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Answering Global Warming's Hottest Debate: *A Better Way to Tax Carbon*

Saleh Husseini; December 17th, 2019
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Some of you are sick of hearing about it, some of you don't really care, and the rest of you are probably the reason the first group is sick of hearing about it, but regardless of which category you fall into, one thing is certain: climate change is real and it's already happening. With that said, I'm moving forward under the assumption that all of us here believe in science and understand this phenomenon to be largely a result of post-industrial anthropogenic activity. In which case, reducing our emissions is the only way to prevent climate change from becoming a global catastrophe. Enter the IRS's Section 45Q tax code, the best solution you've never heard of for reducing carbon emissions.

Alright, so what is Section 45Q and why is it so great? Long story short, 45Q is a performance-based tax credit being legislated by the IRS to incentivize the construction and operation of carbon capture & sequestration ("CCS") projects by large industrial polluters. To clarify, this is different than a pure "carbon tax," where polluters are forced to pay for their emissions. Instead, this tax credit provides economic reward to firms who successfully implement CCS projects.

Without getting overly technical, Section 45Q will work by granting eligible firms a tradeable tax credit for each metric ton of carbon they successfully capture and sequester (securely store underground) with their CCS equipment. However, many of the firms eligible for these tax credits have limited tax appetite (taxable income) and are unable to efficiently utilize all the credits they earn. This creates a market where institutional investors can get involved, because firms with CCS projects will turn to investors for cash in return for future discounted tax credits to develop projects—a proven concept derived from the PTCs and ITCs I describe later. As a result, projects get structured in a mutually beneficial manner and the CCS industry gets access to a substantially larger pool of capital.

The involvement of institutional investors is important because their additional capital will foster the development of country-wide CCS infrastructure, similar to what we've seen happen with wind and solar in recent years. Switching from fossil fuels to renewables won't be enough to curb GHGs, which is why reducing emissions in *existing* industries is critical. However, without these tax credits, implementing a CCS project would yield significant economic loss to developers, so Section 45Q is essential to reaching a point of wide-scale commercial operation.

Referencing my earlier comment, this tax credit structure has already proven extremely successful in accelerating the adoption of new and expensive technologies. Consider the results Production Tax Credits ("PTCs") and Investment Tax Credits ("ITCs") have generated for wind and solar power.

Since ITCs were enacted in 2006, the U.S. solar industry has grown by more than 10,000%, creating hundreds of thousands of new jobs and stimulating the investment of billions of dollars into our economy¹. Similarly, since 2007, PTCs helped generate over \$143 Billion of private investments in our economy to support wind energy, quadrupling the country's wind power capacity, creating over 114,000 new jobs, and reducing the cost of U.S. wind power by nearly 70%². I firmly believe carbon tax credits will do the same for CCS. Nevertheless, detractors of Section 45Q persist.

Many opponents of Section 45Q argue it is counterproductive to subsidize the industries causing much of our country's emissions in the first place, ultimately slowing our transition off fossil fuels. In reality, many eligible industries—like cement manufacturing—emit even larger amounts of carbon than power plants and would continue operating long after a full transition to low-carbon fuels. Furthermore, some industries will become carbon *negative* by implementing CCS. For example, the CO₂ released from ethanol refineries during fermentation is the same carbon plants absorbed from the atmosphere during photosynthesis. Therefore, sequestering these emissions *reduces* atmospheric carbon, something even wind and solar can't do.

Other opponents of 45Q worry firms will earn credits for emissions they didn't truly mitigate. Although, if a CCS project shows even the slightest risk of having its credits recaptured by the IRS for improper mitigation, institutional investors will deem it too risky and withhold the capital necessary for the project to begin.

Granted, Section 45Q isn't the perfect answer, but it is the *better* answer to a carbon tax, one that helps firms reduce emissions without punishing them, and follows a proven method for fostering the development of new industries while benefitting the economy. I stand behind the implementation of CCS subsidies and urge you to do the same.

¹ (SEIA, 2019)

² (AWEA, 2018)