SHOP TALK BY MATTHEW C. BOCH



A Green Headache? Thinking About the Practical Implications of a State Carbon Tax

Efforts to enact a state carbon tax thus far have failed, but as backers promise to redouble their efforts, tax professionals should consider the practical reality of what a state carbon tax would look like and how it might impact their businesses. While a state carbon tax may seem attractive from a policy perspective, the practical reality poses difficulties in defining the tax base and avoiding the crippling of in-state industry.

Recent proposals in Washington and Vermont. Carbon taxes are being proposed in America's more liberal states as another kind of "sin tax." Much like taxes on cigarettes or soda being suggested as a win-win of raising revenue while protecting public health, a carbon tax is proposed as a win-win of raising revenue while reducing carbon dioxide emissions and their expected effect on global climate change.

Washington came closest to enacting a carbon tax with Measure 732, which was rejected by voters in 2016 with a margin of 59%-41%. That effort was sponsored by a group called Carbon Washington. With its defeat in the election, progressive and environmentalist groups in the Alliance for Jobs and Clean Energy (some of whom opposed Measure 732) are now proposing a new carbon tax aimed at using the proceeds for green energy and social spending programs instead of tax relief to consumers and businesses.¹

Vermont also considered a carbon tax recently, in the form of House Bill 412, introduced in 2015. The bill did not make it out of committee. With the election of a new governor in 2016, Republican Phil Scott, carbon tax legislation is less likely: he has promised a veto.

As states continue to consider carbon taxes, the language of Washington's Measure 732 and Vermont's House Bill 412 provide examples to consider how a state carbon tax might work in practice. The policy proposal of the Alliance for Jobs and Clean Energy also hints at an alternative structure in some respects.

What about the tax base? A carbon tax is basically an excise tax, like a sales tax or fuel gallonage tax. But while those taxes have at least somewhat straightforward bases—the sales price or the volume of the fuel—figuring out how to implement the idea of a carbon tax is more complex. There is a tradeoff between administrability and precisely taxing carbon dioxide emissions.

In terms of legal incidence, Vermont's proposal was essentially a fuel tax calcu-

lated on a per-volume-unit on different categories of fossil fuels.² Washington's Measure 732 took a broader approach in imposing tax on the carbon content itself.³That tax on carbon content would have encompassed not only fuels "sold or used within this state," but also "the carbon content inherent in electricity consumed within this state."⁴

Whether a tax on fuel or on carbon, a carbon tax is calculated based on the carbon content of the fuel being sold or used. To make the calculations, Vermont's proposal would have used a simplified version of the Environmental Protection Agency's Emission Factors for Greenhouse Gas Inventories,⁵ which provides per-unit (short ton, gallon, or standard cubic foot (scf)) factors for calculating the carbon dioxide impact from combustion of various fuels. The simplification came from applying the factor for a given category across a broader group, as a rough approximation that would avoid difficult classification and recordkeeping issues.

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For example, under the Vermont bill, all coal would have been taxed based on the carbon content of anthracite, even though lesser grades of coal have lower carbon content. Similarly, the EPA provides different carbon dioxide factors for stationary or mobile uses of many liquid and gas fuels, and the Vermont law specified which factor to use, in some instances mobile (gasoline, diesel, jet fuel) and in other instances stationary (fuel oil, natural gas, propane), but in no event varying the rate depending on the fuel's use.

This overall approach of simplification and estimation seems a reasonable compromise between administrability and reflecting the actual carbon content of fuels. With Vermont's streamlined approach, basically the carbon tax would have become a per-unit excise tax, with

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the rate dependent on the classification of the fuel being sold.

