



## Attitudes towards vehicle carbon taxes in Ghana

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Kwaku Asante, Patrick Opoku Asuming, James Dzansi, David Lagakos, Henry Telli, and Isaac Otoo

- This study assesses the views of Ghanaian adults on the potential introduction of a vehicle-based carbon tax.
- The findings show that most Ghanaians think vehicle emissions are a problem locally in Ghana and globally; most believe governments worldwide should impose taxes to control vehicle emissions.
- About 79% of respondents across the country agree that the government should impose vehicle-based carbon taxes to control emissions and raise revenues to fund development programmes.
- Respondents across Ghana agree that a vehicle-based carbon tax will help reduce the demand for vehicles (29%) and increase the demand for smaller vehicles (38%).
- About 35% of the respondents across Ghana agree that a vehicle carbon tax would likely make them drive less than they otherwise would.
- We recommend the introduction of a vehicle-based carbon tax in Ghana to control emissions and raise revenues.

## Introduction

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Adverse climatic events have recently led to a push for cleaner production systems across nations. Cleaner transportation systems are a key aspect of cleaner production systems. Although carbon dioxide (CO<sub>2</sub>) emissions from the African transport sector have been historically low, they have been growing at more than twice the global rate (IEA, 2021) and are set to increase further with the growing middle class and the associated increasing motorization rates.

In Africa, transport sector emissions are substantially high and at odds with global emission targets, which call for immediate and effective policy interventions. One set of such policy measures is carbon taxes. While the theoretical foundations of these instruments are well-established (Timilsina and Dulal, 2008), their feasibility/acceptability and effectiveness, particularly in the African context, are largely undocumented.

In 2018, Ghana introduced a vehicle carbon tax, known as the "luxury vehicle levy," which provided a unique context to explore the feasibility and effectiveness of carbon taxes in an African context. The tax, which was levied on vehicles with a capacity of 3.0 litres and above, was payable annually. However, barely a year after it was introduced, it was withdrawn following protests from sections of the Ghanaian public.

This case highlights the importance of studying citizens' understanding and perceptions of such taxes. The study sought answers to the following questions: 1) To what extent do people view vehicle emissions as a problem globally and in Ghana? 2) What is the level of support for vehicle-based carbon taxes in Ghana? 3) How will a vehicle-based carbon tax affect behaviour or attitudes towards driving and vehicle purchases?

## What did we do?

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We collected data from households in the following seven out of 16 regions in Ghana: Northern and Savannah, Ashanti and Bono, Greater Accra, Volta, and Western. The regions were carefully chosen to ensure representation from the country's northern, middle, and southern belts. Sampling was designed to obtain a representative sample of just under 3,300 households from the seven regions. The sampling approach is similar to that used by the Ghana Statistical Service to draw nationally representative samples. The survey collected information on the demographic characteristics of the individuals, views on the imposition and use of a vehicle carbon tax, perceptions on the impact of such taxes on personal income, government revenues, and car ownership, and opinions on vehicle emissions.

The sample was dominated by urban households, with approximately 62% of respondents residing in urban areas and 38% living in rural communities. There were almost identical shares of females and males. The age distribution of our sample revealed that 8% of the respondents were under 25 years; more than half of the respondents were between 25 and 44 years; one-fifth of the respondents were between the ages 45 and 54; approximately 11% were between 55 and 64 years; and finally, 8% of the respondents were 65 years and above. Regarding the education level of the respondents, less than a fifth (19%) had no formal education.

**TABLE 1: Demographic characteristics of respondents**

	Freq.	Percent
<b>Gender</b>		
Male	1637	49.8
Female	1650	50.2
<b>Age range</b>		
24 years and below	265	8.1
25 - 34 years	753	23
35 - 44 years	997	30.4
45 - 55 years	637	19.4
55 - 64 years	371	11.3
65 years and above	256	7.8
<b>Education level</b>		
No formal education	604	18.4
Basic education	1458	44.4
Senior High/Secondary education	828	25.2
Tertiary education	347	10.6
Other	50	1.5
<b>Region</b>		
Western	380	11.6
Greater Accra	865	26.3
Volta	313	9.5
Ashanti	1000	30.4
Bono	213	6.5
Northern	350	10.6
Savannah	166	5.1
<b>Locality</b>		

Rural	1237	37.6
Urban	2050	62.4

Note: This table presents the demographic distribution such as the locality type, sex, age, education level, and regional distribution of our sample. Other level of education includes respondents who have had some level of Koranic education and adult education or who have attended a School for the Blind.

