobacco products and to make health warnings more prominent (WHO FCTC Guidelines for implementation of Article 11 and WHO FCTC Guidelines for implementation of Article 13);
- promoting and strengthening public awareness of tobacco control issues, including the health risks of tobacco use and tobacco smoke, addiction, and the benefits of cessation (WHO FCTC Article 12);
- enacting and enforcing a comprehensive ban on all forms of tobacco advertising, promotion, and sponsorship (WHO FCTC Article 13); and
- promoting cessation of tobacco use and treatment of tobacco dependence by training health professionals to provide brief advice to quit tobacco use. Further gains would be possible with the provision of additional support to tobacco users, such as offering specialized tobacco dependence treatment services, and/or internet based quit support and making pharmacotherapies more widely available (free of cost if possible) (WHO FCTC Article 14).

**4**

### **Renew and update the national tobacco control strategy for Burkina Faso (WHO FCTC Articles 5.1)**

It is recommended to continue efforts to develop, publish and routinely update a national multisectoral tobacco control strategy for Burkina Faso, as the most recent one expired in 2019. This will, among other things, serve to guide the work of the National Committee for Tobacco Control, as well as set out plans for strengthening tobacco control policies and legislation.

The national tobacco control strategy for Burkina Faso should include actions that would:

- Outline a comprehensive workplan and timeline for full implementation of the WHO FCTC.
- Identify sustainable funding necessary for tobacco control.
- Strengthen capacity for compliance building and enforcement of tobacco control laws.
- Prevent children and young people from taking up tobacco use.
- Ensure gender-sensitive approaches to policy, programmes, and services.
- Prioritize vulnerable groups including, but not limited to, women and girls, youth, those with low-income and illiterate groups.
- Encourage and support current tobacco users to quit.
- Ensure anti-tobacco messaging is available in common spoken local languages.
- Protect public health policies from commercial and other vested interests of the tobacco industry.
- Fully implement the Protocol to Eliminate Illicit Trade in Tobacco Products.
- Support and provide healthy and economically viable alternatives to tobacco farming.
- Undertake research, surveillance (e.g. on drivers of and disparities in tobacco use) and exchange of information and international cooperation to support WHO FCTC implementation.

5

**Implement measures to protect public health policies from the commercial and other vested interests of the tobacco industry (WHO FCTC Article 5.3)**

It is recommended that Burkina Faso take action to protect the country's public health policies from the commercial and other vested interests of the tobacco industry. A resolution made by the World Health Assembly in 2001, citing the findings of the Committee of Experts on Tobacco Industry Documents, states that "the tobacco industry has operated for years with the express intention of subverting the role of governments and of WHO in implementing public health policies to combat the tobacco epidemic" [98].

The Preamble of the WHO FCTC recognizes that Parties "need to be alert to any efforts by the tobacco industry to undermine or subvert tobacco control efforts and the need to be informed of activities of the tobacco industry that have a negative impact on tobacco control efforts". The WHO FCTC includes a specific obligation that "in setting and implementing their public health policies with respect to tobacco control, Parties shall act to protect these policies from commercial and other vested interests of the tobacco industry in accordance with national law". The 2021 Global Progress Report on implementation of the WHO Framework Convention on Tobacco Control reported that the most frequently mentioned barrier to the implementation of the Convention by Parties is the interference by the tobacco industry, including the industries producing novel and emerging tobacco products and nicotine products [99].

Burkina Faso is encouraged to review current policies and legislation in light of the Implementation Guidelines for WHO FCTC Article 5.3 [100], and then address outstanding gaps by implementing the recommendations made in those guidelines. Attention should also be given to ensuring policy coherence across government policymaking to prioritise public health and WHO FCTC implementation.

6

**Fully implement the Protocol to Eliminate Illicit Trade in Tobacco Products, including by building capacity to combat illicit trade (Protocol and WHO FCTC Article 15)**

It is recommended that Burkina Faso moves forward with the full implementation of the Protocol to Eliminate Illicit Trade in Tobacco Products. Burkina Faso became a Party to the Protocol in 2016. Priorities for implementation should include gathering more information and providing more available data on illicit tobacco products in Burkina Faso (including the amount and where it is originating from), as well as support from others sectors for the Ministry of Economy, Finance and Provision to have sufficient resources to address illicit trade of tobacco. It is also recommended that Burkina Faso establishes a tracking and tracing system controlled by the Government and rejects systems offered by the tobacco industry, in accordance with WHO FCTC Articles 8.2 and 8.12 of the Protocol.

7

**Strengthen multisectoral coordination for tobacco control and encourage the participation of civil society in WHO FCTC implementation (WHO FCTC Articles 5.2(a) and 4.7)**

Burkina Faso should ensure the National Committee for Tobacco Control is sustainable, active, engaged in tobacco control and multisectoral with continued representation from various government stakeholders. There should be no representation from the tobacco industry or those associated with the tobacco industry on this committee in accordance with WHO FCTC Article 5.3. Burkina Faso should formally recognize this committee as the NCM on tobacco control, which would be an important step in supporting the full implementation of the WHO FCTC and policy coherence on tobacco control. Action to strengthen the National Committee for Tobacco Control can be guided by the joint Convention Secretariat-UNDP publication, National Coordinating Mechanism for Tobacco Control: Toolkit for Parties to Implement Article 5.2(a) of the WHO FCTC [101].

The work of the the National Committee for Tobacco Control will be enhanced by including media and civil society groups, as appropriate, to support advocacy and compliance building, and encourage positive public opinion for tobacco control measures. In addition, tobacco control, including the activities of the committee, needs to be sustainably resourced into the future [102].

