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CRITIQUE OF U.S. HOUSE BILL 2454 ON CLIMATE CHANGE

*Michael J. Waggoner**

Introduction

House Bill 2454 poses serious risks to international trade. During the early years that that bill would be in operation, cap and trade would be applied to U.S. industrial operations but not to imports from foreign operations.¹ This approach would make it difficult for U.S. factories and their U.S. employees to compete with foreign operations, both in U.S. markets and in export markets. The U.S. operations would face the increased costs of a cap and trade, but their non-cap-and-trade competitors would not. That system would encourage industries to invest in nations without cap and trade rather than keeping their money in the U.S., or even shutting U.S. operations to move them to nations with more favorable systems. In later years – after substantial damage may have already been done to U.S. industrial operations – House Bill 2454 would require the President to retaliate against foreign nations not doing enough to counter the risks of climate change,² (a likely violation of international trade law) risking a trade war.³ History has taught us that a depression/recession may only be aggravated by such actions, as seen by the Smoot-Hawley Tariff in the 1930's and the trade war it engendered.⁴

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¹ Cap and trade is a market-based system for reducing pollution. First, the government sets a cap on the total amount of the pollutant that may be emitted, a cap that may drop over time. Second, that cap is allocated among the emitters of that pollutant. The three basic allocation approaches are to allow each emitter to continue its emissions, to allocate emission allowances by legislative or administrative action, or to auction off the rights to emit. The rights to emit may then be traded. A firm able to reduce its emissions at relatively low cost may then sell its no-longer-needed emission rights to another firm whose cost of reducing emissions would be much greater.

² § 401 of H.R. 2454, "Ensuring Real Reductions in Industrial Emissions," amending Title VII of the Clean Air Act by adding a new Part F.

³ The House bill contains a provision, inserted in the middle of the night before the vote Friday, that requires the president, starting in 2020, to impose a "border adjustment" — or tariff — on certain goods from countries that do not act to limit their global warming emissions. The president can waive the tariffs only if he receives explicit permission from Congress.

John M. Broder, *Obama Opposes Trade Sanctions in Climate Bill*, *N.Y. TIMES*, June 29, 2009, at A1, available at:

<http://www.nytimes.com/2009/06/29/us/politics/29climate.html?ref=politics> (last visited January 16, 2010).

⁴ For analysis suggesting that while Smoot-Hawley probably contributed to the Great Depression but was not one of the primary causes, see O'Brien, Anthony. "Smoot-Hawley Tariff". *EH.Net Encyclopedia*, edited by Robert Whaples. August 14, 2001.

A carbon tax, in contrast, would not cause problems for U.S. industrial activity, nor would it risk violating international trade law or inciting a trade war. A Carbon tax would operate in a similar way as a Value Added Tax (VAT), and apply ultimately only to goods for domestic consumption, not to exports, regardless of whether the goods were manufactured at home or abroad. The carbon tax would be imposed upon the extraction or importation of fossil fuels such as coal, oil, and natural gas, and on the manufacture of cement (used to make concrete, cement is made by heating carbonate minerals to drive off CO₂). That tax would then be passed along from those relatively few economic actors to the many users of carbon farther down the chain of distribution, giving all an incentive to reduce carbon use. The price of steel would rise (because fossil fuels are used in the production of steel). More expensive steel would in turn raise the prices of automobiles, busses, and trucks that include steel as a structural material. These higher vehicle costs would raise the price of transporting people and materials. These increased prices would encourage use of alternatives, such as less carbon-intensive materials than steel, or less transportation-intensive activities in society. To protect domestic industrial activities, in a manner consistent with international trade law, the carbon tax would be imposed on the carbon content of imports and rebated on the carbon content of exports, in accordance with well-established practice in regard to VATs.⁵

I. Cap and Trade has not been Effective

Although cap and trade has been used to control sulfur dioxide (SO₂) emissions, it is not the successfully practiced remedy for environmental problems some believe it to be.⁶ In particular, the problems of international trade mentioned above have not been solved.⁷ Even if cap and trade had been fully successful for SO₂, it would be a great stretch to go from controlling SO₂ emissions (largely a problem of the relatively few large fossil-

URL <http://eh.net/encyclopedia/article/obrien.hawley-smoot.tariff> (last visited Jan. 16, 2001).

