Not All Carbon is Created equal, so Let's Tax Extravagant Emissions More

BY PHILIPPE BENOIT

Abstract

Climate taxes traditionally apply a uniform price for emissions, but emissions result differing types of underlying activities. Some meet critical basic human needs, while others serve highly discretionary extravagant lifestyles. This article proposes a tax on the extravagant carbon emissions of the wealthy to serve climate and equity considerations.

Everyone emits, but the rich emit more

Everyone generates greenhouse gas emissions, from the richest to the poorest. Fossil fuel consumption and their accompanying emissions are part of the livelihoods of millions of working-class families in the United States and around the world (e.g., in cars and two-wheel vehicles, or for residential heating). Even the world's poorest households generate some GHG emissions, notably in cooking.

The rich, however, generate substantially more emissions per person than the middle class or poorer families. As previously analyzed by Oxfam, the world's richest 1 percent emit about 50 tons of carbon dioxide (CO_2) per capita, 30 times more than the poorest 50 percent and 175 times that of the poorest 10 percent.[1] In the United States, the richest 10 percent emit over five times more per capita than the bottom 50 percent and about three times the national average. In China, the richest 5 percent emit almost four times the national average.[2]

This higher level of emissions flows from a more carbon rich consumption lifestyle, much of which is not accessible to middle-class or poorer households. For example, a first-class airplane trip from Washington to Paris is estimated to account for the equivalent of 1.82 tons of carbon dioxide, which is more than four times the same trip in economy class[3] and nearly 10 percent of the annual U.S. per capita GHG emissions. There are other high-carbon luxury products limited to the rich, such as high-end sports cars, super-yachts, multiple large residences, and private jet travel.

Looking forward, several factors point to the potential for a greater amount of high-carbon luxury activities. Notably, the number of high-wealth individuals is project to grow, with the number of millionaires worldwide increasing from 56 million to 84 million by 2025.[4] Moreover, market forces and technological innovation have the potential to create new ways for the rich to emit through novel and elite products and services that target the high-end market.

Emissions result from different activities with different "inherent" values (i.e., utility)

As I and others have previously written,[5] in considering how to price and tax GHG emissions, it is pertinent to consider what activity has generated the gas. For example, some have pointed to the difference between emissions relating to subsistence as opposed to luxury activities.[6] This "subsistence/luxury" categorization can be extended to better reflect the consumption patterns seen in advanced economies and, notably, increasingly in emerging economies where emissions are growing. Under this perspective, the distinction is less between what the poorest of the poor require for subsistence versus luxury items, but more generally what the growing middle classes[7] and rising working classes[8] across the developing world require versus the more extravagant activities of the rich.

Accordingly, this article categorizes emissions based on four types of underlying consumption activities: (i) for basic needs, such as food and shelter; (ii) for basic income generation (such as commuting to work); (iii) for basic leisure (e.g., to go to the movies); and (iv) for discretionary extravagant activities (such as super-yachts). Similarly, the utility of the corresponding emissions also varies, arguably diminishing across these four groupings (as illustrated by Figure 1).

A tradition of uniform carbon tax rates

While the utility of the underlying consumption activity will differ, the common approach for carbon tax proposals is to use a uniform tax rate. Three types of factors are typically considered in establishing the appropriate rate: the social cost of carbon, the desired targeted level of emissions reductions, and the amount of revenues to be raised.[9] In large part because the impact of a ton of CO_2 is essentially uniform, irrespective of where it is emitted and by whom, much of the discourse on carbon pricing applies a similarly uniform charge per unit of emission.

But is it appropriate to tax a kilogram of CO_2 emitted by a poor villager in South Asia in cooking to feed their family at the same rate as a kilogram of CO_2 emitted on a European highway by a sportscar travelling at 150 miles per hour? Yes, there is an accepted rationale (at times drawing from Pigouvian theory) that the price/tax should be the same, in large part because the climate impact of the kilogram of CO_2 is the same.