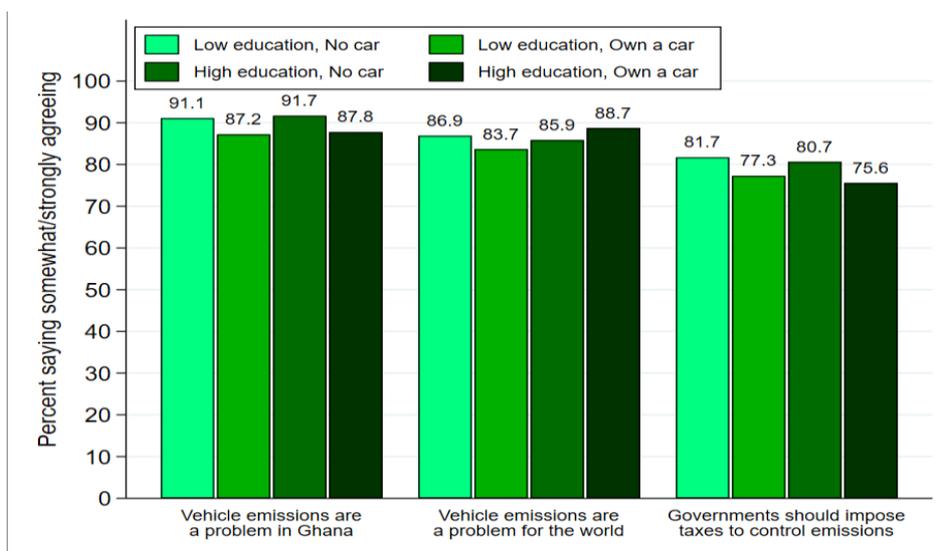
## What did we find?

### Vehicle emissions are a problem; government should impose taxes

Most respondents believe that vehicle emissions are a problem in Ghana and the world, and governments should impose taxes to control emissions. Level of education and car ownership moderate these results slightly, as shown in Figure 1. A large percentage of respondents without cars, regardless of their education level (91% for low education and 92% for high education), believe that vehicle emissions are a problem in Ghana. In comparison, among car owners, 87% with low education and 88% with high education share this belief.

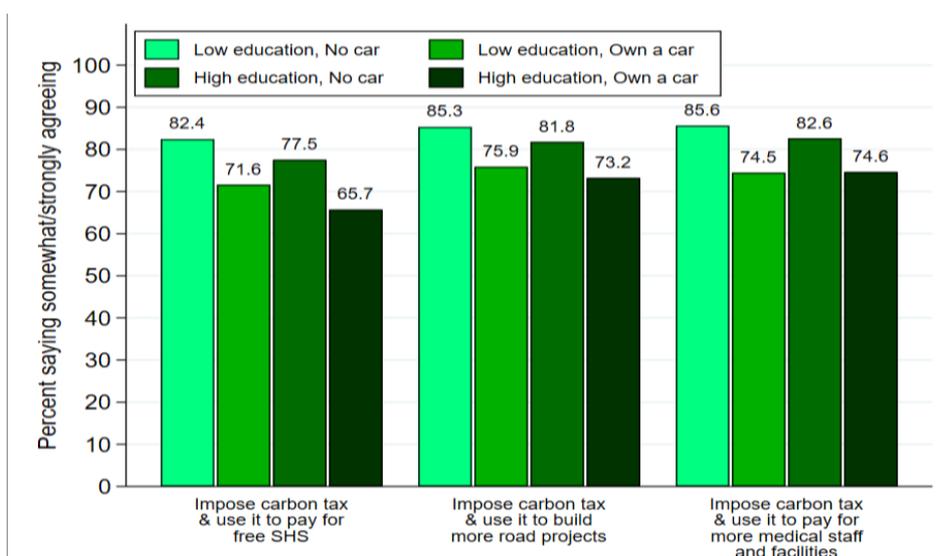
Overall, there is strong support in Ghana for governments to impose taxes to control emissions. The support is slightly higher for those who do not own cars (82% and 81% depending on level of education) than for those who own cars (77% and 76% depending on level of education).