⁵ See Council Directive 112/49, art. 146, 2006 O.J. (L 347) 32 (EC), available at http://eur-lex.europa.eu/LexUriServ/site/en/oj/2006/l_347/l_34720061211en00010118.pdf.

⁶ [P]rices of U.S. SO₂ emissions allowances have been almost three times as volatile as stocks, and more than half again as volatile as oil. The volatility of CO₂ allowances in the EU [European Union] ETS [European Trading Scheme] is similarly large: in the period from October 2008 to February 2009 alone, ETS carbon prices varied between €9 and €24 per ton of CO₂. [Emphasis added.]

William D. Nordhaus, ECONOMIC ISSUES IN A DESIGNING A GLOBAL AGREEMENT ON GLOBAL WARMING, note 10 at p.8, Figure 3 at p. 14, Figure 4 at p. 15 (March 10, 2009), http://nordhaus.econ.yale.edu/documents/Copenhagen_052909.pdf (last visited Jan. 16, 2010).

⁷ “[T]he cap-and-trade approach embodied in the Kyoto model is a poor choice of mechanism. It is completely untested in the international context.” William D. Nordhaus, ECONOMIC ISSUES IN A

DESIGNING A GLOBAL AGREEMENT ON GLOBAL WARMING, at 1 (March 10, 2009), http://nordhaus.econ.yale.edu/documents/Copenhagen_052909.pdf (last visited Jan. 16, 2010).

fueled electricity generating plants) to controlling CO₂ emissions, which in addition to those sources involves millions of homes and other buildings heated with fossil fuels, millions of vehicles propelled by fossil fuels, myriad commercial processes fueled with carbon, and countless uses of materials such as concrete, plastics and steel derived from fossil fuels. While the U.S. engages in relatively little international trade in SO₂-releasing electricity, many of the carbon-based economic activities involve extensive international trade. Substitutes for high sulfur coal for generating electricity are readily available in the form of low-sulfur coal, oil, or natural gas, but each of these is a fossil fuel. We are a long way from having adequate clean or renewable alternatives to the CO₂-emitting fossil fuels ubiquitous in our economy.

Where experience with cap and trade is limited and inapt and discouraging, carbon taxes resemble the commonly used taxes on fuel, used to improve and maintain highways and waterways and airways, and that extensive experience is analogous and encouraging. Carbon taxes also resemble the VATs in common use worldwide. That a proposal is similar to practices successfully implemented in similar contexts suggests that it will achieve the desired results at acceptable costs.

There is a question of values in choosing between cap and trade on the one hand and carbon tax on the other. Cap and trade, if it can be comprehensive and enforceable, promises to limit carbon emissions to a particular level. A carbon tax should be able to raise the price of carbon, but its impact on the amount is less certain. But we do not know with any significant precision just how much risk of harm particular levels of CO₂ create. A carbon tax can effectively put upward pressure on carbon prices, and that price rise can be expected to restrict demand. Because CO₂ has a relatively long life in the atmosphere, the relevant issue is continuing long-term substantial downward pressure on CO₂ emissions, not the amount emitted in any particular year. Industry and employment are much more likely to be severely disrupted by ceilings on the supply of carbon than by temporary spikes in the price. The temporary spike problem might be alleviated if the carbon tax was set so that it escalated steadily, with the tax increase slowed or even reversed in times of acute shortage.