Philippe Benoit is the Managing Director - Energy and Sustainability at Global Infrastructure Advisory Services and can be reached at Philippe.benoit@gias2050.com

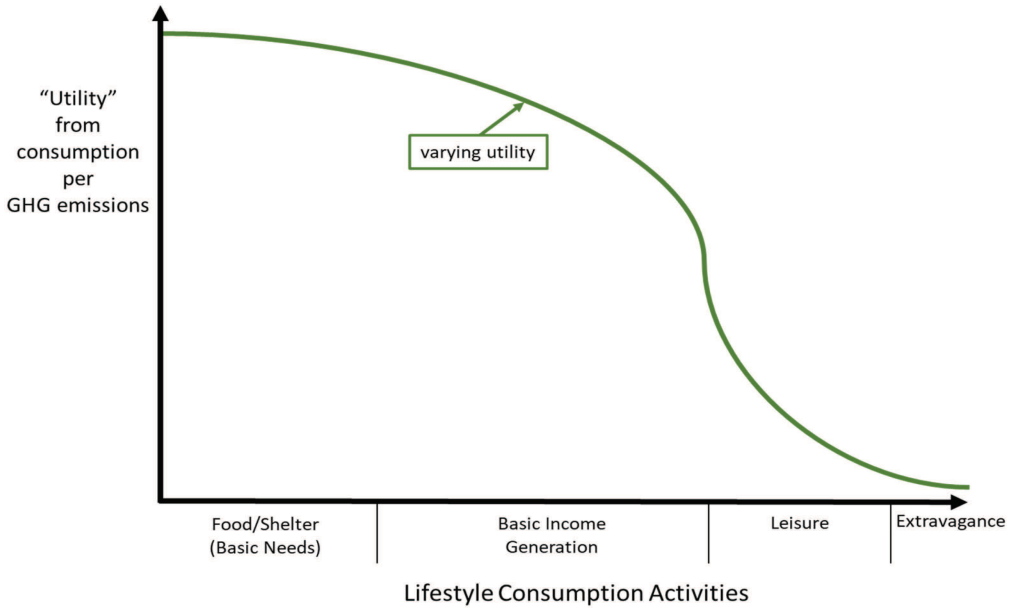

Figure 1: Different carbon emitting consumption activities have differing "utilities"
Source: Author's depiction

A differentiated carbon tax regime targeting extravagant activities

But is a uniform rate the most appropriate structure in designing a carbon taxing regime?[10] The argument can be made that the emissions from these several types of activities should be taxed differently as a function of their utility. This article proposes a tax targeting specifically extravagant luxury emissions (a "carbon extravagance tax") – a targeting justified in part by the capacity of the rich to pay this tax, their access to lower carbon alternatives and, importantly, the detrimental societal impact of using up our common carbon budget for highly discretionary extravagant activities (see Box 1).

Box 1: Extravagant emissions deplete our shrinking common carbon budget

Extravagant and other emissions and their projected impact on climate are raising greater concern because of the rapidly shrinking carbon budget. Two factors are increasing the rate of reduction in this carbon budget. The first is the continuing and increasing amount of actual emissions which are using up the budget. The second is the lowered level of the budget target itself as recognition rises regarding the need for more ambitious temperature goals.

Carbon constitutes, in simplified terms, a "zero-sum" game.[11] We all share a common CO_2 budget estimated at 1,065 $GtCO_2$ if we want to limit global temperature increase to 2°C.[12] Under the more ambitious 1.5°C target that is gaining traction in many discussions, this budget drops to a mere 315 $GtCO_2$,[13] a reduction of 70% in allowable CO_2 emissions. By extrapolation, the carbon budget for the "well below 2°C" target of Article 2 of the Paris Agreement[14] would sit somewhere between these two figures.

