

## Carbon Credits vs. Carbon Tax



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This is a follow up to the previous post.

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It is no secret that the world opinion about global warming is divided into two categories – those who genuinely believe in global warming and those who think it as a big joke. At the same time, the world is becoming aware of the huge controversy among those who believe in global warming and the centre of this boiling debate is on the applicability and effectiveness of the carbon credits vs. Carbon tax for reducing greenhouse gas (GHG) emissions.

The reality is that both approaches are designed to achieve the same results and the objective here is to make it more costly to emit carbon into the atmosphere as governments around the world are discouraging the burning of fossil fuels, encouraging producers to find alternative energy from renewable sources, and nudging consumers into using energy more efficiently. Each side, of course, can make a compelling case, depending upon the circumstances under which these approaches are being introduced in each country as each side has its advantages and disadvantages. Here is a brief overview of both sides:

1. The Carbon Credits Program: Carbon credits are a key component of national and international emissions trading schemes that have been implemented to mitigate global warming. The following two major mechanisms are covered under this program:

### A. Cap-and-Trade:

The basic concept comes from the USA where cap-and-trade was used as a tool in 1988 to reduce the costs of meeting regulatory requirements for sulphur dioxide emissions associated with acid rain. Based on this success, it was recommended to be included in the Kyoto Protocol for reducing GHG emissions. It is based on the cap or maximum allowances granted to a company for emitting GHG emissions in the atmosphere and companies buy or sell those allowances depending upon whether they over emit or come in beneath their allowed quantity of emissions.

European Union (EU) were the first to implement a market-based system in 2005 to cap emissions from about 12,000 factories producing electricity, glass, steel, cement, pulp and paper. The European Union's Emissions Trading Scheme (EU ETS) continues to be the largest carbon markets scheme in both volume and value and dominates allowance based transactions. It is a multi-national emissions trading system in the world and it is a major pillar of EU climate policy. It was implemented in 2005 as a European market for carbon dioxide (CO<sub>2</sub>) emission allowances. The value of trading on EU ETS doubled from \$24 billion in 2006 to \$50 billion in 2007.

The UK's voluntary Emissions Trading Scheme was run from 2002 to 2006 which provided key experience to the London Exchange. It was reported recently that managing emissions has become one of the fastest-growing specialties in the London financial services, and companies are scrambling to find workers. Their goal is a slice of a market now worth about \$30 billion and that could grow to \$1 trillion within a decade.

### B. Carbon Offset:

Offset is a complimentary mechanism to cap-and-trade. It is designed to reduce GHG emissions from sources which are not regulated to be covered under the scope of a cap-and-trade program. Typically, these areas represent industries or sectors where GHG emissions are more difficult to track, mitigate, and report. Environment Canada has been working on the design of the offset system for a number of years. The system they came up with called Canada's Offset System for GHGs which is a voluntary system designed to reduce or remove domestic GHGs. Each offset credit under this system will represent one tonne of CO<sub>2</sub> equivalent. Offset credits will be tradable and bankable within the unit tracking system. If everything goes as planned including the re-election of the government of the day, the proposed regulations are to be finalized in 2009 to come into force as planned on January 1, 2010.

## 2. The Carbon Tax Program:

Quebec implemented Canada's first carbon tax in October 2007, collecting just under one cent a litre from petroleum companies in the province, with the expectation to raise about \$200 million a year to pay for energy-saving initiatives such as improvements to public transit. The tax amounts to 0.8 cents on every litre of gas sold in Quebec, and 0.9 cents on each litre of diesel fuel.

On July 1, 2008 British Columbia (BC) began to phase in a fully revenue-neutral carbon tax with built-in protection for lower income British Columbians. A carbon tax is defined as a tax on emissions of CO<sub>2</sub>, the leading cause of global warming. By taxing the burning of fossil fuels such as gasoline, aviation fuel and natural gas, a carbon tax is aimed at reducing their use. In BC, the tax is built into the price for the consumer.

The BC carbon tax started at a rate based on \$10 per tonne of associated carbon, or carbon-equivalent, emissions and will rise by \$5 a year for the next four years, reaching \$30 per tonne by 2012. This works out to 2.41 cents per litre for gasoline, rising gradually to 7.24 cents a litre by 2012. For diesel and home heating oil, it works out to 2.76 cents per litre, rising to 8.27 cents over the same five-year period. Overall, the government estimates the carbon tax will bring in revenues of about \$1.85 billion over the first three years, all of which will be returned to businesses and individuals.

