

## **Testimony Regarding Vermont Carbon Pollution Tax Proposal**

### **Joint Meeting of the House Natural Resources and Energy Committee, and House Ways and Means Committee Vermont General Assembly**

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Jon D. Erickson, Ph.D.

Professor, Rubenstein School of Environment and Natural Resources  
Fellow, Gund Institute for Ecological Economics  
University of Vermont, Burlington, VT

Good morning. My name is Jon Erickson. I'm a professor of ecological economics in the Rubenstein School of Environment and Natural Resources at the University of Vermont, and Fellow of the Gund Institute for Ecological Economics. I have over 20 years of research experience on energy and climate change economics and policy, including funded research with Cornell University, National Science Foundation, and Sandia National Laboratories.

Thank you to the House Natural Resources and Energy Committee for taking testimony this week on proposals for a carbon pollution tax. And thank you to the House Ways and Means Committee for holding today's joint meeting to discuss the economic and fiscal impacts of:

- Putting a price on carbon pollution;
- Shifting the burden of our state's current tax system away from the middle class and the most economically vulnerable; and
- Investing in statewide energy efficiency and our clean energy transition.

The carbon pollution tax proposal being discussed today is, in the end, a straightforward approach to fair tax reform, economic development, and reduction of our unsustainable reliance on fossil fuels and impact on our environment. The strategy is simple:

- Tax what we don't want, pollution;
- Shift taxes away from what we do want, jobs; and
- Invest in the only long-term, viable future for our economy: one without non-renewable, carbon polluting energy.

In today's testimony, I'd like to:

- First, provide a broader context on the widespread support of taxing carbon pollution from the economics profession;
- Second, summarize the broad national and sub-national experience with energy and pollution taxes, highlighting the recent experience of the Canadian Province of British Columbia with taxing carbon pollution; and
- Third, extend lessons learned from decades of analysis and experience with carbon and other pollution taxes to the context of our State of Vermont.

First, I can speak from experience that it's difficult to get economists to agree on just about anything. However, today economists of all stripes have been lining up behind national and state-level carbon pollution tax proposals. From the left to the right side of the political spectrum, economic advisors stretching from Presidents Nixon and Reagan to Presidents Clinton and Obama, have supported carbon pollution taxes. Some of the more high profile economists include:

- George Schultz, former U.S. Secretary of Labor and Secretary of the Treasury under President Nixon, and Secretary of State under President Reagan;
- Alan Blinder, former Vice Chair of the Federal Reserve and member of President Clinton's Council of Economic Advisors; and
- Larry Summers, former Secretary of the Treasury and Director of the National Economic Council for President Barack Obama.

Also, economic scholars in support of carbon pollution taxes include Nobel laureates spanning the range of economic philosophies, from Gary Becker of the University of Chicago, to New York Times columnist and Princeton Professor Paul Krugman. And panels of economists assembled to study the economic impacts of climate change have found carbon pollution taxes to be the most efficient and effective policy to reduce greenhouse gas emissions (e.g. Working Group III of the Intergovernmental Panel on Climate Change).

From research reports to op-eds, all call for tax reform that would:

- Put a price on carbon pollution to achieve true market efficiency ... every economist's dream;
- Use the proceeds to shift the tax burden off the back of the working class ... the so-called "double dividend" of pollution tax reform; and
- Invest in economic competitiveness through a clean energy transition.

These economists speak from an established tradition in the field: hindsight. Every nation on earth has taxed energy in order to invest in national infrastructure. Every nation taxes pollution to discourage waste, and encourage efficiency. And a growing number of countries have direct experience with carbon pollution taxes, some for over 20 years.

We have much experience to draw from, but unfortunately, in recent decades, much of this experience in energy and pollution tax reform comes from nearly every nation in the world except the United States. All countries have access to the same petroleum prices of international markets, but each imposes taxes at different levels. Generally, rich countries have assessed higher taxes on energy, while poor countries and large oil exporters have significantly lower prices through lower taxes or subsidies.