In contrast to the dynamics of economic wealth where luxury expenditures can produce jobs and incomes for poorer working-class families, when it comes to the climate, the more carbon that the rich emit for extravagant activities, the less room there is for others to emit for basic needs and other purposes. This dynamic may justify a special and burdensome carbon tax on luxury/extravagant emissions designed to dissuade the class of related underlying activities.

What might a "carbon extravagance tax" look like

At its core, the proposed carbon extravagance tax would apply to products and services that are both luxury items and generate substantial emissions, such as high-end sportscars powered with internal combustion engines. In contrast, the tax would not target either the expensive "non-emitting" Tesla electric cars (albeit, a high-end luxury good, but one that might be referred to as "conspicuous consumption with a conscience") or the working/middle class staple Ford pickup truck.[15] It could be imposed at the time of purchase (e.g., in the manner of a traditional sales tax), periodically (e.g., annually for the registration of a high-carbon luxury vehicle) or based on use (e.g., a special berthing charge for super-yachts). The tax could be deployed on a stand-alone basis (potentially as the first step in a broader carbon pricing initiative) or as a complement to a traditional carbon tax (as illustrated in Figure 2).

The revenues raised by the carbon extravagance tax can be used like those from a traditional carbon tax; for example, to finance research and development into low-carbon solutions, to provide general budgetary support, or redistributed to taxpayers (particularly poorer ones, as described later).

Impacts on Emissions, Revenues and Innovation; and Challenges

The carbon extravagance tax could support several important policy goals simultaneously, albeit with limited impact in various respects, especially regarding direct impacts on emissions and revenues.

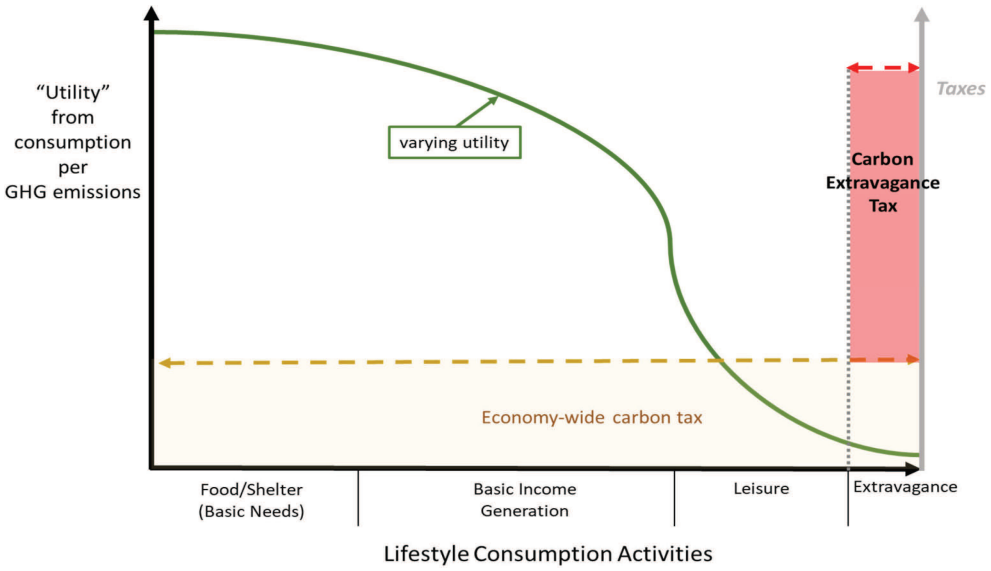

Figure 2: The "carbon extravagance tax" (illustrative)
Source: Based on Author's depiction in Ethics and International Affairs[16]

The tax could operate to reduce the appeal and related emissions of specified luxury carbon-intensive products and services through two distinct dynamics. First, through the price-effect itself. Second, potentially from a negative connotation attached to a tax on extravagance (which, to the contrary, might generate an appeal for some). However, its overall impact on emissions is likely to be small in absolute terms. Similarly, the amount of revenues generated is likely to be small.