II. Problems with Regulation

A system of regulation is quite problematic as a solution to the risks of climate change. For example, requiring automobiles to have higher fuel mileage might result in the desired goal of reducing fuel consumption, as users drove the same number of miles while consuming much less fuel. However, users may instead use the same amount of fuel to drive much farther, making the regulation ineffective at reducing CO₂ emissions. Regulation imposes costs that may unnecessarily hinder economic activity, a particular problem with the current slowdown in the world's economies. A further issue is that some energy saving is hard to standardize: How does one

regulate having windows facing the winter sun (south in the northern hemisphere, north in the southern hemisphere), as opposed to restricting construction so as not to harm a neighbor's solar access?⁸

A carbon tax does not require determining what regulation might be appropriate. It gives all users of carbon an incentive to use less. In controlling CO₂ emissions it does not matter whether carbon-use is reduced by buying more efficient lighting systems or merely turning off less-used lights, buying a fuel-efficient automobile or merely driving an old fuel-guzzler much less, buying a more efficient heating system or merely turning down the temperature on the existing system and wearing warmer clothing, etc.

III. Problems with Subsidies

A system of subsidies faces similar problems. The world economy is in bad shape and most governments are facing serious financial problems, so it is vital to have each dollar spent as effectively as possible. Yet how can the government determine whether subsidies to electric cars or wind generation or efficiency or something else will be most effective? We would like to believe that legislation is the product of the combined wisdom of the legislators, but it may be more realistic to consider legislation as the product of trading votes and political power.

A nation enacting a carbon tax need not decide what to subsidize, as all carbon-saving approaches will be encouraged by the carbon tax. The most effective will be the most encouraged. For example, a subsidy to purchase a fuel-efficient vehicle applies the same to those who will use the vehicle only occasionally for commuting or shopping as to those using the vehicle heavily as a taxi or delivery vehicle. Yet if we are to reduce carbon emissions, the highest priority for use of efficient vehicles should be as the vehicles used the most. A carbon tax will have this effect, because it will encourage purchase of fuel-efficient vehicles by those who plan to use the vehicles most intensively.

IV. Cap and Trade Functions as a Regressive Consumption Tax

Cap and trade will effectively operate in a similar manner as a tax on consumption, such as the sales taxes commonly imposed by U.S. states and the VATs imposed in many other nations. Consumption taxes are regressive, because people with low incomes may consume all their incomes (or even

⁸ For example, in Boulder, Colorado, USA, a very environmentally sensitive community, solar access requires in some circumstances "long axis within 30 degrees of east-west," available from the link at http://www.bouldercolorado.gov/index.php?option=com_content&task=view&id=212&Itemid=483 (last visited Jan. 16, 2010), apparently intended that the long axis be exposed to the winter sun. A problem is that the short axis is typically facing the street (where the width of the road and front setbacks make likely solar access) and the long-access faces the neighbor (where unless there are very wide side setbacks there is likely to be a shadowing problem during the low winter sun).

more by liquidating savings and borrowing), but persons with high incomes may consume only a small proportion of their incomes as the remainder is invested or saved. A remedy for this may be to provide income supplements for the poor. Because House Bill 2454 initially grants its allowances to emit CO₂ to existing industries without charge, House Bill 2454 will not generate revenues that could be used to pay those income supplements, and the trillion dollar deficits looming each of the next several years for the U.S. government suggest that there are no other revenues available for such supplements. The carbon tax, in contrast, will produce from day one the funds needed to pay income supplements. Although the carbon tax includes the term ‘tax’ that seems to be the kiss of death in U.S. politics, there will be a similar impact from cap and trade. Moreover, the revenues from the carbon tax can be rebated, partially by income supplements to the poor who tend not to pay very much tax, and the remainder through reductions in taxes applying to the nation generally, so that a carbon tax need not produce a net tax increase.

More generally, cap and trade may be viewed as a tax, because it will increase costs in society. As the amount of CO₂ emissions is limited, the price of all products and services based on carbon will rise, thus hindering economic activity. In contrast, the revenue raised by a carbon tax may be recycled as low-income allowances and tax cuts, making the carbon tax revenue neutral and thus less of a drag on the economy. The current slowdown in the world’s economy counsels against policies that may impede economic growth.