One notable exception is the U.S. The April 6, 2015 average price of gasoline around the world was \$4.01/gallon. The U.S. average was \$2.61/gallon, 65% of the global average, and only higher than 23 other nations worldwide ... all either OPEC or low-income nations. Of the 28 member nations of NATO (North Atlantic Treaty Organization), only the U.S. has a gas price below \$3/gallon. Only the U.S. and Canada have a gas price below \$4/gallon. The current average price of gasoline for NATO countries without the two North American members is \$5.62/gallon, more than twice the U.S. average.

Not surprisingly, with such low prices, the U.S. and Canada consume more energy per capita than nearly every other nation in the world. We are among a group of energy elites that include OPEC nations and a handful of small, wealthy nations. Each average American consumes nearly 4.5 times more energy than the average global citizen. Again, not surprisingly, our CO<sub>2</sub> emissions per capita are far, far above all but a handful of nations. All but one of the nations with higher CO<sub>2</sub> emissions per capita are among that small group of nations with lower energy prices (i.e., OPEC members such as Kuwait, Saudi Arabia, Iran).

If we focus on the richest nations in the world, the 34 countries belonging to the Organization for Economic Cooperation and Development (OECD), the story of the U.S. as an anomaly on the energy tax spectrum is even more revealing. The OECD did an analysis of the effective carbon pollution taxes of their member states (i.e., all energy-based taxes converted into \$/carbon). In effect, the current range of federal carbon pollution taxes among OECD countries ranges from \$4/ton to \$141/ton. The U.S. is at the bottom of this range at \$6/ton, just above Mexico.

While the world outside of OPEC, Canada, and the U.S. have been ratcheting up taxes on fossil fuels for decades, at the federal level, the U.S. gas tax has been the same for over two decades: 18.4 cents per gallon. However, all 50 states also tax gasoline, diesel, and other fossil fuels. In fact, the range of state motor fuel taxes as of April 1, 2015, including both excise and other fuel taxes, stretches from 29.7 cents per gallon on the low end (in Alaska) to 70.0 cents per gallon on the high end (in Pennsylvania). That's a 40-cent spread. Vermont is currently one one-hundredth of a cent above the national average at 48.86 cents per gallon. In the northeast, we're below New York, Connecticut, and Rhode Island; roughly the same as Maine, about 4 cents higher than Massachusetts, and 6.5 cents higher than New Hampshire.

Although the federal gas tax hasn't budged in over 20 years, it's important to note that state gas taxes have been increased, especially over the last few years. Since 2013, 11 states have increased gas taxes (including Vermont, and just in the last few weeks including South Dakota and Utah). Another 6 states have passed bills in at least one chamber, and another 7 states have active proposals with momentum. Outside of gas taxes, besides Vermont, there are carbon pollution tax proposals in Washington, California, and Massachusetts.

Much of these recent increases in state gas taxes are to plug holes in a growing gap in transportation infrastructure funding. The major difference with carbon pollution tax proposals is the tax shift elements, as well as directed investment in new energy infrastructure. When coupled with broader tax reform and reinvestment in locally sourced, renewable energy and efficiency (as found in the REMI study for Vermont), energy taxes more generally, and carbon pollution taxes specifically, can have positive economic and environmental outcomes for a state like Vermont.

Probably the most talked about current, actual (not effective) carbon tax example is the case of British Columbia. The general characteristics include:

- Implementation in 2008 at broad-based \$CAD 10/ton of CO<sub>2</sub>, and incremental rising of the pollution tax to \$30/ton by 2012 (i.e. from about 9 cents/gallon to 25 cents/gallon in an equivalent gas tax);

- Revenue neutrality by law, with broad tax rebates and targeted benefits to low-income and rural households; and
- Passage through a coalition stressing tax fairness, government efficiency, and pollution reduction.

We now have 6 years of data to analyze the British Columbia example. Some findings include:

- Revenue neutrality was judicially maintained (note: by law, the Finance Minister is required to take a 15% pay cut if the tax is not revenue neutral);
- British Columbia now has the lowest personal income tax rate of any province in Canada;
- British Columbia now has one of the lowest corporate tax rates in North America;
- The British Columbia economy has modestly outperformed the rest of Canada since 2008; and
- British Columbia saw a 16.1% decline in fuel use, while the rest of Canada saw a 3% increase since 2008.