Significantly, the carbon extravagance tax could potentially spur low-carbon innovation in high-end products by promoting manufacturers looking to provide untaxed alternatives to their elite clients or looking to strengthen their own branding on sustainability issues. This low-carbon innovation in high-end products could potentially result in a larger impact if it leads to advancements in the bigger and more modestly priced midlevel and discount consumer markets. Moreover, low-carbon innovation in the high-end market might even generate a demand for low carbon alternatives in broader markets (which some argue might be the eventual real climate benefit in Tesla's marketing of high-end vehicles).

The tax would present various challenges. For example, luxury taxes have faced design and implementation issues regarding the choice of covered products (including objections from targeted industries), rates and enforcement. Carbon tax regimes raise concerns about unfair competition and carbon leakage from jurisdictions that do not impose a similar tax. There is a body of experience and expertise to draw from to address these issues. But the challenges for the carbon extravagance tax may well be difficult to overcome, especially given the limited nature of the anticipated direct benefits.

Equity Considerations

The proposed carbon extravagance tax is, however, in many respects more about signaling and indirect impacts. Many of these would be felt with regard to equity considerations.

There has been a great deal of discussion about carbon taxes[17] in part because they are often viewed as an economically efficient climate tool. But there have also been concerns about their disproportionate impact on poorer and middle-income households -- in other words, that they constitute a regressive tax. This is in part due to the fact that poorer families generally spend a larger share of their income on gasoline and other items typically subject to a carbon tax.[18] Although there are ways to counter this regressive impact (for example, by redistributing the revenues[19] or with higher rates for high-end products),[20] the typical carbon tax remains burdened by its regressive characteristics. It was this concern about a disproportionate impact on the working class that helped fuel the yellow vest demonstrations which rocked France several years ago when a carbon gasoline tax was proposed. [21]

In contrast, the proposed carbon extravagance tax is progressive as it is paid essentially only by the wealthy and, by extension, has a greater proportional impact on their higher incomes. It thereby helps promote equity within the climate context and more broadly in the economy. It also sends an important message that discretionary extravagant activities should carry a higher price than carbon consumption related to meeting basic needs or even basic leisure activities. Moreover, the progressive nature of the carbon extravagance tax can be enhanced if the revenues are used to benefit poorer families, directly through distribution programs or indirectly either by funding health or other social services for the poor or, alternatively, by supporting the development of low-carbon products for poorer families.

Given these factors, formulating a carbon extravagance tax might help to overcome some of the populist reservations and resistance to carbon pricing as a climate tool. The targeting of this carbon tax at the rich would also help address (albeit, minimally) societal economic inequality along the lines of a wealth tax and might even operate as a climate complement to a wealth tax. It might, however, also generate intense objections from some quarters precisely because it targets wealthier households.

There are other tools which can serve both climate and inequality considerations. For example, exempting low-carbon assets under a wealth tax regime might help advance climate-friendly investments. However, one advantage of the proposed carbon extravagance tax over other tools in advancing climate and equity issues simultaneously is that, by its very name and terms, it targets some of the carbon excesses available to only the wealthy.

Conclusion

A carbon extravagance tax is worth considering. It can help somewhat to reduce emissions, raise some revenues and stimulate low-carbon innovation. But more importantly, it sends a message about preserving some of the diminishing carbon budget for the less privileged, thereby also addressing climate justice and broader inequalities. Indeed, as politicians consider issues of inequality and equity, and debate the relative merits of a wealth or other taxes targeted at the ultra-wealthy, it may be useful to inject into those conversations the potential to deploy a climate tool with a similar orientation. A carbon extravagance tax may be worth considering.

Footnotes

[1] Oxfam, Extreme Carbon Inequality, Oxfam Media Briefing, December 2, 2015, https://www-cdn.oxfam.org/s3fs-public/file_attachments/mb-extreme-carbon-inequality-021215-en.pdf.