**FIGURE 1: Citizens' views on vehicle emissions by car ownership and education**



Note: This figure plots the percentage of low-education and high-education respondents who own or do not own a car who indicated that vehicle emissions are a problem in Ghana, that vehicle emissions are a problem for the world, and that governments should impose taxes on carbon-emitting activities, such as driving a car or travelling in aeroplanes, by four groups of respondents.

**FIGURE 2: Views on the imposition and possible uses of a carbon tax by car ownership and education**



Note: This figure plots the percentage of citizens who support the government imposing a carbon tax and using the proceeds to invest in the free Senior High School (SHS) program, improve road infrastructure, or expand health facilities and recruit more health personnel, by respondents' education level and car ownership status. Low education refers to respondents with basic education and below. High education refers to respondents with Senior High School (SHS) education and above.

### Carbon tax and the use of funds

Figure 2 shows that the majority of the respondents are of the view that the government of Ghana should impose carbon taxes and use the revenues to pay for medical staff and facilities (79%), build roads (79%), or provide free education at the Senior High School (SHS) level (74%). For those with low education who do not own a car, 86% support the carbon tax if the revenue will be used to pay for medical staff; 85% if the funds are used build roads and 82% if the funds are used to fund the free SHS programme. However, the numbers are lower for those who own cars, especially if they have a higher level of education.

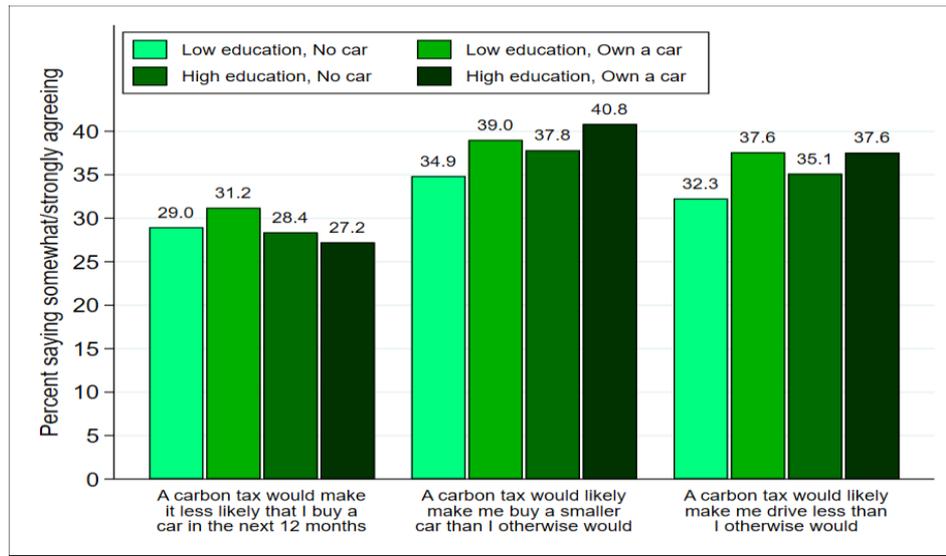
### What is the impact of the imposition of a carbon tax?

Results suggest that the imposition of a carbon tax will have considerable impacts on respondents' behaviour (see Figure 3). On average, about 29% of respondents report that a carbon tax will make it less likely for them to buy a car in the next 12 months. The least impacted group in this category is those with high education who own a car. Secondly, on average, about 38% of respondents report that a vehicle carbon tax will make it likely for them to buy a smaller car than they otherwise would. The least impacted group in this category is those with low education who do not own a car. Thirdly, on average, about 36% of the respondents report that a carbon tax will likely make them drive less than they otherwise would. The least impacted group in this category is those with low education who do not own a car.