Carbon tax is not exactly a new idea. Denmark, Finland, The Netherlands, Norway, Sweden, Italy, and United Kingdom have implemented carbon tax in the 1990s. Monica Prasad, an assistant professor of sociology, in her article "The Politics of Free Markets", she noted that the one country in which carbon taxes have led to a large decrease in emissions is Denmark, whose per capita CO<sub>2</sub> emissions were nearly 15 percent lower in 2005 than in 1990. Denmark accomplished this while posting a remarkably strong economic record and without relying on nuclear power. There were two major lessons to be learned from Denmark:

1. Denmark avoids the temptation to maximize the tax revenue by giving the proceeds back to industry, earmarking much of it to subsidize environmental innovation; and
2. Carbon tax worked in Denmark because it was easy for Danish firms to switch to cleaner fuels. Danish policy makers made huge investments in renewable energy and subsidized environmental innovation.

Unfortunately, British Columbia didn't follow the Denmark model. Instead of giving the proceeds back to industry to encourage environmental innovations, they decided to return the total anticipated tax revenue (Minus operating overheads) back to businesses and individuals. Furthermore, the government of British Columbia didn't make any significant investments in renewable energy in order to subsidize environmental innovations. The general opinion in the province is that the distribution of \$395 (Borrowed money) in the name of Lower Income Climate Credit - \$100 per adult per year and \$30 per child per year, rising by 5percent in 2009 – was a huge mistake and they feel that that money could have been invested in the environmental innovations. Additionally, British Columbians were not impressed with the fact that the government distributed 18,000 cheques to the wrong people who shouldn't have been qualified for the credit and now they are spending money as well as efforts to collect back that money.

It is true that not every country that implemented carbon tax has been a success story. It didn't help them to decline major emissions as expected in most of these countries. In case of Norway, the Wall Street Journal reported that GHG emissions have actually risen 15%, and industries deemed vital to the nation's economy or image were spared the tax or given sweet deals. Though the oil and gas industry has become more eco-friendly, Norwegians are driving more than ever. Norway puts a positive spin on the admitted failure of the tax. The country has seen unprecedented economic growth since 1990, with GDP up 70%. And the government receives almost a third of its funding from taxes on petrodollars. But in a rural nation, even with gas prices around \$10 a gallon, there are more cars on the road than ever.

Perhaps the question should be asked at this stage is "Which approach could be considered more effective in reducing GHG emissions – carbon credits or carbon tax?" The answer to this question differs from person to person depending up on who you ask.

For instance:

The living legend and former Federal Reserve Chairman Alan Greenspan has come out against cap and trade as an effective mechanism for reducing carbon emissions. "I have grave doubts that international agreements imposing a globalized so-called cap-and-trade system on CO<sub>2</sub> emissions will prove feasible," he wrote in his recent book, *The Age of Turbulence*;

and Experts of cap-and-trade including DeVito the author of *Colossal Optimism* believe that "When you impose emissions-reduction caps and allow trading, you stimulate private sector investment in new technologies. "Where else can you be a part of a new market? New ideas in old markets are rare. New ideas in new markets are extremely rare. The modern energy economy requires entrepreneurship and a cap-and-

trade system will help the innovators innovate.”

The reality is that there will always be advantages and disadvantages regardless of the choice you make. The United Kingdom had chosen both approaches and they have been very successful and managed to reduce CO2 emissions by 20 percent from the 1990/95 baseline to 2007. As far as British Columbia is concerned, in addition to the carbon tax already in place, on January 1, 2012, British Columbia will be implementing the cap-and-trade program as a part of the Western Climate Initiative (WCI).

The WCI is a collaboration which was launched in February 2007 by the Governors of Arizona, California, New Mexico, Oregon and Washington to develop regional strategies to address climate change. WCI is identifying, evaluating and implementing collective and cooperative ways to reduce greenhouse gases in the region. In the spring of 2007, the Governor of Utah and the Premiers of British Columbia and Manitoba joined the Initiative. Quebec joined in January, 2008 and moved from Observer to Partner status in April, 2008.

With Ontario becoming a member on July 18, 2008, the WCI now represents approximately 73% of Canada's economy and 20% of American economy – Making it the largest cap-and-trade program in North America.

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