Washington's Measure 732 punted on how to calculate the tax. It instructed the Department of Revenue to promulgate rules with the criteria to make the tax calculations. Measure 732 simply set a tax of \$15 per metric ton of carbon dioxide, going up to \$25 per metric ton a year later and then increasing 3.5% annually thereafter. While the Washington Department of Revenue likely would have looked to the EPA's emission factors, a rulemaking process could easily have become contentious as industry groups sought to minimize the tax while environmental groups sought to maximize the tax. And it is quite possible that the rulemaking would have resulted in a complex system with more administrative difficulty and uncertainty when compared with the relatively straightforward back-of-the-envelope calculations that Vermont's House Bill 412 would have offered.

In Measure 732, Washington also would have gone beyond a simple fuel tax to address carbon dioxide emissions from fuel refining and the generation of electricity. For fuel refining, Measure 732 simply imposed the tax on fuels used to refine other fuels and on carbon dioxide emanating into the atmosphere from refineries. Estimating refinery emissions seems a recipe for contention. Imagine a Department of Revenue auditor visiting a refinery to seek to identify additional carbon dioxide emissions and assess tax thereon.

Washington's extension of its proposed carbon tax to electricity would have posed additional issues. The Vermont proposal had exempted sales of fuel to generate electricity;⁶ presumably carbon emissions from electric generation were being left to the Environmental Protection Agency's Clean Power Plan. In contrast, the Washington measure would have taxed fuel used in electric generation and also imposed a carbon use tax on purchases of electricity from outside of the state for use in the state.⁷ The tax would have been collected by the seller of the electricity.

A state imposing a carbon tax could go further in seeking to tax other sources of carbon dioxide or other greenhouse gases. For example one could go after emissions from oil and natural gas extraction, or leaks from pipelines and other fuel transportation systems, or after other economic activities that release green-



house gases. Extending a carbon tax to such additional emissions sources would substantially increase the complexity of the tax and its associated burdens.

In terms of the administrator, both Washington's Measure 732 and Vermont's House Bill 412 would have placed the administration of the carbon tax with the principal state tax administrator (the Washington Department of Revenue or the Vermont Department of Taxes). While the Vermont tax seems to have fit within agency expertise as basically a per-unit tax on fossil fuels, the broader Washington proposal would have raised more challenging questions in both the agency expertise to make the rules and then the expertise to enforce more complex issues like refinery emissions or the carbon burden for imported electricity. That could have required the borrowing or recruitment of talent from the state environmental regulator.

An alternative for state carbon tax administration would be to place administration of the tax with the environmental regulator. A recent Alliance for Jobs and Clean Energy proposal indicates that the Washington Department of Ecology and the Attorney General's office would be the primary regulators under their scheme,⁸ which may exclude the Department of Revenue. While that would bring additional environmental expertise, query whether a carbon tax administered by an environmental regulator will have more complexity and compliance headaches for taxpayers when compared with a taxing agency's administration.⁹

How to mitigate the impact on industry? While the compliance burden of the state carbon tax proposals considered here would have fallen largely on fuel distributors and perhaps a handful of additional industries like fuel refiners and power generators, the potential economic impact and burden are substantially broader. Any industrial process using fossil fuels would find its costs increasing, to its disadvantage versus out-of-state competitors. If a carbon tax extends to carbon used in domestic electricity generation and the carbon footprint of imported electricity, the burden on industry is all the greater, as well as the burden on other energy-intensive industries such as data centers.

In a revenue-neutral carbon tax regime, there should be sufficient new revenues to make manufacturers whole. Both Wash-



ington's Measure 732 and Vermont's House Bill 412 would have proposed general sales tax relief of 1%,¹⁰ but that was more to the benefit of consumers and businesses generally and not specifically to manufacturers or others competing across state lines.

Washington's Measure 732 also sought to offset the impact on manufacturers by reducing the Business and Occupation (B&O) tax rate on manufacturers to 0.001%.¹¹ While more targeted than general sales tax relief, the change likely would have left energy-intensive Washington manufacturers worse off. That would have particularly been the case since B&O tax is apportioned using a single sales factor,¹² and thus out-of-state manufacturers also would have benefited from the reductions in B&O tax rates in manufacturing classifications. In-state manufacturers paying tax on fossil fuels would have subsidized tax cuts for their out-of-state competitors selling into Washington.