Most of the respondents (80% on average) believe that a carbon tax will bring more revenue to the government to improve the economy. Nevertheless, most respondents (63% on average) do not think the carbon tax will increase their personal tax burden, except those with high education who own cars. As shown

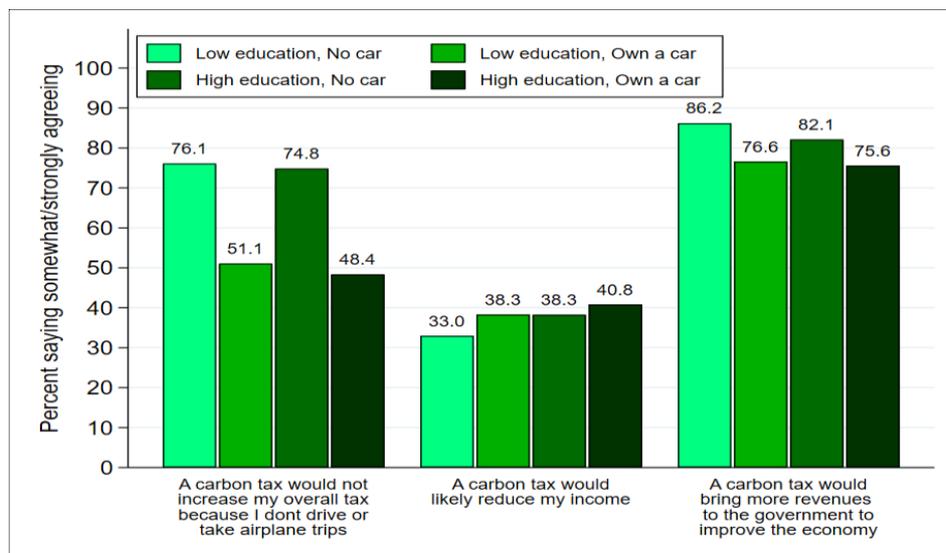
in Figure 4, about 51% of highly educated respondents who own cars believe a carbon tax will increase their overall taxes. Finally, about 38% (on average) of the respondents believe that a vehicle carbon tax will reduce their income levels. Together, these results suggest that a vehicle carbon tax could be tolerated in Ghana if imposed by the government, especially with low rates. The results also point to a potential resistance to such a tax from the educated elite.

**FIGURE 3: Perceptions on the impact of a carbon tax imposition by car ownership and education**



Note: This figure plots the percentage of respondents who agree that a carbon tax would; make them less likely to buy a car in the next 12 months, likely make them buy a smaller car than anticipated, and likely make them drive less than anticipated by respondents' education level and car ownership

**FIGURE 4: Views on the impact of a carbon tax on income and government revenues**



Note: This figure plots the percentage of respondents who agreed that a carbon tax would; NOT increase their overall taxes, likely reduce their income, and bring more revenue to the government by respondents' education level and car ownership.

## Conclusions

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This study examines the views of a national sample of adult households in relation to carbon dioxide (CO<sub>2</sub>) emissions from vehicles. The study presents how ordinary people in Ghana view and would respond to the imposition of a vehicle-based carbon tax. Overall, the results show that 86% of the respondents believe that vehicle emissions are a problem in the world, while 89% believe vehicle emissions are a problem in Ghana.

About 79% of respondents across the country agree that the government should impose taxes to control emissions. Those who own cars are slightly less supportive (76%) of a vehicle carbon tax. General support for a vehicle carbon tax reduces slightly to 74% if the tax revenue is used to provide free secondary education to all students at that level. This slight reduction is mostly driven by lower support from highly educated respondents, especially if they own a car (66%). The level of support for the tax remains the same, at 79%, irrespective of whether the tax revenue will be used to build more roads or provide more medical staff and facilities.

About 29% of respondents agree that a vehicle carbon tax will make it less likely that they buy a car in the next 12 months. Thus, a carbon tax could considerably help reduce the rate at which people are willing to buy cars. About 38% of respondents agree that a carbon tax would likely make them buy a smaller car than they otherwise would. Thus, a carbon tax could potentially nudge more than a third of people to buy smaller cars than they otherwise would. Finally, about 35% of the respondents across Ghana agree that a carbon tax would likely make them drive less than they otherwise would. Thus, the policy has the potential to cut down the driving mileage for 35% of people.

## Policy Recommendations

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In summary, the survey shows that people in Ghana view vehicle emissions as a problem. They agree that a vehicle-based carbon tax can help control the rate at which people buy cars, nudge them to buy smaller cars (if they have to buy cars) and nudge them to cut down on unnecessary driving (a carbon-emitting behaviour). Moreover, there is strong general support for a vehicle-based carbon tax in Ghana. We therefore recommend that the government introduce a vehicle-based carbon tax in Ghana with a small tax rate. This would help control emissions and help raise revenue, which can then be used to build more/better roads and provide more medical facilities.