

With gas prices so high, what's the point of a carbon tax?

By Jonathan Marshall and Rick Knight, CCL's Research Coordinators, 3/11/2022

- The surge in world fuel prices has fallen unequally on different commodities, with no necessary link to their carbon content (unlike a carbon tax). Although prices are changing daily, from 1/22/2022 to 3/11/2022, the rise in gasoline prices has been equal to a carbon fee of about \$78 per ton of CO₂ (roughly year 7 of EICDA). In contrast, the rise in natural gas prices over the same period was equal to a carbon fee of about \$13.50 per ton (year 1 of EICDA). See notes below.
- What goes up usually comes down in volatile fuel markets. See chart below. In contrast, a steadily rising carbon tax . . . rises steadily. The predictability of a carbon tax makes all the difference to long-term behavior of consumers and investors.
- [Studies confirm](#) that gasoline consumption is much more responsive to long-run price trends, and especially tax increases, than to market price fluctuations. In the short run, price hikes encourage people to drive a little more carefully or defer an occasional trip. But a steadily rising tax sends a message to drivers that it will pay in the long run to buy more fuel-efficient vehicles and find substantive alternatives such as carpooling, public transport, and eventually even job or residential relocation. The same logic holds for business fleets.
- Carbon taxes, *prolonged* gas price increases, and even [gas price volatility](#) should all accelerate consumer adoption of zero-emission electric vehicles, as customers overcome sticker shock to recognize the lower cost of owning EVs. At least two [recent studies](#) confirm this. We already see early anecdotal evidence of rising customer interest in EVs as gas prices rise sharply:
 - [EV Sales Soar As Variety And Gas Prices Climb, Study Finds - Forbes Wheels](#)
 - <https://www.nbcnews.com/business/autos/will-high-gas-prices-supercharge-electric-vehicle-sales-rcna18444>
 - “On-site searches of hybrid, plug-in hybrid and electric vehicles jumped 39 percent from early February to early March, right about the time Russia invaded Ukraine.” [Here are some things you can do to spend less on gas](#)
 - [EV sales can't keep up with demand](#). It doesn't take long for consumers to react to higher prices, and manufacturers will scramble to catch up.
- Carbon taxes collect revenue for the common good instead of oil company shareholders and foreign producers. The revenues can be returned to households or invested in other public goods, such as clean energy.
- High oil prices will encourage wasteful stranded investments in fossil fuel production and distribution; carbon taxes will discourage them.
- Carbon taxes embrace the “polluter pays” rather than the “polluter profits” principle. The International Energy Agency [declared](#) in 2021, “Creating a fair basis for EVs to compete with ICE vehicles requires taxing gasoline and diesel at levels that account for GHG emissions and the impacts of local pollution on health.”

Appendix



[Gas Station Price Charts - Local & National Historical Average Trends - GasBuddy.com](#)

- [Price of gasoline](#): carbon fee impact = \$0.11/gal per \$10 carbon fee. Since 01/01/22, retail gasoline (national average) went up from \$3.38/gal to \$4.20/gal (increase of \$0.82). That's equivalent to \$78 carbon fee, approximately Year 7 of EICDA.
- [Price of natural gas](#): carbon fee impact = \$0.58/MMBtu per \$10 carbon fee. Since 01/01/22, HH spot price went up from \$3.80/MMBtu to \$4.57/MMBtu (increase of \$0.77). That's equivalent to \$13.50 carbon fee, approximately Year 1 of EICDA.
- [Price of coal](#): over the time period in question, the price of coal futures rose about \$140 per ton (about \$225 to \$363). Based on [EIA data](#), a \$15 tax on carbon would raise the price of coal \$27.60 per ton. By my calculations, the price jump is roughly equivalent to a \$76 per ton fee on CO₂, very close to the impact on gasoline. As with oil, much of this jump is due to rising world demand and supply chain issues, not just the Ukraine conflict.

A note on gasoline prices and EV demand:

Contrary to widespread claims that driver behavior is insensitive to fuel prices, two new studies show that rising gasoline prices promote significantly greater consumer adoption of clean electric vehicles. [One study](#) released this March from three economists at UC-Davis concludes that a 40 cent per gallon increase in the price of gasoline in California translates into “[a whopping 57 percent](#)” increase in demand for EVs. Another [study](#) out of Norway, which has the world's largest market share of EVs, reports that every 10 percent increase in liquid fuel (gasoline and diesel) prices translates into a 6 percent increase in demand for all-electric vehicles.

These studies are among the first of their kind because EV adoption rates have been too low until recently for economists to reliably gauge the nexus between fossil fuel prices and EV demand. Even more important, they provide important evidence that carbon fees will have a desirable effect on vehicle choices and thus carbon emissions from transportation.