The British Columbia case has been held up as a success story because it was incremental, with time to adjust. Energy consumption is very inelastic in the short run (meaning not very responsive to a change in price), but much more elastic in the longer run (with more opportunities for households and businesses to transition away from fossil fuels). Success was also linked to favorable tax reform, with a tax shift to more than overcome the regressive nature of consumption-based taxes. Although successful, British Columbia left a lot on the table with a relatively small carbon pollution tax, as well as a lack of funding direct investment in the local renewable energy and efficiency economy. The next increments in British Columbia are now being discussed, and the Province of Ontario recently announced that they will pursue a carbon pollution tax this year.

There are certainly good lessons to be learned for a Vermont carbon pollution tax policy. The results of the economic modeling in the REMI study mirrors the experience of British Columbia, as well as other national carbon tax shift policies implemented in Europe (e.g., Germany). I've thoroughly reviewed the REMI study, and had the opportunity to discuss the model at length with Scott Nystrom. By my estimation, the results are a very conservative estimate of the economic benefits to Vermont from a strategy to tax carbon pollution, shift the tax burden, and reinvest a small portion into our state's energy transition.

Also, the REMI study is cast in traditional economic terms of jobs and gross state product. I had the opportunity a few weeks ago to update the Vermont House Committee on Natural Resources and Energy on Act 113 and our ongoing work of providing annual estimates of Vermont's Genuine Progress Indicator (GPI) to help guide state policy and economic planning. Currently, the largest drags on the Vermont economy's capacity to produce genuine additions to the well-being of our citizens – when the full benefits and costs of our economy are taken into account – include:

- Growing income inequality (only Montana's economy grew more inequitably than Vermont since 2006);

- Substantial dependence on non-renewable fossil fuels, especially in transportation;
- An above-national-average cost of commuting for Vermonters; and
- Our contribution to the economic costs of carbon pollution.

A carbon pollution tax has obvious benefits to our economy as measured by traditional metrics such as gross state product. But those benefits are further magnified in the GPI by:

- Reducing our dependence on fossil fuels;
- Reducing our heavy commuting costs by incentivizing a less carbon intensive transportation sector; and
- Ultimately reducing our carbon pollution.

Perhaps less obvious is the ability of a tax shift through pollution tax reform to reduce the growing income and wealth inequities in our state. All 50 states have regressive tax policies that put more of the tax burden on the poor and middle class than those with higher incomes. Vermont's state and local tax system is less regressive than most, but it is regressive nonetheless, with signs of growing more regressive in recent years.

The non-partisan Institute on Taxation and Economic Policy recently released the fifth edition of their distribution analysis of tax systems in all 50 states. After adjusting for federal deduction offsets, the top 1% of income earners in Vermont pay 7.7% of their family income in state and local taxes, while the poorest 20% of Vermonters pay 8.9% of their family income. The largest tax burden is on the middle 20% of families, who together pay 10.5% of their family income on state and local taxes. In addition to this regressive tax burden on the middle class – which has grown from 9.5% of family income in 2002, to the 10.5% of today – average real wages in Vermont (adjusted for inflation) have been flat since 2007, and only up 2.9% since 2001.

The most regressive aspects of our tax system are the sales and use tax, which the bills under consideration prioritize in the tax rebates, made possible by the carbon pollution tax. Also, the reinvestment in Vermont's green jobs sector, one of the growing parts of our economy, could help address stagnant wages.

In summary, the essence of this tax reform and pollution policy captures some of the very best thinking and many years of collective experience in integrated economic, climate, and energy policy:

- Tax what we don't want, pollution;
- Shift taxes away from what we do want, jobs; and
- Invest in the only long-term, viable future for our economy: one without non-renewable, carbon polluting energy.

Thank you for the opportunity to testify, and I look forward to your questions.

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