8

### **Increase research, monitoring and surveillance on tobacco use (WHO FCTC Article 20)**

There is a lack of reliable, up-to-date data on recent tobacco use trends among different demographic groups, particularly among the youth and rural populations, where the majority of Burkinabe reside. The most recent DHS conducted was in 2010 and STEPS survey in 2013, while the last GYTS was conducted in 2009 and in only two major cities. Burkina Faso should prioritize conducting the 2021 Demographic Health Survey (DHS) and the 2022 STEPS Survey. Burkina Faso can also consider repeating the GYTS to cover all of Burkina Faso, especially in rural regions. Additional research should also be given consideration as it is needed to investigate the different drivers of tobacco use in the context of Burkina Faso, for example, to understand why women tend to use other forms of tobacco and men use cigarettes, why youth are consuming more tobacco than adults, and why tobacco use is more prevalent in rural regions.

9

### **Identify opportunities to link the implementation of the WHO FCTC with wider sustainable development strategies in Burkina Faso**

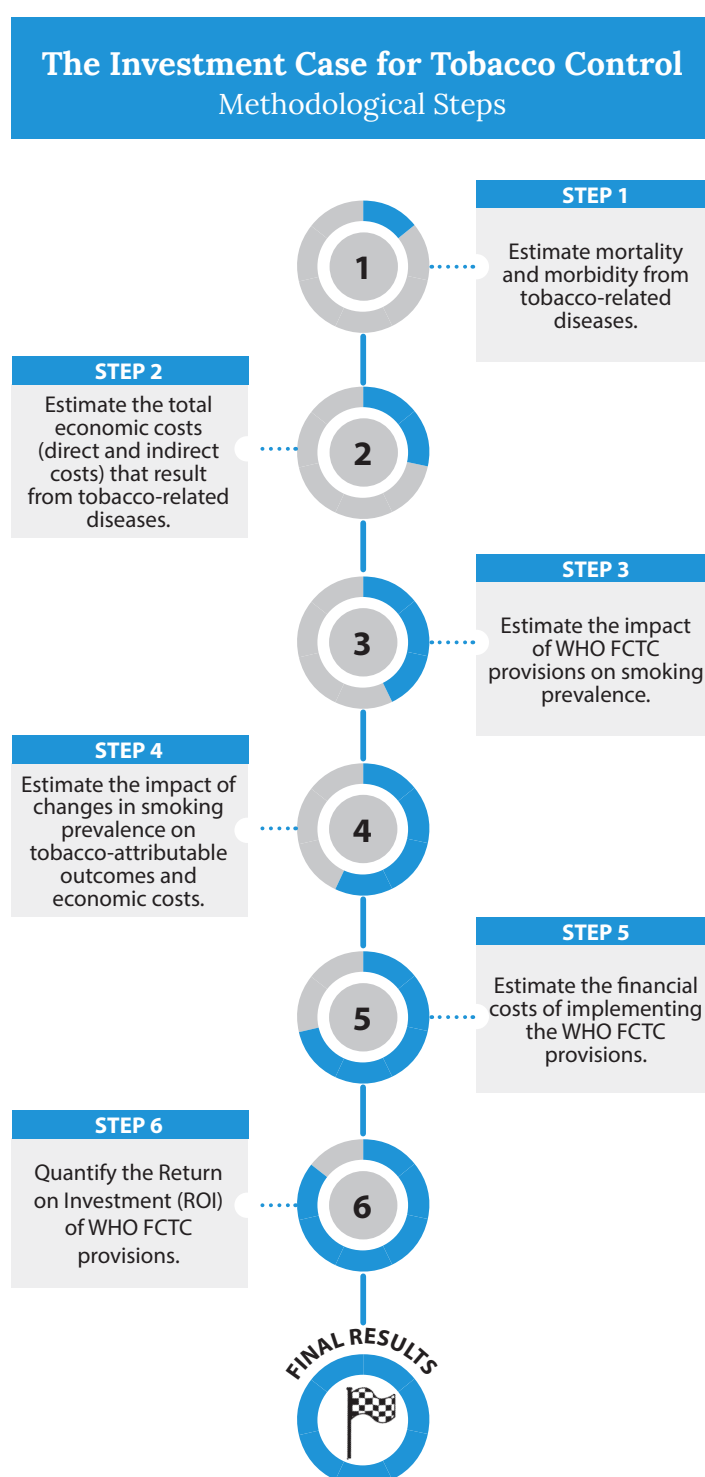
With the vast health, economic, social and environment costs of tobacco, the case is clear: implementing the WHO FCTC is a powerful means for Burkina Faso to improve the lives of citizens, achieve the SDGs, and better the conditions and future of the country. All sectors have a role to play in tackling tobacco use, and the benefits of full WHO FCTC implementation will enrich all aspects of life in Burkina Faso. The Government of Burkina Faso should continue to prioritize the implementation of the WHO FCTC in sustainable development strategies as it has done in the *National Health Development Plan 2011–2020* [51].

# Methodology annex

## A1.1 Overview

The economic analysis consists of two components: 1) assessing the current burden of tobacco use and 2) examining the extent to which WHO FCTC provisions can reduce the burden. The first two methodological steps depicted in **Figure A1** are employed to assess the current burden of tobacco use, while methodological steps 3-6 assess the impact, costs, and benefits of implementing or intensifying WHO FCTC provisions to reduce the demand for tobacco. The tools and methods used to perform these methodological steps are described in detail below.

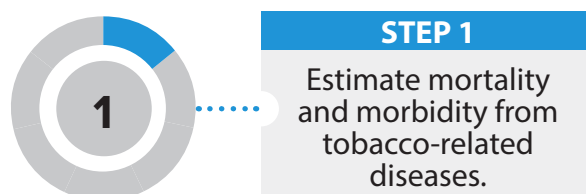
**Fig. A1: Steps in the Investment Case**





## A1.2 Component one: current burden

The current burden model component provides a snapshot of the health and economic burden of tobacco use in Burkina Faso in the most recent year for which data is available.



