

## What Policy Direction should Alberta Follow on Carbon Emissions?

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**Matter Commented On:** *Climate Leadership – [Discussion Document](#)* (Government of Alberta, August 2015)

Alberta's [Climate Change Advisory Panel](#) is seeking public input on what direction provincial climate change policy should follow going forward. One method of providing your input is to complete an online [survey](#) on or before September 18. This is the second part of a two-step process [announced](#) by the Minister of Environment and Parks in late June 2015 (see [here](#) for the post by my colleague Nigel Bankes on this announcement). To inform this important public dialogue, in August 2015 the Climate Change Advisory Panel published the *Climate Leadership – [Discussion Document](#)*. This 62 page document sets out the overall carbon emissions profile in Alberta (at 9 – 17) and then discusses emissions by individual economic sector and summarizes policy tools that have been used in Alberta and elsewhere to reduce emissions in that sector: oil & gas (at 20 – 26), electricity (at 27 – 34), transportation (at 35 – 40), commercial and residential buildings (at 41 – 46), industrial and manufacturing (at 47 – 51), agriculture, forestry, and waste (at 52 – 56). The Minister's announcement together with the overall tone and content of the discussion document make it clear the current intensity-based emissions reduction policy implemented by the *Specified Gas Emitters Regulation*, [Alta Reg 139/2007](#) will be replaced on or before the end of 2017. I believe the centrepiece of Alberta's new direction should be joining the cap-and-trade system currently operating in Quebec and California, along with Ontario which in April 2015 [announced](#) its intention to join.

The post-*Kyoto* international climate change framework will almost certainly include the pursuit of a global carbon market that consists of linked regional and national carbon emission trading systems. The hope will be that someday in the not too distant future the key market indicators displayed on monitors across the globe will include the price per ton of carbon emissions alongside the price of the US dollar or a barrel of crude. When (or if) that day arrives, we will have realized the work of economists who have argued for decades that the market is the preferred policy tool to address excessive emissions into the atmosphere. The seminal work here includes Dales, *Pollution, Property & Prices: An Essay in policy-making and economics* (Toronto: University of Toronto Press, 1968) and most prominent advocate in recent times is likely Professor [Robert N Stavins](#) at Harvard University who has labelled climate change the world's 'ultimate commons problem' (see Robert N Stavins, "The Problem of the Commons: Still Unsettled after 100 Years" (2011) 101:1 *American Economic Review* 81 at 96-103).

Scholarship on the design of a cap-and-trade carbon emissions trading system suggests there are 4 fundamental policy decisions to be made: (1) prescribe the emissions cap, (2) delineate the scope of coverage in regulated emitters, (3) decide how to allocate entitlements to emit carbon, and (4) determine what measures will be available for regulated emitters to control compliance costs. What follows is some discussion on these parameters.

The overall objective being a reduction in carbon emissions, the starting point is to legislate a cap on the total allowable quantity of absolute carbon emissions during a compliance period (say annually). The most common approach is to set the cap based on historical emissions in the jurisdiction. Over successive compliance periods the cap is lowered. This is how the Quebec-California system caps and reduces overall carbon emissions. The current Alberta framework does not require an absolute reduction in emissions but rather requires an emitter to reduce emissions calculated per unit of production levels. A regulated emitter under the current rules can increase its absolute emission levels so long as emissions efficiency improves along with increased economic production.

The next step is to determine who will be subject to the cap on emissions. All jurisdictions which have implemented cap-and-trade systems to date have chosen to impose emissions obligations on only select economic actors. No doubt political influence has been exerted in many jurisdiction to ensure dominant industries avoid emissions reduction obligations. A clear example of this is in New Zealand where that country's carbon emissions obligations are not imposed on the agricultural sector despite the fact it generates about 50% of the nation's carbon emissions. Some jurisdictions have chosen to impose emissions reduction obligations only on the so-called upstream activities, where the source of carbon is extracted or enters the economy. Others have decided to include downstream activities where carbon is released in manufacturing processes or otherwise in the consumption of carbon-based fuel (e.g. in driving vehicles). Including consumers in the regulatory net of carbon obligations ensures a very liquid and active trading market, but also significant difficulties in the administration of market oversight. So there is a balance to be had between ensuring enough emitters are subject to the cap while at the same time minimizing the administrative costs necessary to administer the scheme. A popular measure used to draw this line is to only regulate those entities who emit carbon above a legislated minimum threshold. The lower the threshold, the more emitters who are captured by the reduction obligation.