V. House Bill 2454 is the Product of a Bad Legislative Process

House Bill 2454 will present more politics as usual. The bill was very long and complicated – although there had been extensive committee work – and it was substantially amended only on the eve of the House vote. Many citizens may find such bills, launched on such short notice, difficult to understand. There may be an unawareness of special benefits for some (the beneficiaries will of course be informed by their advocates) or disadvantages imposed on others. Long bills with short-notice might even be used for bribery or extortion. Such bills enrich the politics industry – candidates, campaign managers, new and old media, media buyers, pollsters, fundraisers, etc. – but harm the interests of society. If enacted, such bills are complicated to obey and to enforce, adding to the income of those who lobby the enforcement agencies and those who engage in litigation with those agencies or with other private entities. Thus the litigation industry also receives wealth from such bills, a cost that the remainder of society bears. A carbon tax, in contrast, is inherently simple, so it will present far fewer opportunities for abuse in the political system and the litigation system.

VI. Developed Nations vs. Developing, Cap and Trade vs. Carbon Tax

The recent deadlock in Copenhagen⁹ might be considered just a bump on the road to dealing with climate change, but it may reflect a more serious problem. The developed nations generally sport high per capita incomes, good educational systems for their children, infrastructures that provide clean water and ease of travel and movement of goods, etc. These benefits have been built on inexpensive energy and substantial emissions of CO₂.

The developing nations generally have low per capita incomes, weaker educational systems for many of their children (although they also have some of the world's leading schools and universities), and have serious infrastructure problems. It has been said that roughly half the world's population has never had a drink of clean water, and water-borne diseases are among the many major health issues developing nations face.

Many of the developing nations certainly have an incentive to address climate change, because they may be most vulnerable to such possible consequences of climate change – sea level rise, increased storms or droughts, imperiling wild or agricultural plants and animals – because they lack the resources that the developed nations have to defend against these problems. But the developing nations may fairly ask why they must shackle their smaller economies that have contributed little to climate change, while the wealthy developed nations that have created the problem sail serenely onward. How effectively can the developing nations be expected to enforce caps that harm their economies? How can the struggling developed economies afford to pay the developing nations to cap their emissions?

A carbon tax provides benefits to the developing economies. Such a tax will generate revenues, which may be used for some combination of public purposes or reducing other taxes. These revenues should increase popular support of the government, where imposing caps might alienate the people and risk defeat or even overthrow of the government. A carbon tax might provide even greater benefits to the developing nations, as is outlined below.

¹⁰ John M. Broder, Many Goals Remain Unmet in 5 Nations' Climate Deal, N. Y. TIMES, Dec. 18, 2009, available at: http://www.nytimes.com/2009/12/19/science/earth/19climate.html?_r=1&scp=3&sq=copenhagen%20climate%20change&st=cse (last visited Jan. 16, 2010); Copenhagen Climate Talks (UNFCCC)

N. Y. TIMES, updated Dec. 18, 2009, available at http://topics.nytimes.com/top/reference/timestopics/subjects/u/united_nations_framework_convention_on_climate_change/index.html?scp=1-spot&sq=copenhagen%20climate%20change&st=cse (last visited Jan. 16, 2010); Ben Webster, Francis Elliot, Gordon Brown calls for new group to police global environmental issues, THE TIMES OF LONDON, Dec. 18, 2009, available at <http://www.timesonline.co.uk/tol/news/uk/article6963482.ece> (last visited Jan. 16, 2010).

A carbon tax should, it would appear, be borne by the end consumers of the goods produced from the carbon, not by the producers of those goods. CO₂ emitted by a factory in a developing nation, to produce a product for export to a developed nation, should be considered a cost of living in the developed nation. This is the theory that supports rebating the tax on the carbon content of exports and imposing the full tax on the carbon content of imports.