The investment case model is populated with country-specific data on tobacco-attributable mortality and morbidity from the 2019 Global Burden of Disease Study (GBD) [5], [103]. The study estimates the extent to which smoking and secondhand tobacco smoke exposure contribute to the incidence of 37 diseases, healthy life years lost, and deaths, across 195 countries.



Next, the model estimates the total economic costs of disease and death caused by tobacco use. The total economic costs include tobacco-attributable healthcare expenditures, the value of tobacco-attributable mortality, and workplace productivity losses: absenteeism and presenteeism.

**Healthcare expenditures** – Health-care expenditures include smoking-attributable public (government-paid), private (insurance, individual out-of-pocket), and other health-care expenditures. The proportion of health-care costs attributable to smoking was obtained using the formula for estimating smoking attributable fraction (SAF) of health-care expenditures from Goodchild et al. (2018) [91]. The SAF for Burkina Faso is estimated at 1.2 percent. To calculate the share of smoking-attributable health-care expenditures borne by public, non-profit, and private entities, it was assumed that each entity incurred smoking-attributable

16 In assessing the current burden of tobacco use, the economic costs of mortality include the cost of deaths due to any form of exposure to tobacco (including smoking, secondhand smoke exposure, and the use of other types of tobacco products). Only smoking-attributable (not tobacco-attributable) costs are calculated for healthcare expenditures, absenteeism and presenteeism. While other forms of tobacco may also cause losses in these categories, no data is available to precisely ascertain those losses.

17 All diseases are assumed to decrease in proportion to smoking prevalence when the decrease in prevalence occurs. While the model overestimates how quickly health benefits will accrue for some diseases, for example cancers—recent evidence suggests notable declines in the risk of lung cancer incidence begin two to five years after smoking prevalence decreases [104]. On the other hand, the risk of incidence of other diseases, for example CVD, declines significantly in the years immediately following quitting [105].

health-care costs in equal proportion to the entity's contribution to total health expenditure. Health-care expenditures were obtained from the WHO Global Health-care Expenditure Database (GHED) [90]. The latest year for which data are available in WHO GHED is 2019. To obtain 2020 values, we took the average annual increase in health-care expenditures in Burkina Faso over the past 10 years and applied that increase to the 2019 health-care expenditure values.

**Workplace costs and the cost of tobacco-attributable mortality** – Workplace costs and the cost of tobacco-attributable mortality represent the monetized value of lost time, productive capacity, or quality of life as a result of tobacco-attributable diseases. The cost of tobacco-attributable mortality accrues when tobacco use causes mortality, eliminating the unique economic and social contributions that an individual would have provided in their remaining years of life. Workplace costs accrue when tobacco use results in productivity losses. Compared to non-tobacco users, individuals who use tobacco are more likely to miss days of work (absenteeism) and to be less productive at work due tobacco-related illnesses (presenteeism).

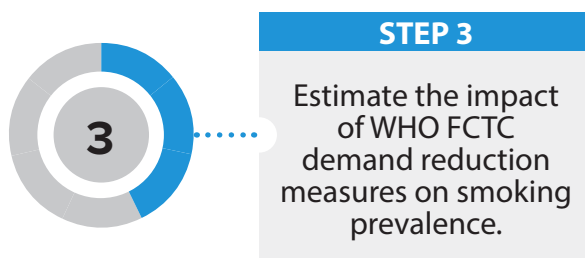
- *The economic cost of tobacco-attributable mortality.* Tobacco-attributable mortality was monetized using a “value of a statistical life” (VSL) measure. VSL is a measure of individuals’ willingness to pay for small changes in the risk of death and it is commonly used in economic evaluations of health programs and policies to monetize health outcomes [106]. Few studies have assessed VSL in low- and middle-income countries [107]. We extrapolated a country-specific estimate of VSL following guidance from the Reference Case Guidelines for Benefit-cost analysis in Global Health and Development [106], estimating the value of one additional year of life for Burkina Faso at XOF 230,234 (value of a statistical life year (VSLY)). Using GBD data on the age at which tobacco-attributable deaths occur, the model calculates the total number of years of life lost due to tobacco, across the population. Each future year of life is multiplied by VSLY to calculate the cost of tobacco-attributable mortality.
- *Productivity costs.* Productivity costs consist of costs due to absenteeism and presenteeism, and are counted only among employed cigarette smokers. The model uses estimates from academic literature on the number of extra working days missed due to active smoking (2.9 days per year) [108]. Presenteeism losses are obtained similarly, under research that shows that smokers in China, the United States, and five European countries experience about 22 percent more impairment at work because of health problems compared to never-smokers—losses equivalent to about 7.5 days of work [109]. The number of employed smokers is multiplied by days of work missed due to absenteeism or presenteeism by the average daily country wage to obtain estimates of losses.

### A1.3 Component two: policy/intervention scenarios

This component estimates the effects of WHO FCTC measures on mortality and morbidity, as well as on total economic costs (direct and indirect) associated with tobacco use.

A static model using a population attributable fraction (PAF) approach was used to estimate the total impact of the tobacco control measures. In the model, aside from smoking prevalence, variables do not change throughout the 15-year time horizon. The model follows a population that does not vary in size or makeup (age/gender) over time in two scenarios: a status quo scenario in which smoking prevalence remains at present day rates, and an intervention scenario in which smoking prevalence is reduced according to the impact of tobacco control measures that are implemented or intensified. Published studies have used similarly static models to estimate the impact of tobacco control measures on mortality and other outcomes [110], [111].

Within the investment case, mortality and morbidity, as well as economic costs that are computed in the intervention scenario are compared to the status quo scenario to calculate the extent to which tobacco control measures can reduce health and economic costs.