To provide tax relief to in-state manufacturers in a tax swap, the tax being reduced should be a tax borne primarily by in-state manufacturers. Neither general sales tax rate reductions nor a marketsourced business activity tax rate reduction would achieve that goal. The most practical approach would seem to be expanding sales and use tax exemptions for

- At the time of writing this article, the Alliance had released a policy statement and announced its intention to introduce legislation in 2017, but the proposed legislation was not available.
- Vt. H. 412, § 1 (2015) (imposing a tax "on each unit of fuel" under Vt. Stat. Ann. tit. 32, § 8804).
- Wash. Initiative Measure 732, § 4 (Mar. 20, 2015).
 Id.
- ⁵ United States Environmental Protection Agency, Emission Factors for Greenhouse Gas Inventories (rev. Apr. 4, 2014), https://www.epa.gov/sites/production/files/2015-07/documents/emission-factors_2014.pdf.
- ⁶ Vt. H. 412, § 1 (proposing to enact Vt. Stat. Ann. tit. 32, § 8807(2)).

- 7 Wash. Initiative Measure 732, § 4(8).
- ⁸ Alliance for Jobs and Clean Energy, *Fund the Solutions, Price the Pollution: An Equitable Climate Action Policy* (Nov. 2016), http://jobscleanenergywa.com/wp-content//uploads/2015/06/Alliance-Policy_full.pdf.
- 9 Of course, if a state environmental regulator is administering the tax, then perhaps an in-house tax department can foist compliance on the environmental and regulatory team.
- ¹⁰ Vt. H. 412, § 6; Wash. Initiative Measure 732, § 14.
- ¹¹ Wash. Initiative Measure 732 § § 9, 10 (amending Wash. Rev. Code § 82.04.240).
- 12 See Wash. Rev. Code § 82.04.462.

manufacturing equipment, repair parts and services, consumables, and any other items used by manufacturers that states sometimes subject to tax. These taxes are squarely borne by the in-state manufacturers that would face competitive difficulties under a carbon tax. However in some highly energy-intensive industries even that form of relief may not be enough.

Another option for avoiding the handicapping of in-state manufacturing would be to provide an interstate commerce exemption, similar in principle to a sales tax exemption on goods leaving the state. Under this approach, an industrial or other eligible buyer of fuel or electricity could seek a rebate of carbon tax equivalent to the portion of its products being exported out of the state. While a more cumbersome approach than a tax swap, this reflects the idea of taxing the ultimate carbon consumption in a state, while not taxing producers trying to compete in selling into other states.

Of course, the other side of an interstate commerce exemption would be a carbon use tax on goods or services sold into the state. While perhaps administrable in the case of electricity imports as proposed in Washington's Measure 732, broadening a carbon tax to apply to the use of other goods or services brought into a state seems so complex as to be impossible.

Conclusion. The core of a state carbon tax is essentially a per-unit fuel tax, which is similar to existing fuel taxes imposed and administered by the states. As such, the implementation of a basic carbon tax imposing back-of-the-envelope carbon charges on standard fuel classifications appears reasonably administrable. Seeking more precision in carbon calculations or expanding the tax to other sources of carbon dioxide or other greenhouse gases rapidly increases the tax's complexity, however, potentially creating an administrative nightmare.

More troublingly, the impact of carbon taxes thus far proposed would fall heavily on energy-intensive industries, and particularly manufacturing. While targeted tax swaps, carbon tax exemptions, or other forms of relief could be devised to address these issues (at least for most manufacturers), neither the Washington nor Vermont proposals provided adequate relief. A state enacting a carbon tax without such relief risks significant job losses as such operations relocate elsewhere. This article appeared in the Journal of Multistate Taxation and Incentives. Reproduced with the permission of Thomson Reuters.