The allocation of entitlements to emit carbon is a key policy decision in the design of a cap-and-trade system. The basic idea is that the total amount of allowable emissions for a compliance period is divided into allowance units and distributed into the market. The most common allocation method in cap-and-trade systems is to distribute entitlements to regulated emitters at no cost based on their historical emission levels. Other methods include lotteries, first-in-time/first-in-right, or auctions. An emitter who emits more carbon than their allocated units has to acquire additional units from another market participant for a price in order to meet a compliance obligation. Free allocation is the most common distribution method likely because it ensures existing emitters only have to internalize the cost of emissions in excess of historical levels – thereby avoiding the 'sticker shock' of a new regulatory system. The Quebec-California system employs a hybrid of free allocation and state auction, whereby regulated emitters receive entitlements to emit based on historical emissions but can acquire additional entitlements for the reserve price set in quarterly state auctions. An emitter who is left with units in hand after accounting for its emissions in a compliance period can sell those excess units into the market, thereby generating an economic incentive to reduce carbon emissions.

The primary means for an emitter to control compliance costs in a cap-and-trade system is to engage in trades with other market participants. If the cost to reduce actual emissions to equal the number of units on hand is higher than the cost to acquire the necessary additional units, an emitter can minimize its compliance costs by purchasing units in the market. The theory here is that the collective trading of entitlements to emit carbon by market participants ensures actual

emissions abatement is implemented by those entities with the lowest marginal cost to emit. The realization of this efficient outcome however requires adequate liquidity, transparency and order in the trading market, and these are the traditional objectives of legal rules in market regulation. Unfortunately, thus far legal frameworks governing carbon emission trading systems have not directed sufficient, if any, attention to these parameters. I remain puzzled as to why state officials in jurisdictions with carbon markets have not directed their capital market regulators to oversee carbon trading. For example in Alberta, why not direct the Alberta Securities Commission to oversee carbon trades?

The current Alberta framework focuses heavily on the other tools for cost containment: carbon offsets and a cash payment option. Simply put, carbon offsets are generated by non-regulated entities who reduce their actual emissions below a business-as-usual level. Carbon emission offsets are commonly generated by carbon sequestration associated with land use, land use change and forestry, and underground carbon capture and storage (Professor Bankes has examined how carbon capture and storage will generate offsets in Alberta [here](#)). Alberta has a relatively mature and comprehensive carbon emissions offset program, and since 2007 nearly 200 offset-generating projects have been registered with the province. Agricultural land management protocols for projects that eliminate or reduce tillage have been the most common source of offsets thus far. The cash option in Alberta under the current framework is to cover excess emissions with a per ton payment into the Climate Change and Emissions Management Fund, which the Minister announced in June would be raised from \$15 to \$30 per ton between now and 2017.

One of the more significant problems with the current Alberta framework is that it focuses too much on cost containment for regulated emitters. For example, there is no limit on the number of carbon offsets that an emitter can submit for compliance purposes – which in practice means a regulated emitter may exceed its cap by a significant amount by acquiring relatively cheap offsets generated outside of the regulatory net. Other cap-and-trade systems deal with this issue, as well as the concern over whether offsets represent real emissions reductions (see [here](#) for some discussion) by limiting the number and source of offsets that can be submitted for compliance. In order to join the Quebec-California market Alberta is going to have to face the prospect of limiting access to carbon offsets, which promises to be a difficult political issue.

In a forthcoming paper to be published by the [McGill International Journal of Sustainable Development Law & Policy](#), I examine these design features in the carbon emission trading systems operating in Alberta, Quebec and New Zealand. An earlier version of this paper can be found on [SSRN](#).

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