Selection of key WHO FCTC measures modeled within the investment case align with the [Global Strategy to Accelerate Tobacco Control](#) [112] developed following a decision at the Seventh session of the Conference of the Parties (COP7) to the WHO FCTC. Under Objective 1.1 of the Strategy, priority is given to enabling action to accelerate WHO FCTC implementation, including effective forms of technical and financial assistance to support Parties in the identified priority action areas. This includes Parties giving priority to, among other things, the implementation of price and tax measures (WHO FCTC Article 6) and time-bound measures of the Convention. The time-bound measures, include creating smoke-free public places and workplaces (WHO FCTC Article 8), plain tobacco packaging (*WHO FCTC Guidelines for implementation of Article 11* and *WHO FCTC Guidelines for implementation of Article 13*), and comprehensive bans on tobacco advertising, promotion, and sponsorship (TAPS) (WHO FCTC Article 13).

In addition, given the importance of awareness in behaviour change and shaping cultural norms, the investment cases include promoting and strengthening public awareness of tobacco control issues, including the health risks of tobacco use and tobacco smoke, addiction, and the benefits of cessation (WHO FCTC Article 12). Effect sizes for the WHO FCTC demand reduction measures are obtained from the literature. The impact of enforcing smoke-free air laws, implementing plain packaging and intensifying advertising bans, and promoting and strengthening public awareness of tobacco control issues are derived from Levy et al. (2018) [92] and Chipty (2016) [113], as adapted within the Tobacco Use Brief of Appendix 3 of the *WHO Global Action Plan for the Prevention and Control of Non-communicable Diseases 2013-2020* [114], and adjusted based on assessments of Burkina Faso's baseline rates of implementation. The impact of basic evidence-based tobacco cessation in the form of brief advice to quit offered to tobacco users by health-care professions in primary care settings is from Levy et al. 2010 [115].

Except for taxes—the impact of which is dependent on the timing of increases in tax rates (see below)—and the brief advice intervention—the impact of which is guided by rates of training for primary health-care providers (see also below)—the full impact of the demand reduction policy measures is phased in over a five-year period. The phase-in period follows WHO assumptions [116] that two years of planning and development are required before policies are up and running, followed by three years of partial implementation that are reflective of the time that is needed to roll out policies, and work up to full implementation and enforcement.

**Tobacco taxes.** The impact of cigarette tax increases on revenue and cigarette use prevalence was estimated using an Excel-based tool developed to analyse the impact of tax increases on a fixed population cohort. The tool is populated with data, including on current cigarette smoking prevalence, the tax structure and applied tax rates, cigarette prices, demand elasticities, and inflation and income projections (see **Table A1**).

**Table A1: Key parameters used in the tax revenue analysis**

Parameter name	Value	Source
Price elasticity of demand	-0.50	Ho et al (2017). The effect of cigarette price increases on cigarette consumption, tax revenue, and smoking-related death in Africa from 1999 to 2013 [117]
Prevalence elasticity of demand	-0.25	Goodchild et al (2016). Modelling the impact of raising tobacco taxes on public health and finance [118] Assumption – half of price elasticity
Income price elasticity of demand	0.32	Nargis et al (2021). Price, Income, and Affordability as the Determinants of Tobacco Consumption: A Practitioner's Guide to Tobacco Taxation [119]
Income prevalence elasticity of demand	0.16	Assumption – half of income price elasticity
Projected real income growth rate*	2.6%	International Monetary Fund (2020). Real GDP Growth - Annual percent change [120]
* Projected real income growth is used as a proxy for wage growth. The International Monetary Fund projects [120] real GDP growth at an average of 2.6 percent annually through 2025.		

The investment case analysis examines a tax increase scenario in which Burkina Faso chooses to enact strong tax increases. In the hypothetical scenario, Burkina Faso linearly raises its ad valorem tax rate from 45 percent of the ex-factory price or import value to 100 percent over five years. In addition, a specific excise tax is introduced, increasing in real terms from current rates (XOF 0 per pack) to XOF 271 in 2027.

In the scenario, the price net of taxes remains static (full pass through of the tax increase). Table A2 breaks down cigarette pack price components from 2023 to 2027 under the described scenario. For the main investment case analysis, additional specific excise taxes triggering real price increases of an average of 7.4 percent annually are modeled from 2028 to 2037, bringing the total tax share to 85 percent by the end of the analysis and the excise tax share to 70 percent.



**Table A2: Projected cigarette pack price in the tax increase scenario, 2023-2027 (GHC, in real terms)**

Price component	2023	2024	2025	2026	2027
Price net of taxes	438	438	438	438	438
Specific excise	0.00	0.00	95.00	185	271
Ad valorem	197	197	259	320	381
Value added tax	114	114	139	165	191
Other taxes	0.00	0.00	0.00	0.00	0.00
Final consumer price *	750	750	931	1,109	1,281

\* Figures subject to rounding.

The impact of tax increases on revenue and cigarette use prevalence is dependent on prevailing elasticities: the extent to which individuals change use of a product (e.g., decrease consumption or quit) because of changes in the price of a tobacco product. Changes are calculated following Joosens and colleague's (2009) [121], who use a log-log function to ensure large price increases do not result in implausible reductions in consumption or prevalence. Below, **Equation A1** provides an example of calculations to ascertain the impact of a change in price on smoking prevalence, considering changes in income.