[2] See "Guide to Chinese Climate Policy 2019", D. Sandalow, Columbia University Center on Global Energy Policy (CGEP), at p. 105 (https://energypolicy.columbia.edu/research/report/guide-chinese-climate-policy).

[3] Flight Carbon footprint calculator, https://calculator.carbonfootprint.com/calculator.aspx?tab=3.

[4] "Global Wealth Report 2021", Credit Suisse, June 2021 (https://www.credit-suisse.com/about-us/en/reports-research/global-wealth-report.html).

[5] See earlier essay on a luxury carbon tax by P. Benoit, "A luxury carbon tax to address climate change and inequality: not all carbon is created equal", March 2020, Ethics & International Affairs, https://www.ethicsandinternationalaffairs.org/2020/a-luxury-carbon-tax-to-address-climate-change-and-inequality-not-all-carbon-is-created-equal/.

[6] Henry Shue, "Subsistence protection and mitigation ambition: Necessities, economic and climatic", The British Journal of Politics and International Relations, 2019, Vol. 21 (2) 251-262, https://www.researchgate.net/publication/331217421_Subsistence_protection_and_mitigation_ambition_Necessities_economic_and_climatic.

[7] Homi Kharas, "The Unprecedented Expansion of the Global Middle Class: An Update." The Brookings Institution. Global Economy and Development Working Paper 100 (2017) https://www.brookings.edu/wp-content/uploads/2017/02/global_20170228_global-middle-class.pdf.

[8] N. Birdsall, N. Lustig and C. Meyer, "The Strugglers: The New Poor in Latin America?" Center for Global Development (2013). https://www.cgdev.org/sites/default/files/new-poor-latin-america_1.pdf.

[9] See, for example, N. Kaufman and P. Marsters descriptions in "What you need to know about a federal carbon tax in the United States", https://energypolicy.columbia.edu/what-you-need-know-about-federal-carbon-tax-united-states.

[10] Differentiated pricing has been considered in other circumstances. See, e.g., Antoine d'Autume, Katheline Schubert and Cees Withagen, "Should the carbon price be the same in all countries", Journal of Public Economic Theory, Wiley 2016, 10.1111/jpet.12162, https://halshs.archives-ouvertes.fr/halshs-01300261/document.

[11] The carbon budget could potentially increase if technologies that take CO2 out of the atmosphere (such as direct air capture) can be developed in the future at scale and at reasonable cost. For the time being, however, we are essentially limited to our existing carbon budget.

[12] Mercator Research Institute on Global Commons and Climate Change, https://www.mcc-berlin.net/en/research/co2-budget.html.

[13] Ibid.

[14] Paris Agreement, https://unfccc.int/sites/default/files/english_paris_agreement.pdf.

[15] Heightened fuel economy standards can be used to encourage car manufacturers to lower the emissions of these vehicles.

[16] P. Benoit (2020).

[17] See, e.g., F. Funke and L. Mattauch, "Why Is Carbon Pricing in Some Countries More Successful Than in Others?," August 10, 2018, in Our World in Data, https://ourworldindata.org/carbon-pricing-popular.

[18] Carbon taxes can be levied in different ways. For example, they can be imposed on producers/suppliers (e.g., of gasoline) who then pass it on to their customers (through higher prices) or they can be levied directly on consumers at the point of sale (e.g., added at the pump).

[19] See, e.g., N. Kaufman (2019).

[20] See, e.g., description of France's car tax in "Tax regime applicable to electric vehicles: your advantages in 2019", Beev, https://beev.co/fiscalite/fiscalite-des-vehicules-electriques/.

[21] See, for example, Alissa Rubin and Somini Sengupta, "'Yellow Vest' Protests Shake France. Here's the lesson for Climate Change," December 6, 2018, The New York Times, https://www.nytimes.com/2018/12/06/world/europe/france-fuel-carbon-tax.html.