That system of rebate on exports and imposition on imports must be followed, if the industrial operations in the nations with carbon taxes are not to be disadvantaged unfairly in competing with industrial operations in nations lacking carbon taxes. But rebating taxes on the carbon content of exports and imposing the tax on the carbon content of imports may be administratively difficult. Several questions will require answers:

1. Should carbon content include only carbon incorporated in the product, such as the carbon included in wood or plastic products?
2. Or should the carbon content also include carbon emitted, such as the carbon converted to CO₂ in the process of refining iron oxide ores or the carbon emitted in the production of cement?
3. Should the carbon content also include CO₂ emitted in shipping the product in its various stages from mine to smelter to manufacture to export?

To administer a system answering these questions may add to administrative costs both for the enforcing government and for the complying businesses. At best the process is likely to be expensive, at worse prone to fraud or the extraction of bribes.

This rebate/impose problem might be avoided for trade between nations, which have similar carbon tax systems. Here there is no need for protection against the unfair competition that would be presented if only one of the nations imposed a carbon tax. If both nations agree, carbon taxes could be collected only on imports from non-agreeing nations and rebated only on exports to non-agreeing nations, ignoring trade between the agreeing nations. Administrative costs would drop, giving both nations an incentive to come to such an agreement.

The effect of such an agreement between a developing nation and a developed nation should be to shift revenue to the developing nation. The developing nation will keep the carbon tax revenue it collects on fossil fuels extracted from resources in its own country and on imports from non-agreeing countries, even though the developing nation diverts much of its economic activity to exports to the developed nation (so that absent the agreement the carbon tax would have to be rebated). Of course the developing nation will not be able to impose a tax on the carbon content of imports from the agreeing developed nation, but developing nations are

likely to be net exporters of carbon content in trade with developed nations. Thus the loss of tax revenue on imports is likely to be significantly less than saving from not having to rebate taxes on exports. Where imposing a cap would normally be a losing proposition for a developing economy, agreeing with a developed nation to this system of coordinated carbon taxes would be a clear and substantial win for the developing nation.

Agreements on carbon taxes on imports and exports might at first be bilateral, such as between the U.S. and China. However, because of the efficiency of not having to rebate/impose, such agreements should soon include more nations. Consider how India or Indonesia might view a U.S.-China carbon tax agreement, under which both nations impose similar carbon taxes, but those taxes are not rebated on exports nor imposed on imports between the countries. Goods from India and Indonesia sold to the U.S. would be subject to U.S. carbon taxes, taxes that would enrich the U.S. government. Similar goods sold from China to the U.S. would be subject to carbon tax only in China, so those taxes would enrich the Chinese government. The governments of India and Indonesia would have incentive to impose carbon taxes similar to those in the U.S. and to enter into agreements similar to that between the U.S. and China, so that they rather than the U.S. will benefit on carbon taxes on goods they export to the U.S. Would Europe or Japan want their trade with China burdened by cycles of rebate/impose, when China-U.S. trade is not so burdened? These are considerations that must also be made regarding carbon taxes and bilateral or multilateral treaties.

Conclusion

The case for a carbon tax should not be overstated. As with any effort to reduce CO₂ emissions, there is the risk of unintended side effects. More forests may be felled for fuel or materials as fossil-based fuels and materials become less available and more expensive. Development of such alternatives to fossil fuels as thermal solar, hydroelectric, and nuclear power pose risks to the environment. Credits for carbon capture present problems under both cap and trade and carbon tax. But with these problems presented under either approach, analysis and debate should focus on the areas where the two approaches differ.

At present there seems to be a broad consensus that cap and trade is the proper solution to the risks posed by climate change. For the reason presented here, that consensus appears to be incorrect. A carbon tax solves many of the problems that cap and trade has been unable to resolve. Legislative bodies should look beyond their self-interest in having complicated laws that can be used to gain more political support from those in the politics and litigation industries; they should look to advance the interests of the society generally.

Some see the consensus for cap and trade and say that the train has already left the station, that the matter has already been decided. It would be more realistic to call cap and trade the light that failed and to turn our efforts to an internationally coordinated system of carbon taxes to reduce the risks of global change.