#### Equation A1: The impact of changes in price on smoking prevalence

$$\Delta SP_i = SP_{i-1} * ((EXP(\epsilon_p * LN(op_{np}))) - 1) - \left[ \frac{1 + \epsilon_i \left( \frac{GDP_2 - GDP_1}{GDP_2 + GDP_1} \right)}{1 - \epsilon_i \left( \frac{GDP_2 - GDP_1}{GDP_2 + GDP_1} \right)} \right]$$

Where:

SP = smoking prevalence (# of smokers) in year i

$\epsilon_p$  = prevalence elasticity

Op\_np = the ratio of the old price of a pack of cigarettes to the new price after tax increases

$\epsilon_i$  = income elasticity

GDP = Gross domestic product in year

There are several limitations to the tax analysis. First, the tax tool assumes that the price and tax structure of the most sold brand of cigarettes is representative of the market, and it does not incorporate other market segments (high or low-end cigarettes). More detailed models that account for switching between segments or between products (e.g., movement to hand-rolled cigarettes) would capture nuance helpful to framing tobacco tax policy and estimating impact. Second, the analysis assumes a full pass through the tax increases. This assumption reflects a “middle ground” approach, but the tobacco industry may increase or decrease prices in reaction to the price increase. Third, we did not obtain Burkina Faso-specific estimates of price and income elasticities.

**Brief advice to quit tobacco.** We calculate the effect of scaling up the provision of brief advice to quit tobacco use at the primary care level. First, we calculate the baseline population quit rate (PQR, the percent of smokers who quit annually) drawing on previously published methods by Levy and colleagues (2010) [115]. The PQR is calculated (see **Equation A2**) using three parameters: quit attempts, treatment utilization rates (i.e. counselling, pharmaceutical therapy) and treatment effectiveness.

**Equation A2: Calculating Population Quit Rate, from Levy et al (2010) [110]**

$$PQR = QA * \sum_{i=1...4} (TxUse_i * TxEff_i)$$

Where:

PQR = Population quit rate

QA = % of smokers who make a quit attempt at least once annually

TxUse = the percent of those who make a quit attempt who use treatment category i

TxEff = The percent of those who use a given treatment who succeed in quitting annually (Treatment efficacy)

i = is one of four treatment categories: 1) no evidence-based treatment; 2) counselling; 3) pharmacological treatment (e.g. nicotine replacement therapy), or 4) both counselling and pharmacological therapy.

Again following Levy et al (2010), “to account for the effect of multiple quit attempts among those who fail at their first attempt, it was assumed that half of those that make at least one quit attempt per year go on to make a second attempt, and half of those [who make a second attempt] make a third, and so on,” and that treatment effectiveness does not change based on whether it is a persons’ first quit attempt or a succeeding one.

After establishing baseline PQR, we calculated how the population quit rate would change if provision of brief advice to quit at the primary care level became more prevalent. In this “intervention scenario”, over the 15-year time horizon of the analysis, half of all primary health care providers are trained to provide brief advice to quit to adult tobacco users—a value selected based on evidence of the current intervention coverage gap; on average, in low- and middle-income countries less than half (47.8 percent) of adult smokers who visit a health

provider are advised to quit.<sup>18</sup> Once trained, it is assumed that the provider administers the brief advice when they encounter a patient who uses tobacco.

Taking into account the number of primary health care providers in the country, the patient panel size per provider, adult smoking rates, and the percent of adult smokers who present within the health system for at least one primary care visit per year, in each year of the analysis we calculate the number of adult tobacco users who would encounter a newly trained health provider and receive the brief intervention—which increases the likelihood that an individual makes a quit attempt by 60 percent over baseline levels [115]. With increases in population quit attempts driven by the provision of brief advice, we recalculate PQR to estimate the number of smokers who quit as a result of the intervention. Data used to inform these calculations is shown in **Table A3**.

**Table A3: Provision of brief advice – key parameters to calculate intervention impact**

Parameter name	Value	Source
<b>Population quit rate (PQR)</b>		
Annual quit attempt rate (QA)	41%	Average values from GATS of LMICs conducted between 2009 to 2018*
Increase (%) in QA as a result of receiving brief advice	60%	Levy et al (2019). Modelling the impact of smoking-cessation treatment policies on quit rates [115]
<b>Treatment use (Tx Use)</b>		
No evidence-based treatment	81%	Average values from GATS of LMICs conducted between 2009 to 2018*
Pharmaceutical assistance	7%	Average values from GATS of LMICs conducted between 2009 to 2018*
Counselling	11%	Average values from GATS of LMICs conducted between 2009 to 2018*
Both pharmaceutical assistance and counselling	1%	Average values from GATS of LMICs conducted between 2009 to 2018*
<b>Treatment effectiveness</b>		
No evidence-based treatment	7%	Levy et al (2010). Modeling the impact of smoking-cessation treatment policies on quit rates [115]
Pharmaceutical assistance	15%	Abrams et al (2010). Boosting population quits through evidence-based cessation treatment and policy [122]**
Counselling	12%	Abrams et al (2010). Boosting population quits through evidence-based cessation treatment and policy [122]**

18 Analysts pulled data from GATS surveys conducted between 2009 to 2018 and averaged values from low- and middle-income countries.

Parameter name	Value	Source
Both pharmaceutical assistance and counselling	22%	Abrams et al (2010). Boosting population quits through evidence-based cessation treatment and policy [122]**
% of adult smokers who visit primary care clinic annually	38%	Average values from GATS of LMICs conducted between 2009 to 2018*
% of smokers who relapse after successfully quitting	60%	García-Rodríguez et al (2013). Probability and predictors of relapse to smoking: Results of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) [114], [123]
Number of primary care health providers	34,374	WHO (2021). Global Health Observatory [124]***
Annual patient panel size per health provider (# of patients)	550	Altschuler et al (2012). Estimating a Reasonable Patient Panel Size for Primary Care Physicians With Team-Based Task Delegation [125]****

\* Analysts pulled data from GATS conducted between 2009 to 2018 and averaged values from low- and middle-income countries.

\*\* Compared to quit attempts that are made with no assistance from any form of evidence-based therapy, pharmaceutical assistance is 100 percent more effective, counselling 60 percent more effective, and combined therapy 200 percent more effective

\*\*\* Sum of two indicators in the WHO Global Health Observatory (GHO) for the latest year for which information was available: 1) number of general physicians and 2) number of nursing personnel. Given that specific estimates for primary care nursing personnel are not given from the source, we assume the proportion of primary care nurses is the same as the proportion of generalist doctors to all doctors as given in the GHO.

\*\*\*\* Study results show that a primary care health provider working under a nondelegated model of care can reasonably care for a panel of 983 patients in a year and that in a conservative scenario where non-physician providers assume some responsibility for care patient panel sizes can expand to 1387 patients. In most countries, a nondelegated model of care is the status quo. However, in this analysis, nurses are trained to offer brief advice and assume some responsibility for administering it. Therefore a patient panel size is likely to be somewhere in the range of 983 to 1,387 patients. We assume a panel size of 1,100 and that an individual practitioner on the team covers half of the patients (550) per year.

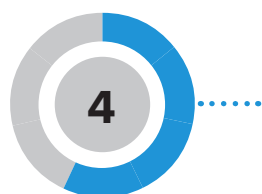
**Summary: the impact of tobacco demand reduction measures.** The impact sizes of all policy measures examined in the investment case are displayed in **Table A4**. Additional information on their derivation can be found in the *Technical Appendix*.<sup>19</sup>

<sup>19</sup> Available upon request.

**Table A4: Impact size: Relative reduction in the prevalence of current smoking by tobacco control policy/intervention, over a period of five (2023-2027) and 15 years (2023-2037)**

WHO FCTC Policy Actions	Relative reduction in the prevalence of current smoking	
	First 5 years (2023-2027)	Over 15 years (2023-2037)
Tobacco Control Package* (all policies/interventions implemented simultaneously)	<b>26.9%</b>	<b>42.6%</b>
Increase cigarette taxation ( <i>WHO FCTC Art. 6</i> )	9.8%	17.5%
Create smokefree public and work places ( <i>WHO FCTC Art. 8</i> )	1.4%	2.4%
Implement plain packaging of tobacco products ( <i>WHO FCTC Guidelines for Implementation of Article 11 and WHO FCTC Guidelines for Implementation of Article 13</i> )	2.40%	4.0%
Promote and strengthen public awareness of tobacco control issues ( <i>WHO FCTC Article 12</i> )	9.1%	15.2%
Enact and enforce a comprehensive TAPS ban ( <i>WHO FCTC Art. 13</i> )	7.2%	12.0%
Promote tobacco cessation and treatment for dependence by training health professionals to provide brief advice to quit tobacco ( <i>WHO FCTC Art. 14</i> )	0.07%	0.45%
<p>* The combined impact of all interventions is not the sum of individual interventions. Following Levy and colleagues' (2018) "effect sizes [are applied] as constant relative reductions; that is, for policy i and j with effect sizes PR<sub>i</sub> and PR<sub>j</sub>, (1-PR<sub>i</sub>) x (1-PR<sub>j</sub>) [is] applied to the current smoking prevalence" [92].</p>		



**STEP 4**

Estimate the impact of changes in smoking prevalence on tobacco-attributable health outcomes and economic costs.

To analyse the impact of policy measures on reducing the health and economic burden of smoking, the investment case calculates and compares two scenarios. In the “status quo scenario”, current efforts are “frozen”, meaning that, through the year 2037 (end of the analysis), no change occurs from the tobacco control provisions that are currently in place. In the “intervention scenario”, Burkina Faso implements new tobacco measures or intensifies existing ones, to reduce the prevalence of smoking. The difference in health and economic outcomes between the “status quo” and “intervention scenarios” represents the gains that Burkina Faso can achieve by taking targeted actions to reduce tobacco use.

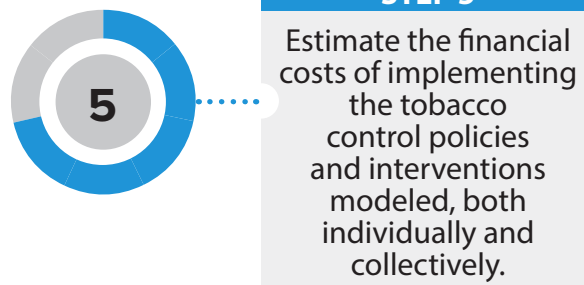
The marginal effects of the policies are calculated using the status quo scenario as the comparison group. To calculate marginal effects, the model subtracts the outcome (risk factor attributable deaths, health-care expenditures, etc.) under the intervention scenario from the same outcome under the status quo scenario. The difference between the two outcomes is the amount of change in the outcome associated with the policy.

$$\text{Marginal Effects} = \text{Outcome Base Scenario} - \text{Outcome Intervention Scenario}$$

Marginal effects are calculated as follows for each outcome:

- **Health outcomes:** To calculate the reductions in mortality and morbidity due to implementation of the policy measures, forecasted changes in smoking prevalence are applied directly to the GBD risk factor attributable outcomes from the status quo scenario. This means that the model adjusts the risk factor attributable outcomes for mortality and morbidity as reported by GBD based on year-over-year relative changes in smoking prevalence for each outcome.
- **For healthcare expenditures,** the model applies forecasted annual relative changes in smoking prevalence for each intervention scenario to the SAFs. SAFs are adjusted in proportions equal to the relative change in smoking prevalence for each intervention scenario.

- **Workplace smoking outcomes** are recalculated substituting actual (status quo) smoking prevalence for estimated annual smoking prevalence for each of the intervention scenarios that are modeled.



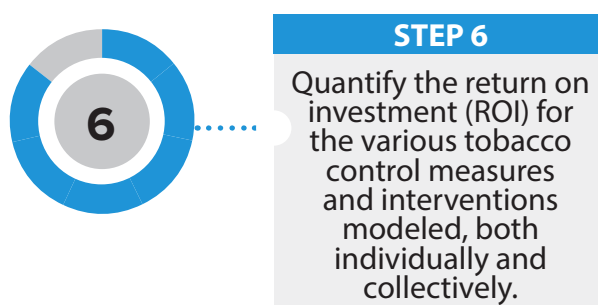
The financial costs to the government of implementing new measures—or of intensifying or enforcing existing ones—is estimated using the WHO NCD Costing Tool. Full explanations of the costs and assumptions embedded in the WHO NCD Costing tool are available [112].

The Tool uses a ‘bottom up’ or ‘ingredients-based’ approach. In this method, each resource that is required to implement the tobacco control measure is identified, quantified, and valued. The Tool estimates the cost of surveillance, human resources—for programme management, transportation, advocacy, and enacting and enforcing legislation—trainings and meetings, mass media, supplies and equipment, and other components. Within the Tool, costs accrue differently during four distinct implementation phases: planning (year 1), development (year 2), partial implementation (years 3-5), and full implementation (years 6 onward).

Across these categories, the Costing Tool contains default costs from 2011, which are sourced from the WHO CHOICE costing study. Following Shang and colleagues, the Costing Tool is updated to reflect 2020 costs by updating several parameters: the USD to local currency unit exchange rate (2020); purchasing power parity (PPP) exchange rate (2020); GDP per capita (USD, 2020); GDP per capita purchasing power parity (PPP, 2020); population (total, and share of the population age 15+, 2020); labour force participation rate (2020); gas per litre; and government spending on health as a percent of total health spending (2019) [126]. Unless government or other in-country parameters are received, data are from the World Bank database, with the exception of data on the share of government health spending and population figures. The share of government spending on health as a percent of total health spending is derived from the WHO Health Expenditures database, and population figures are from the UN Population Prospects.

To cost the scale up of the provision of brief advice to quit tobacco use, the analysis adds to the programmatic costs embedded in the WHO Costing Tool by including costs to train health providers and the direct costs of the primary care visits in which the brief advice is administered. Over the 15-year time horizon of the analysis, half of all primary care health

providers are trained to administer brief advice to quit tobacco.<sup>20</sup> Based on WHO's training package for treating tobacco dependence in primary care [128], we assume that training sessions last 2.5 days, are conducted with a maximum of 30 participants, and are led by a team of two facilitators. We further assume that the training occurs in person in a rented facility space. Costs of training include those to rent the facility,<sup>21</sup> pay facilitators, and provide per diems to facilitators and attendees, and we also assume that trainees (doctors and nurses) are compensated for their time at their wage rate.<sup>22</sup> Once trained, providers are assumed to provide brief advice if they encounter a patient who smokes. The cost of providing brief advice during primary care visits is based on modeled, country-specific estimates from WHO-CHOICE of the cost of primary care outpatient visits [130]. The derivation of these estimates is detailed elsewhere, [131] but in overview, the estimates reflected the "hotel cost" of a ten-minute visit<sup>23</sup> to a health facility with beds. We updated the estimates to 2020 local currency units, using 2010 purchasing power parity conversion factors and local consumer price indices [132]. For the purposes of the investment case, administration of the 5A's brief intervention is assumed to take 10 minutes [133]. Following WHO CHOICE methodology, we estimate the cost of those extra 10 minutes as an extra 21 percent of the original cost of the primary care visit.



The return on investment (ROI) analysis measures the efficiency of tobacco control investments by dividing the discounted monetary value of health gains from investments by their discounted respective costs.

ROIs were calculated for each of the five tobacco control policy actions modeled, and for the five interventions together as a package. Estimates from Steps 3, 4 and 5 were used to calculate ROIs at 5- and 15-year intervals.

$$\text{Return on investment (ROI)} = \frac{\text{Benefits of Intervention/Policy}}{\text{Costs of Implementing Intervention/Policy}}$$

20 The analysis assumes a 10 percent of health workers turn over annually [127].

21 Rental costs per sq foot are obtained from the WHO Costing Tool with the room size estimated is based on square feet per person estimates for collaboration rooms [129].

22 Compensation costs for trainers, per diem estimates, and provider salaries are obtained from the WHO Costing Tool.

23 The analysis assumes that the mean duration of a clinic visit is 10-minutes, following guidance from the WHO NCD Costing Tool.

## A1.4 Equity analysis

We used elasticity of smoking participation by income group to assess the equity implications of increases in cigarette taxation. No studies were identified that examine the elasticity of smoking participation in Burkina Faso. Instead, we use the average of income-group-specific elasticities in low- and middle-income countries, as compiled in a World Bank policy research working paper [134]. The working paper provides elasticities by deciles. To apply the elasticities to the smoking prevalence data available for Burkina Faso, which are presented as quintiles, we take the average of the first and second decile to obtain the elasticity for the first quintile, and so on. The average elasticity for each quintile from the working paper that are used to calculate reductions in smoking prevalence and smoking attributable mortality are shown in **Table A5** below.

**Table A5: Average elasticities used in investment case equity analysis**

	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Price elasticity	-0.60	-0.49	-0.41	-0.36	-0.30

Source: Average of income-group-specific elasticities in low- and middle-income countries, as compiled in a World Bank policy research working paper (Fuchs et al (2019). *Distributional Effects of Tobacco Taxation: A Comparative Analysis*. Accessible at <https://openknowledge.worldbank.org/handle/10986/31534>) [134].

The source for smoking prevalence used in the main investment case model (the *WHO Report on the Global Tobacco Epidemic* [4]), does not contain prevalence disaggregated by income quintile. For the equity analysis, we use prevalence by income quintile obtained from the 2014 Demographic and Health Survey (DHS). We adjust the prevalence by income quintile proportionally by the difference between overall prevalence in the DHS and WHO Report.

## A1.5 Summary of WHO FCTC demand reduction measure status

Figure 2 is based on data from the *WHO Report on the Global Tobacco Epidemic, 2021* [4]. In the Figure, the level-of-implementation categories of “no/little implementation”, “partial implementation”, “moderate implementation”, and “high-level implementation” are mapped to the descriptions in **Table A6**, as specified and further detailed in Technical Note I of the WHO report (see page 119).

Investment case analysts assigned scores between 0 to 3 for each demand reduction measure, depending on the level of implementation. For four measures—graphic warning labels, plain packaging, mass media campaigns, and tobacco cessation—we assigned whole number scores (i.e. 0, 1, 2, or 3) that mapped to the four levels of implementation described above and detailed in **Table A5**.

For increases in cigarette taxation, smokefree public and work places, and TAPS bans, we adjusted the level-of-implementation score creating a decimal value as follows:

- For 1) smokefree public and work places and 2) TAPS bans, we adjusted the score to account for reported levels of compliance in the GTCR (Compliance Score). Following previously published assumptions by Levy and colleagues (2013), we assumed that respectively 25 percent and 50 percent of the effect of these measures depends on levels of compliance [128]. Thus, for a country with “moderate implementation” of TAPS bans but a compliance score (as detailed in the GTCR) of 5 out of 10, we calculated the score as follows:  $\text{Measure Score} - (0.5 * \text{Compliance Score} / 10) = 2 - (0.5 * (5 / 10)) = 1.75$ . For countries that did not report a compliance score we assumed the average of compliance scores worldwide.
- For 3) cigarette taxation, all countries in which the total tax share equalled 75 percent or above received a score of 3. All countries below that mark were assigned a score as follows:  $3 * (\text{Total tax share} / 0.75)$ . Thus a country with a total tax share of 35 percent received a score of 1.4 ( $3 * (.35 / .75)$ ).

Ultimately, most measures are weighted equally (counting as three points if fully implemented) except for plain packaging (counting as one point if fully implemented). Analysts selected one point for plain packaging because: 1) Unlike for the other measures, plain packaging operates on a 0,1 scale—either the measure is in place or it isn’t (i.e. there are no gradations of the policy—there is little benefit to mandating that half of the package is “plain” while the rest is open to colouring or other attributes); 2) In the GTCR plain packaging is scored as a “star” on top of the graphic warning labels acting as a supportive add on to other labelling requirements.

The total score a country can receive for implementation of the key demand reduction measures (i.e. composite tobacco control score) is 19. A country with a composite tobacco control score of 12/19 may be said to have implemented about 63 percent of the WHO FCTC key demand reduction measures agenda.

**Table A6: Definition of WHO FCTC implementation status in Figure 2**

WHO FCTC demand reduction measure	No/little implementation	Partial implementation	Moderate implementation	High-level implementation
Increase cigarette taxation to reduce the affordability of tobacco products ( <i>WHO FCTC Article 6</i> )	0% of retail price is tax, or no data is reported.	≥ 25% and <50% of retail price is tax.	≥ 50% and <75% of retail price is tax.	≥ 75% of retail price is tax.
Create smokefree public and work places to protect people from the harms of tobacco smoke ( <i>WHO FCTC Article 8</i> )	Complete absence of ban, or up to two public places completely smoke-free, or no data is reported.	Three to five public places completely smoke-free.	Six to seven public places completely smoke-free.	All public places completely smoke-free (or at least 90% of the population covered by complete subnational smoke-free legislation).
Require tobacco packaging to carry graphic health warnings describing the harmful effects of tobacco use ( <i>WHO FCTC Article 11</i> )	No warnings or small warnings, or data not reported.	Medium size warnings missing some appropriate characteristics or large warnings missing many appropriate characteristics.	Medium size warnings with all appropriate characteristics or large warnings missing some appropriate characteristics.	Large warnings with all appropriate characteristics.
Implement plain packaging of tobacco products ( <i>WHO FCTC Guidelines for Implementation of Article 11 and WHO FCTC Guidelines for Implementation of Article 13</i> )	Plain packaging is not mandated.	-	-	Plain packaging is mandated.



WHO FCTC demand reduction measure	No/little implementation	Partial implementation	Moderate implementation	High-level implementation
Promote and strengthen public awareness about tobacco control issues and the addictive nature and harms of tobacco use through mass media information campaigns ( <i>WHO FCTC Article 12</i> )	No national campaign conducted between July 2018 and June 2020 with a duration of at least 3 weeks, or no data is reported.	National campaign conducted with one to four appropriate characteristics.	National campaign conducted with five to six appropriate characteristics.	National campaign conducted with at least seven appropriate characteristics including airing on television and/or radio.
Enact and enforce a comprehensive ban on all forms of tobacco advertising, promotion, and sponsorship – TAPS ( <i>WHO FCTC Article 13</i> )	Complete absence of ban, or ban that does not cover national television, radio and print media.	Ban on national television, radio and print media only.	Ban on national television, radio and print media as well as on some but not all other forms of direct and/or indirect advertising.	Ban on all forms of direct and indirect advertising (or at least 90% of the population covered by subnational legislation completely banning tobacco advertising, promotion and sponsorship).
Develop infrastructure to support tobacco cessation and treatment of tobacco dependence ( <i>WHO FCTC Article 14</i> )	None, or no data is reported.	NRT and/or some cessation services (neither cost-covered).	NRT and/or some cessation services (at least one of which is cost-covered).	National quit line, and both NRT and cessation services routinely cost-covered.

Source: Information in this table is based on the *WHO Report on the Tobacco Epidemic, 2021* [4]

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The Secretariat of the WHO Framework Convention on Tobacco Control  
Hosted by: World Health Organization  
Avenue Appia 20, 1211 Geneva 27, Switzerland  
Tel: +41 22 791 5043  
Email: [fctcsecretariat@who.int](mailto:fctcsecretariat@who.int)  
Web: [fctc.who.int](http://fctc.who.int)

